FEASIBILITY STUDY CONFIRMS SWANSON PROJECT AS SIGNIFICANT CASH GENERATOR

* Attributable interest assumes that the Hebei Transaction[1] is completed

Cautionary Statement LR 5.16.4: *There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.*

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 and Gold in Namibia, is pleased to announce results from the Definitive

[1] Refer to ASX Announcement 29 May "*Construction funding secured for Swanson Tantalum Project*"

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Feasibility Study (DFS) completed over the Swanson Tantalum-Lithium Project (The Swanson Project).

Jurie Wessels Chairman of Arcadia stated: *"The compelling financial metrics of the DFS tied with the comprehensive construction funding capacity gained from the recently announced transaction with Hebei Construction[2] underlines the significant value proposition of Arcadia and validates our ambitions of establishing a cash generative enterprise to fund exploration objectives at our potentially company transforming assets.*

The expected attributable free cash flow of circa Au$3.2M Arcadia stands to receive per year should have a positive impact on shareholder value considering that Arcadia's yearly exploration burn rate over the last two years since listing amounted to an average of Au$2.25M[3].

In addition, the exploration potential of the Company's 80% owned Lithium and Tantalum licenses surrounding the Swanson Project holds the promise of extending the production lifetime of the Swanson Project's 8 years, thereby possibly yielding even greater returns for Arcadia."

HIGHLIGHTS

- AACE Class 3 DFS AACE Class 3 DFS (accuracy of -10 to +20%) affirms the Swanson Project's potential to be a meaningful cash generator;
- Financial Metrics (attributed to Arcadia - subject to completion of Hebei Transaction):
    - Att. Interest (49.6%) in Annual Free Cash Flow: Au$3.2m
    - Att. Interest (49.6%) Post Tax $NPV_{8\%}$: Au$7.62M
    - Att. Interest (49.6%) Life of Mine EBITDA: Au$24M
- Financial Metrics (100% equity):
    - Project Post Tax $NPV_{8\%}$ Au$15.36M
    - Life of Mine EBITDA: Au$48.35M
    - Average Annual Free Cash Flow: Au$6.38M
    - IRR (Post-Tax): 25.4%
    - Capex: Au$14,786,545 (US$9,870,850)
    - Capex Payback: 3.2 Years
    - Life of Mine (LOM) at Run of Mine (RoM) production rate of 12,500 tpm: 8 years

[2] Refer to ASX Announcement 29 May "*Construction funding secured for Swanson Tantalum Project"*
[3] Refer to ASX Announcement dated 28 April 2023 "*Quarterly Activities/Appendix 5B Cash Flow Report*"

- Cash Flows attributable to Ta_2O_5 min. 25% concentrate sales only, (incl. Lithium credits);
- 73.2% of 8-year LOM classified as Proven and Probable Ore Reserves
- Construction Period: 18 months
- Significant potential to discover further mineral resources over Arcadia's 80% owned exclusive prospecting licenses EPL 5047 and EPL 7295[4]
- NPV and IRR are both most sensitive to revenue and least sensitive to CAPEX

Note: Financial metrics conducted based on a Au$/US$ exchange rate of Au$1.498/US$1 and a ZAR/US$ exchange rate of ZAR18.3/US$1 (current rate is ZAR19.6/US$1).

Introduction

M.Plan International Limited (M.Plan), a Canadian mining and minerals advisory company, was engaged by Arcadia to compile the results of a Definitive Feasibility Study (DFS), prepared by independent expert advisors, on the Swanson Tantalum and Lithium Project (the Swanson Project), into a Competent Person Report (the DFS Report)[5].

Arcadia's interest in the Swanson Project is held through its subsidiary, Orange River Pegmatite (Proprietary) Limited (ORP), in which Arcadia currently holds an 80% interest. **This interest is set to dilute to 49.6% subject to construction funding of not less than US$7 million being expended by Hebei Construction CC in return for an equity interest of 38% in ORP[6], and in terms of which Hebei is to construct a plant, infrastructure, roads and do mine development and commissioning of a multi gravity separation (MGS) Plant according to detailed engineering specifications to consistently produce a minimum 25% Ta_2O_5 concentrate from a minimum feed of 12,500mt per month**.

ORP is a Namibian registered company and sole owner of an exclusive prospecting licence (EPL) 5047 located in the Karas Region of the southern part of Namibia, some 15 km north of the Orange River. The Orange River forms the international border between South Africa and Namibia.

On 19th May 2022, ORP was granted a Mining Licence (ML) 223 on a portion of EPL 5047. ML 223 was granted for 15 years, subject to certain terms and conditions, in respect of base and rare metals, industrial minerals and precious metals. ML 223 comprises the area of the Swanson Project (the Swanson Property).

The Swanson Project neighbours the active Tantalite-Lithium mining license ML 77 operated by African Tantalum (Pty) Ltd, which is owned by Hebei Construction CC (Hebei) in terms of a transaction[7] with London Stock Exchange (AIM) listed, Kazera Global Plc (AIM: KZG). ML 77 is located within the boundaries of EPL 5047.

[4] Refer to ASX Announcement 6 May 2022 "*JORC Mineral Resource at Swanson Tantalum Project Doubles in Size"*

[5] A copy of the DFS report will be available on the Company's website at www.arcadiaminerals.global.

[6] Refer to ASX Announcement 29 May "*Construction funding secured for Swanson Tantalum Project"*

[7] Refer to RNS Announcement 20 December 2022 by Kazera Global PLC "*100% disposal of African Tantalum (Proprietary) Limited*"

The focus of the DFS has been limited to the open-castable D, E and F-pegmatites since these pegmatites have been the subject of detailed exploration to date.

The DFS Report presented the results of the DFS and included Mineral Resource and Ore Reserve Estimates (D-pegmatites and E F-pegmatites) for the Swanson Project which have been prepared in accordance with the guidelines of the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Reserve Committee (JORC) of the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists and the Minerals Council of Australia (the JORC Code).

Project Scope

The Swanson Project as defined by the DFS, consists of the open cast mining of the D-pegmatite and E F-pegmatite deposits, primary and secondary contractor crushing and screening, a spiral concentrator plant, dry stacking of the spiral tailings and mine waste and associated bulk infrastructure supply and other services normally associated with open cast mining in Southern Africa.

The DFS includes engineering, design and capital expenditure (CAPEX) and operating expenditure (OPEX) cost estimation of the Swanson Project, in accordance with Class 3 of the Association for the Advancement of Cost Engineering (AACE), assessment of environmental and social impacts, an independent market assessment, legal opinion of the status of ML223 and the corporate status of ORP and an independent Economic Analysis in the form of a discount cashflow (DCF) model.

The advisors providing expertise in the different DFS specialist areas are outlined in Table 1.1.

Table 1.1: Independent Expert Advisors for the DFS

Description	Expert Advisors
Geology and Mineral Resource estimation	Snowden Optiro
Mining and Ore Reserve estimation	Snowden Optiro
Contractor mining and crushing cost estimation	SPH Kundalila
Metallurgical test work	CoreMet Mineral Processing
Process Plant engineering design and cost estimation	Obsideo Consulting
Spiral tailings and mining waste design and cost estimation	Prime Resources
Tantalite market report	Argus Media Group
Environmental studies, permitting and social impacts	Impala Consulting
Economic analysis	M.Plan International
Legal opinion of mining title and corporate status	ENS-Africa (Namibia)

Property Description and Location

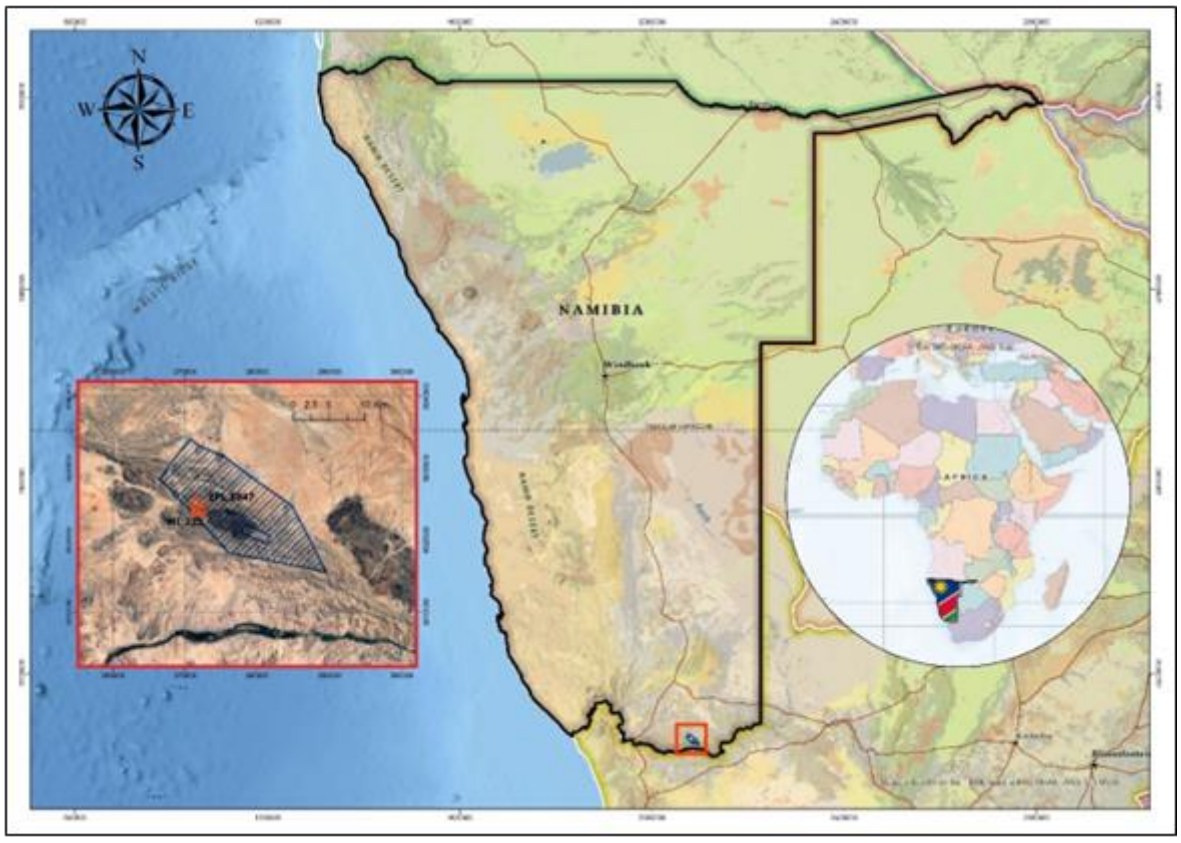
The Swanson Project is located in southern Namibia, and is situated 100 km south of Karasburg, 30 km southwest of Warmbad and 15 km to the north of the Orange River, that forms the international border between South Africa and Namibia.

The Swanson Property is located 250 km southeast of the nearest port at Lüderitz. Although the B1 main national road from Noordoewer to Windhoek is some distance away, the area is serviced by well-maintained, secondary dirt roads which make the area accessible all year round.

The Swanson Project is situated in a mountainous desert setting with reasonable road access and is characterised by a complex geological and structural setting with good mineralisation potential amplified in the presence of large shear zones (Tantalite Valley Shear Zone) and a neighbouring intrusive mafic-ultramafic body with appreciable Cu and Ni mineralisation. A large number of well-mineralised pegmatites are also present on the property and the potential of these occurrences is highlighted by extensive, small-scale mining activities where tantalum, tungsten, beryl and spodumene were extracted from these pegmatites. The name Tantalite Valley is also indicative of the extent of mineralization. An active tantalite mining operation owned by Hebei is present within the boundaries of EPL 5047. The Swanson Project is located on farms Umeis 110, Kinderzitt 132 and, Norechab 130.

A location map of the licenses of the Swanson Project is provided in Figure 1.1.

Figure 1.1: Location Map of the Swanson Project and Licences EPL 5047 and ML 223



Governmental Licensing Regime

ENSafrica (Namibia) (ENS) performed an independent legal opinion in respect of the ownership of ML 223, and the corporate status of ORP. The work by ENSafrica is presented in a "Corporate Status and Mining Title Opinion", dated 23rd August 2022 (the ENS Opinion).

The ENS Opinion reports, advises, and opines, as the case may be, that:

- ORP is validly incorporated in accordance with and validly exists as a private company with limited liability under the laws of Namibia;
- ORP is the sole (100%) holder of ML 223, which, has been validly granted and issued;
- ML 223 is granted for a period of fifteen years, subject to certain terms and conditions which is active;
- ORP is in good standing and operational as a company;
- ORP was granted an environmental clearance certificate (ECC) on 19th May 2022, to undertake "The Proposed Development of a Tantalite Mine in the Karas Region, Southern Namibia". The certificate expires on 14th May 2025; and,
- The Register of Mineral Licences records no encumbrances over ML 223.

Geology and Mineralisation

A total of 15 Tantalum (Ta_2O_5) mineralised tabular pegmatites have been identified on ML223. These have been named by group (A to G) and by number. The pegmatite bodies are of uniform thickness (generally approximately 1.5 m to 2.5 m thick), are tabular, non-zoned, dip gently to the east, and contain tantalum (Ta), niobium (Nb) and lithium (Li) mineralisation, together with quartz, sugary albite, spodumene and a number of other minerals. They intrude into competent gabbros and are bound on the northern side by a northwest trending mylonitic shear zone.

Mineralogically the four main constituents of the pegmatites are white to grey massive quartz, perthitic feldspar, Li-bearing muscovite, and sugary albite. Minor constituents are tantalite, spodumene, beryl, lepidolite, muscovite, apatite, fluorite, biotite and microlite. The mineralogy gives the pegmatites a whitish appearance, which contrasts strongly with the dark-coloured gabbroic host rock.

Deposit type

Pegmatites are defined by several geological, textural, mineralogical and geochemical parameters, and are broadly classified as either simple/common or complex based on the presence or absence of internal zonation. Simple/common pegmatites are un-zoned, poorly fractionated and thus usually un-mineralised.

Complex pegmatites often contain potentially economic concentrations of minerals/elements (including lithium, tantalum, niobium, tin, beryllium and REE). Pegmatites are generally classified by a combination of depth of emplacement, metamorphic grade and minor element content, and has four main categories, namely Abyssal (high grade, high to low pressure), Muscovite (high pressure, lower temperature), Rare-Element (low temperature and pressure), and Miarolitic (shallow level).

The Rare-Element classes are subdivided based on composition into three broad families based on other petrological, paragenetic and geochemical data:

- Lithium-Caesium-Tantalum (LCT);
- Niobium-Yttrium-Fluorine (NYF); and,
- Mixed LCT – NYF families.

The Tantalite Valley and Swanson Project pegmatites belong to the LCT family of pegmatites and can be classified as a mixture of the spodumene, lepidolite and albite-spodumene subtypes of complex type, lithium subclass, rare-element class pegmatites.

The pegmatites on the Swanson Property are not zoned, with the exception of isolated instances, and are banded to massive, are dominated by quartz, sugary albite and muscovite, and exhibit variable concentrations of tantalite, spodumene and lepidolite.

Exploration and Drilling

At least fifteen individual pegmatite bodies >1 m thick have been identified within the Swanson Pegmatite Swarm and ORP initially targeted these for additional mapping and sampling. A high-resolution drone survey was performed in 2020 to assist with the planning and mapping of these pegmatites.

Geological mapping over the Tantalite Valley area (currently mostly consisting of ML 223, ML 77, EPL 5047 and EPL 7295) was conducted by the Geological Survey of Namibia in collaboration with the Council of Geoscience of South Africa. ORP purchased the geological database and re-interpreted the data. Based on this analysis it was decided to focus exploration efforts on the north-western strain shadow of the mafic to ultramafic Tantalite Valley Complex, i.e., the Swanson Project, and on the Tantalite Valley Complex itself.

A total of 52 holes have been drilled on the Swanson deposit area by ORP totalling 1,568.9 m of drilling. This has been undertaken in two drilling phases, the first in 2019/2020 and the second in 2021/2022.

ORP 2019/2020 Drilling Campaign

ORP's first drilling phase of 23 vertical diamond drill holes comprising 349.85 m of HQ (63.5 mm core) commenced in June 2020 and was completed in August 2020. Drilling was limited to pegmatites at two locations targeting the D1, D2 and F1 pegmatites. Most of the 23 boreholes intersected the target pegmatite bodies. The average thickness from the drilling of the F1 pegmatite is 2.1m, of the D1 pegmatite is 4.27 m, and of the D2 pegmatite is 4.50 m, all markedly thicker than that measured in outcrop. A marked increase in true thickness of some 10% for the F1 pegmatites and 100% for and 86% for the D1 and D2 pegmatite respectively was observed.

ORP 2021/2022 Drilling Campaign

From mid to late 2021, twenty-nine additional boreholes were drilled at the Swanson deposit with a combined depth of 1,219.07 m. Twenty-six of these holes were drilled in the E area. All boreholes drilled during this campaign were vertically HQ (63.5 mm) oriented. Drilling was not conducted on a regular grid. Only three holes were drilled deeper than 60 m. The average depth of the rest of the holes was 33.49 m, and mainly targeted the upper E pegmatites, as well as the F1 Pegmatite. Additional channel samples were also collected during this time, which also included previously unsampled pegmatites such as E1, D3 and D4.

Future Exploration

The Mine Geological Department (MGD) of ORP will be responsible for all the exploration operations taking place on the Swanson Property. Three proposed drilling programmes will be implemented over the life of mine (LoM), to extend the 1st May 2022 Mineral Resource Estimate[8].

Mineral Processing and Metallurgical Testing

ORP commissioned CoreMet Mineral Processing (CoreMet) to perform mineralogical and metallurgical testwork to develop a DFS process flow to produce commercial grade (>25.0% Ta_2O_5)

[8] Refer to ASX Announcement 6 May 2022 "JORC Mineral Resource at Swanson Doubles in Size"

tantalum concentrate. The testwork also quantified recovery of lithium that will be sold as run of mine (RoM) process tailings. The lithium RoM tailings will be sold separately as a by-product when ore containing spodumene is processed through the process plant.

The focus of the DFS has been limited to the D, E and F-pegmatites since these pegmatites can be extracted by open cast mining methods. The testwork included ore variability to determine whether the DFS flowsheet, developed from ore from F pegmatite, will accommodate D and E pegmatites within the DFS mine production schedule.

From the mineralogical information it was determined that a coarse grind should be sufficient for initial tantalum recovery. A 1 mm top size was selected and tested by vertical shaft impactor (VSI), rod mill and high-pressure grinding rolls (HPGRs). The VSI was selected since it provided the best liberation and does not generate excessive fines (<45 µm).

Results from gravity separation test work indicates the following:

- Crushing to 1,000 µm is required to achieve maximum recovery;
- Approximately 30% tantalum loss to <45 µm occurs due to spiral inefficiency; and,
- Most of the tantalum losses occurred to the >150 µm fraction due to poor liberation. Liberation test work indicated that at 300 µm, 50% additional Ta_2O_5 can be recovered. Crushing smaller does improves Ta_2O_5 recovery. This will require further assessment in future. However, it is proposed that the VSI should be designed to crush to a top size of 600 µm and space is left for a possible future milling circuit to grind to <212 µm.

There are significant tantalum losses within the <45 µm fraction of the spiral tails. To improve recovery, the spiral tails were screened at 106 µm. The oversize requires further grinding to improve recovery and the undersize requires specific technology suited to this size range.

It was determined that the addition of a fines circuit can improve overall recovery by between 10% and 13%. However, this will require additional CAPEX and add complexity to the process flow. Consequently, the proposed DFS flowsheet excludes fines recovery. The test work confirmed that magnetic separation is not viable due to poor recoveries.

Spiral concentrate 1 and 2 were milled to 100% passing 150 µm. The concentrate was then processed through the MGS. More than 90% of the tantalum was recovered in the concentrate.

Analysis by quantitative evaluation of materials by scanning electron microscopy (QEMSCAN) indicated, successful tantalum liberation at 150 µm.

The MGS produced a concentrate grade at the commercial grade of 25% Ta_2O_5. It was observed that small changes in operational parameters had a large impact on concentrate grade and recovery. For this reason, the DFS flowsheet included a “Cleaner” MGS.

The findings of the bulk test work are as follows:

- The proposed DFS flowsheet consists of comminution to -600 µm, followed by primary recovery spirals. The concentrate from the spirals is milled to 150 µm to produce a final product grade of ≥25% Ta_2O_5 in an MGS circuit;
- By crushing to a smaller top size (<600 µm) there is significant recovery upside. This will require further test work after the plant is operational. Consequently, it is proposed that the

VSI should be designed to crush to a top size of 600 µm and that space is left for a possible future milling circuit to <212 µm;
- All technologies proposed for the DFS flowsheet are well established within tantalum recovery;
- It was determined that the proposed DFS flowsheet will produce a concentrate grade containing at least 25% Ta_2O_5 at a minimum recovery of 65%;
- The addition of a fines circuit to recover Ta_2O_5 lost to the spiral tails can add an additional 10% to 13% recovery. However, will require additional CAPEX, and as such has been excluded from the DFS process flow to first perform a trade-off to assess the increase in cost versus revenue improvement;
- MGS test work indicated that it was possible to recover at least 80% on all the different samples;
- Variability test work indicates that similar recoveries are achieved when ore from the D and E pegmatites are treated, compared to F pegmatite on which the DFS flowsheet is based;
- Based on the test work, it can be concluded that the overall Ta_2O_5 recovery of 65% is plausible regardless if the ore originates from the D, E or F pegmatites; and,
- Based on the test work, it can be concluded that an overall Li_2O recovery of 99% to the process plant tailings is achievable when treating ore from the D-pegmatite and EF-pegmatites.

Mineral Resource Estimation

ORP commissioned Snowden Optiro to produce a Mineral Resource Estimate (dated 1st May 2022) of the open cast minable D-pegmatite and EF-pegmatites within the Swanson Property.

A total of 15 Tantalum (Ta_2O_5) mineralised tabular pegmatites have been identified on the property. These have been named by group (A to G) and by number.

The 1st May 2022 Mineral Resource Estimate has incorporated all geological knowledge and exploration information to 30th April 2022 and is an updated estimate following additional drilling conducted between October 2021 and April 2022. A total of 105 diamond drill holes drilled from surface have been used in this estimate.

These holes have been supplemented by geological information gained from surface outcrops, including from detailed mapping, and from channel and chip sampling of these outcrops.

Geological continuity of the pegmatites has been established through mapping and sampling (chip and channel) of surface exposures, and the extension of these pegmatites under shallow cover has been established by diamond drilling.

The thickness of the pegmatites has been established through modelling of the hanging wall and footwall contacts. Ta_2O_5 ppm, Nb_2O_5 ppm and Li_2O % grades have been estimated using ordinary kriging, with geostatistical continuity of the Ta_2O_5 grades being established through mapping and variography.

Two models were created for the 1st May 2022 Mineral Resource Estimate[9], one for the D-pegmatite, and another for the E and F pegmatites combined (E F-pegmatites).

The summary of the Mineral Resources for the Swanson Deposit is shown in Table 1.2.

Table 1.2: Summary Mineral Resource Statement for the Swanson Deposit as at 1st May 2022 (in accordance with the guidelines of the JORC Code (2012))

Category	Pegmatite	Tonnage (kt)	Ta_2O_5 (t)	Grade Ta_2O_5 (ppm)	Grade Nb_2O_5 (ppm)	Grade Li_2O (%)
Indicated	Total area D	568	207	365	87	0.27
	Total area E-F	577	334	578	65	0.07
	Total	**1,145**	**541**	**472**	**76**	**0.17**
Inferred	Total area D	444	162	365	79	0.34
	Total area E-F	995	554	557	69	0.05
	Total	**1,439**	**716**	**498**	**72**	**0.14**

The geological and grade continuity of the pegmatites was sufficient to classify the reasonably well-explored area as Indicated Resources, with Inferred Resources being extrapolated 50 m beyond the last line of sampling.

Ore Reserves Estimation

The 15 mineralised pegmatites identified on the Swanson Property are of uniform thickness (generally about 1.5–2.5 m thick), tabular, non-zoned, gently-dipping, and contain tantalum, niobium and lithium mineralisation, together with quartz, sugary albite, spodumene and a number of other minerals. They intruded into competent meta-gabbros and are bound on the northern side by a northwest trending mylonitic shear zone.

The Mineral Resources and Ore Reserves are contained within two distinct deposits:

- The D-Pegmatite, located to the north of the Swanson Property, is characterised by 3 gently dipping pegmatite horizons (D0, D1 and D2) of around 2.5 m in thickness and relatively shallow with an overall stripping ratio of ~ 2. The Ta_2O_5 grades in the D-pegmatite deposit are around 360 ppm and Li_2O of 0.25%.
- The EF-Pegmatites, located to the central and southern region of the Swanson Property is characterised by more steeply dipping pegmatite horizons (E2, E3, E4, E6, E7, E8 and F1) with an overall stripping ratio of around 14. The Ta_2O_5 grades in the E F-pegmatites are around 500 ppm and low Li_2O of 0.07%.

The 1st May 2022 Mineral Resource Estimate was used to generate the Ore Reserve Estimate. The Ore Reserve Estimate is reported in Table 1.3. No Proved Ore Reserves were declared.

[9] Refer to ASX Announcement 6 May 2022 "JORC Mineral Resource at Swanson Doubles in Size"

Table 1.3: Proved and Probable Ore Reserves for the Swanson Pegmatites

D & E F Ore Reserve	Area	Mass (kt)	Ta_2O_5 (ppm)	Li_2O (%)	Ta_2O_5 (tonnes)
Proved	Total D	0	0	0	0
	Total EF				
	Subtotal	**0**	**0**	**0**	**0**
Probable	Total D	409	347	0.23%	142
	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.

In arriving at an in-situ, dry Probable Ore Reserve Estimate, the following steps were taken to ensure the estimates were reasonable, practical and robust for the current stage of the Swanson Project:

- A subjective analysis of the Swanson Property was undertaken. This resulted in certain Mineral Resources being excluded from potential consideration based on their location in challenging terrain or relatively deeper below water-courses where the Mineral Resources would not immediately be extracted.
- Mining related modifying factors were applied to the Ore Reserve Estimate. These included ore-losses (from mine design, terrain and pit constraints) of ~ 17% and a dilution factor of 5%. These losses were 0.5% in the D Pegmatite pit and 17.6% in the EF-pit. the loss within the EF-pit could potentially be slightly reduced if smaller block sizes are considered in future whereby mining along pegmatite contacts can be carefully controlled, limiting the need to remove excessive waste from below the dipping pegmatite floor required to ensure a level pit floor operating surface.
- Pit shells for the D-pegmatite and E F-pegmatite deposits respectively were derived using macro-economic assumptions (including a tantalite concentrate price of US$220/kg and costs). Key technical assumptions including the general overall geotechnical slope and bench data as further detailed in the Feasibility Study; a dilution factor of 5%; processing recoveries of 65% and concentrate grade of 25%; cut off grades of 236 ppm Ta_2O_5. The economic results were assessed using a 10% discount rate and the pit shell was selected based on the results.

A summary of the selected pit shell results is provided in Table 1.4.

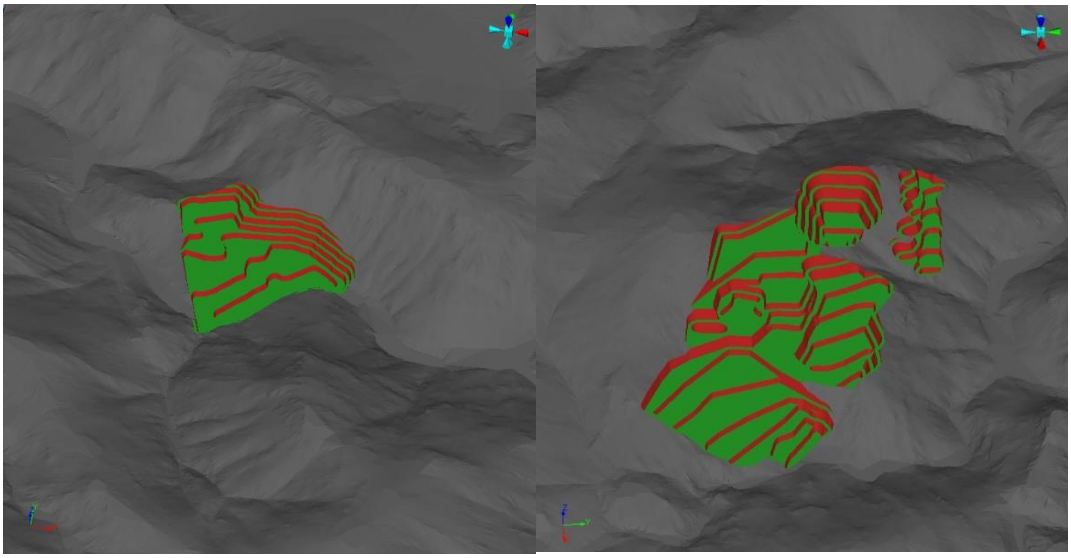
Table 1.4: Selected Pit Shell Summary

	D-pegmatite	E F-pegmatites	Total
Pit shell	43	48	-
Revenue factor	96%	100%	98%
Ore tonnes (Mt)	0.41	0.55	0.96
Waste tonnes (Mt)	0.90	7.72	8.62
Ave strip ratio	2.2	14.2	12.9
Average Ta_2O_5 grade (ppm)	364	503	444
Average Li_2O (%)	0.25	0.07	0.15

- Pit design (Figure 1.2) for each pit was undertaken, taking into consideration the mining blocks, specific geotechnical inputs, bench designs, ramps and other overall pit shapes while adhering to overall economic strip ratios determined from the initial pit optimisation process.

Of the 1,145 Mt of Indicated Resources (by tonnage mass) grading 472 ppm Ta_2O_5, 866 kt has been converted into a Probable Ore Reserve with a grade of 454 ppm Ta_2O_5.

Figure 1.2: D-pit Design (LHS) and E F-pit Design (RHS)



Mine Schedule

A monthly mine schedule was also determined which included Indicated Mineral Resources and, where deemed reasonable, some Inferred Mineral Resources.

The inclusion of Inferred Mineral Resources has explicitly been shown and is largely only those Inferred Mineral Resources that fall within the pit shells of the Ore Reserve Estimate. These pit shells were developed using the economic analysis of including only the Mineral Resources within the Indicated category.

Table 1.5: Resources Categories Included in the ORP Mine Schedule

Description	Unit	D-pegmatite	E F-pegmatites	Total
Total ore	Mt	0.492	0.668	1.16
Indicated	Mt	0.405	0.445	0.85
Inferred	Mt	0.088	0.223	0.31
Inferred % of total	%	17.8%	33.0%	26.8%

Table 1.6 provides a summary of the mining schedule.

Table 1.6: Mining Schedule Summary

Description	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total
Total ore	Mt	0.12	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.01	1.16
Total waste	Mt	0.40	0.35	2.78	1.50	2.03	1.40	1.01	0.95	0.07	10.50
Strip ratio	t/t	3.36	2.36	18.53	10.21	14.07	9.46	6.76	6.34	28.64	9.04
Ta_2O_5	ppm	350.7	367.8	367.3	451.5	619.3	504.1	589.4	604.0	524.0	484.9

Recovery Methods

The RoM will be concentrated through a spiral plant to produce a concentrate with a minimum grade of 25 wt% Ta_2O_5.

The Spiral Plant will process secondary crushed stockpile material with a top size of 25 mm to beneficiate 143 520 tpa RoM at a head grade of 487 ppm Ta_2O_5. This requires tertiary crushing and gravity separation to produce the concentrate containing 25 wt% Ta_2O_5.

The Spiral Plant consists of a tertiary crushing circuit, a rougher circuit, a cleaner circuit, a filtration and drying circuit, and a tailings handling and water recovery circuit. The rougher and cleaner circuits comprise of gravity separation processes to exploit the high density of the Ta_2O_5 minerals. The concentrate will have a minimum grade of 25 wt% Ta_2O_5. Tantalite metal is extracted from this concentrate. Tantalite is a metal with extensive applications in the growing electronics market.

The process flow diagrams, mechanical equipment lists, and piping and instrumentation diagrams, covering all five processing areas, were generated to obtain the civil, structural, and electrical bill of quantities.

The planning and costing are based on an engineering, procurement, construction and management (EPCM) model. Budget quotes were obtained for all the identified components to compile CAPEX and OPEX cost estimates for the plant, in accordance with AACE Class 3.

Construction has been estimated to require 246 business days from the commencement date to final commissioning and hand-over (approximately 11.5 months). The detail design phase requires 106 business days (approximately 5 months) and procurement 188 business days (approximately 9 months).

To optimise the implementation time, the detail design and procurement phases will be executed simultaneously to be able to complete construction and commissioning within 11.5 months.

The Spiral Plant is designed with a nominal feed capacity of 40 tph dry feed with a top size of 25 mm. It is scheduled to operate 3 588 hours per annum to process 143 520 tonnes of feed material. The plant design has a target recovery of 65% Ta_2O_5 and with a nominal feed grade of 487 ppm Ta_2O_5. The Spiral Plant will produce 176 715 kg of concentrate at a minimum Ta_2O_5 concentration of 25 wt%.

The CAPEX estimate for the Spiral Plant was completed in accordance with a basis of estimate methodology (the BoE) which conforms to AACE Class 3.

Approximately 23 wt% of the Ta_2O_5 entering the plant, reports to the thickener. The Ta_2O_5 smaller than 45 µm is liberated, but the current rougher circuit only recovers Ta_2O_5 down to 45 µm. The addition of a fine beneficiation circuit targeting the Ta_2O_5 smaller than 45 µm can recover more than 50 wt% of the Ta_2O_5 reporting to the thickener and increase the overall Ta_2O_5 recovery to 78 wt%.

This will require an additional CAPEX investment of approximately US$2.2 million. A cost-benefit analysis must be completed to determine if the increased investment will provide a higher return on investment.

Project Infrastructure
The DFS on the Swanson Project includes for bulk infrastructure to supply water and electricity, a new access road and dry stacking of the tailings generate from the Spiral Plant.

Bulk Infrastructure Supply
Following granting of ML 223, ORP received confirmation from Nampower, the Namibian national electric power utility company, that the mine can be fed up to 2.7MVA from the substation located at the town of Warmbad. The EIA for the new ~40km 33 kV or 66 kV line from the Warmbad substation to the Mine is included in a separate Environmental Scoping Report and Management Plan entitled "Environmental Impact Assessment for the proposed construction of a powerline, pipeline and road in support of tantalite mining on ML 223".

A good, unsealed (gravel), access road exists to the operational offices. The Environmental Scoping Report makes provision for new unsealed roads to support the mining and recovery plant areas. The provision of unsealed roads is standard practice in Namibia.

The main access road will connect the C10 secondary gravel road with the Swanson Property. The water pipeline, new access road, and power line will run parallel to each other from Warmbad to the proposed Swanson Mine.

The proposed preliminary designs for the access road to service the Swanson Property, process plant area, and the haul road to transport RoM from the mining area to the processing plant are feasible options.

The access road will be designed for a design speed of 70 km/h with an 8.6 m wide gravel wearing course surface.

The haul road will have a 15 m wide gravel wearing surface and is designed for rigid dump trucks, 10 m wide and 14 m long. The construction will entail cuts with depths up to 14 m and fills with heights up to 6 m high.

The Environmental Scoping Report for infrastructure development makes provision for water to be sourced from two localities namely, a pipeline from Warmbad or otherwise extracting water from local underground aquifers. ORP elected to source water from Warmbad. In the environmental impact assessment (EIA) report, it was proposed that the water pipeline will be less than 40 km long with a diameter of 160 mm.

Spiral Plant Tailings and Waste Rock

ORP engaged Prime Resources to perform the feasibility design and cost estimation of the tailings storage facility (TSF) of the Spiral Plant and the waste rock dump (WRD) of the open cast mining operation for the Swanson DFS.

The mining operation involves the development of two opencast pits i.e., the D-pegmatite pit (the D-pit) and the E and F-pegmatite pit (EF-pit).

The Spiral Plant produce two tailings streams, a fine tailings (-45 µm dewatering oversize) and a coarse tailings (+45 µm filter cake). The TSF includes separate disposal of fine and coarse tailings produced from the Spiral Plant to allow for the sale of the fine tailings as lithium RoM tailings as a by-product. However, the separate tailings are disposed to a single TSF site.

The scope of work for the TSF and WRD included site selection, confirmation of design criteria, geotechnical investigation of the TSF site, design of the TSF and WRD, CAPEX and OPEX cost estimates, as well as generation of layout, section and detail drawings.

Design Criteria

The design criteria for the TSF and WRD are summarised in Table 1.7.

Table 1.7: Design Criteria

Description	Units	Qty	Source
General			
LoM	months	97	Snowden Optiro
Total RoM feed	tonnes	1,160,159	Snowden Optiro
Total waste rock	Mt	7.58	Snowden Optiro
Tailings/plant waste			
Fine tailings	t	696,096	Calculation
Coarse tailings	t	464,064	Calculation
Tailings (fine and coarse) placement dry density	t/m^3	1.6	Prime Resources
Fine tailings volume/ storage requirement	m^3	435,060	Calculation
Coarse tailings volume/ storage requirement	m^3	290,040	Calculation
Tailings moisture content	% (w/w)	15 to 20	CoreMet
Waste rock			

Waste rock bulk density	t/m^3	1.62	Prime Resources
Total waste rock tonnage	t	10,496,643	Snowden Optiro
Total waste rock volume	m^3	6,492,368	Calculation

Site Selection
The TSF site selection was undertaken to position the facility in close proximity to the Spiral Plant, located to the north of the mining area, on the plateau. The area to the west of the Spital Plant was selected as the preferred site for the TSF.

The site selection of the WRD also included minimising of haulage distance, which led to the area adjacent and to the south of the EF-pit being selected as the preferred site.

Geotechnical Investigation
A surface geotechnical assessment was undertaken over the footprint of the proposed TSF site which included the hand-excavation of trial pits to depths ranging from 200 mm to 600 mm where refusal on coarse grained gneiss rock occurred. Soil samples were collected for laboratory testing. The profile consists of gravelly sand between outcropping medium hard rock gneiss and granite. The material from the basin can be used in the construction of nominal embankments. The excavation of channels will be to a limited depth as a result of the shallow and outcropping medium hard rock.

Tailings Material Characterisation
The geochemical characterisation and classification of the Spiral Plant tailings has been undertaken to assess the potential for pollutant release, and to determine the appropriate management and mitigation measures, and barrier requirements for the tailings impoundment. The outcome of the assessment (undertaken to South African legislative requirements), indicated that the tailings classify as an inert waste, only requiring a compacted in-situ basal layer.

Waste Rock Deposition
The waste rock from the open pit mining operations is deposited on the WRD south of the E F-pit. The D-pit is mined first, followed by the E F-pit. The WRD is developed by placing the waste rock in 10 m lifts with 10 m wide benches and intermediate slide slopes having a vertical to horizontal ratio of 1 to 1.5 (1V:1.5H). The WRD will reach a final elevation of 765 meters above mean sea level (mamsl), with a maximum height of 96 m and a footprint of approximately 24 ha. The D-pit is partially backfilled with waste rock to elevation 590 mamsl.

The WRD is contained and defined with a toe embankment, constructed with waste rock. The runoff from the valleys within which the WRD are developed, will be attenuated in the early stages, with waste rock berms positioned at 10 m elevation intervals. Any runoff and seepage reporting to the toe of the WRD are dissipated with waste rock berms and rock mattresses before being released to the downstream environment.

An ephemeral river course intersecting the D-pit, will be diverted by means of an engineered diversion structure on a selected bench, to ensure the continued seasonal flow.

The rehabilitation of the WRD will include the flattening and reshaping of the side slope profile. The benches and safety berms will be used in cut and fill works to create a final overall 1V:2.5H profile.

Tailings Deposition

The fine and coarse Spiral Plant tailings are stored separately to allow for the sale of the fine fraction as lithium RoM tailings as a by-product.

The fine and coarse tailings are collected from the Spiral Plant and hauled by trucks to the TSF site. The coarse tailings are deposited on the southern section of the TSF, and the fine tailings on the northern section of the facility. Both tailings streams are dumped, levelled, and compacted within their respective areas. The TSFs will be developed as an upstream dry stack facility, with 5 m vertical lifts, intermediate side slopes of 1V:1.5H (≈33.7°), and to a final elevation of 663 mamsl. This will require a total of four lifts for a total height of 20 m.

Each of the fine and coarse TSF areas are confined and defined by a perimeter toe wall. Any runoff and seepage from the respective tailings footprints are collected in perimeter collector drain channels and conveyed to a low point, from where it is released to the downstream environment via an energy dissipator.

Stormwater from the area upstream of the TSF are diverted with a diversion trench and berm positioned on the upstream side of the facilities and extends around the external perimeter, to positions downstream of the facilities. The stormwater diversion trenches also terminate in an energy dissipator.

Rehabilitation will be limited to only the coarse tailings as the fine tailings is planned to be sold as lithium RoM tailings. The rehabilitation of the coarse tailings includes flattening of the side slopes to an overall slope of 1V:3H.

The CAPEX estimate of the TSF is determined from the required works and have been based on a schedule of quantities for the works and construction rates provided by SPH Kundalila.

MODIFYING FACTORS

Market Assessment

The Market Assessment of the Swanson DFS Report, unless indicated differently, is based on a presentation report on the tantalite market by Argus Media Group (Argus), dated March 2022. The Argus Tantalite Market Report was independently prepared for ORP by Argus to present independent market and forecasting analysis of the global tantalite market.

Salient points of the Argus Tantalite Market Report are summarised as follows:

- Historically, much of the world's tantalum has been located in the Democratic Republic of Congo (DRC) where it has financed armed conflict or are mined using forced labour. Initiatives to prevent the trade in conflict minerals sought to stop funding to militias;
- Total 2020 tantalum Ore Reserves were between 300 kt and 350 kt - sufficient for 140 years at current production levels. South America holds the majority, 40% of global tantalum Ore Reserves. Australia, at 20% of global Ore Reserves, is the country with the largest tantalum Ore Reserves;
- Global mine tantalum production increased at 8.5% per year to 2,080 t between 2011 and 2021. Most of this growth came from the DRC which tripled output to 780 t. Other significant producing countries are Brazil (23% of global output), Rwanda (13%) and

Nigeria (12%). Australia is a growing producer of tantalum a by-product of lithium mining;

- The ratio between receipts of primary and secondary materials has averaged 75:25 over the last decade. Secondary material supply peaked at 30% in 2013;
- Tantalum demand increased at 6.4% compound annual growth rate to 2,410 t between 2013 and 2017. It then declined year on year to 1,775 t in 2020. Demand for tantalum recovered strongly back to 2017 levels in 2021;
- Competition for tantalum metal by industry can be intense because of its narrow supply chain. Of the 2021 tantalum consumption, about 70% was from electronics. In particular, the capacitor sector which in 2020 represented almost 45%. A further 25% was to produce high temperature alloys used to manufacture jet aircraft and industrial (power generation) turbine blades;
- The tantalum outlook continues to remain robust, regardless of its international supply chain scrutiny. Its application in electronics, aircraft, medical, and especially thermal batteries assure its continued global consumption;
- Tantalum production has held steady in central Africa, the world's largest producing region, although continuing concerning practices remains. This could potentially create pressure on supply from the region until compliance and traceability improve. Lithium expansion could bring large increases in tantalum production which will cause stability to the tantalum industry;
- Tantalum supply is poised to grow strongly due to lithium battery demand over the coming years. Argus predicts that on balance, supply is likely to outgrow demand, although the impact of a stable and secure supply should not be overlooked and could potentially spur faster demand growth; and,
- After a small dip in tantalum prices toward the end of 2021, it has rallied on the current geopolitical situation to average US$202.50/kg (25% Ta_2O_5 inclusive of cost, insurance, and freight delivered to main port Europe) in March 2022.

Environmental Studies, Permitting and Community Impacts

The Namibian Environmental Regulations procedure (GN 30 of 2012) state that mining may not be performed without an ECC.

The environmental proponent must conduct a public consultation process in accordance with regulation 21 of the 2012 environmental procedure. Also, the proponent must perform an Environmental Impact Assessment (EIA) over the area covered by ML 223. For this an Environmental Scoping Report and an Environmental Management Plan Report (EMPR) needs to be submitted.

ORP was granted ML 223 on 3rd June 2022. ML 223 authorise ORP to commence development work towards mining operations for base and rare metals, industrial minerals and precious metals for 15 years (19th May 2022, to 18th May 2037).

ORP was granted an ECC 02187 to undertake the proposed development of the Swanson Mine, and to commence with activities specified in their Environmental Assessment Report and the filed EMPR.

The National Heritage Council of Namibia has Consent to mining operation over ML 223, valid for a year from 14th October 2021 to 13th October 2022. ORP is not aware of any reason why renewal for another year will not be granted.

Impala Environmental Consulting cc was appointed by ORP to perform an EIA of the proposed Swanson Mine. The EIA included preparation of an Environmental Scoping Report and EMPR for the development of the proposed Swanson Mine.

The Environmental Scoping Report outlines standard methods and practices normally applied by mining operations in Namibia.

To note is that following the granting of ML 223, ORP revised the initial plan proposed in the Environmental Scoping Report that all waste will only be stockpiled temporarily (for the first three years) after which material will be mixed (fines, plus coarse mine waste) and returned to the mined-out areas for rehabilitation. Section 18.4 outlines the revised plan for disposal and storage of mine waste and process tailings.

The Environmental Scoping Report does not make provision for acid mine drainage since sulphides are not associated with any of the deposits and thus no acid mine leaching will therefore be present.

The Environmental Management Principles and proposed mitigation measures, outlined in the EMPR, is standard for mining operations within Namibian. These do not impose any stricter requirements on ORP for the development of the proposed Swanson Mine. Similarly, proposed monitoring, auditing and reporting to ensure compliance with the EMPR and recommended closure and rehabilitation activities post mining, conforms to standard mining practices.

The Environmental Scoping Report concludes as follows:

- The proposed Swanson Mine has great potential to improve livelihoods and contribute to sustainable development within the area surrounding the town of Warmbad; and,
- Potential negative impacts associated with the proposed Swanson Mine are expected to be low to medium in significance.

The report on the archaeological survey (Kinahan, September 2021) presents that no sites of heritage significance were found, and proposed that the ORP be given consent to proceed with exploration and mining activities.

The report on the water specialist study (Hamutoko, no date) suggests little or no impact on groundwater resources from the proposed Swanson Mine.

The report on the flora specialist study (Mannheimer, August 2021), state that only one plant species of high conservation concern would be substantially affected by the proposed Swanson Mine. It proposes that if mitigation measures are followed, then the impact of the proposed Swanson Mine on vegetation is likely to be minor.

The report on air quality and noise study (Ameh, no date) state environmental deterioration of air quality and noise pollution can be addressed through implementing the recommended Environmental Management and Monitoring Plans.

ORP committed their socio-economic development plan in a document dated 20th June 2022. The socio-economic development plan conforms to standard mining practices in Namibia, does not

propose more onerous commitments for the development of the Swanson Mine and conforms to the guideline of Namibia's 5th National Development Plan.

Capital and Operating Costs

The purpose of the cost estimate is to determine CAPEX and OPEX costs for use in the Economic Analysis of the Swanson DFS.

The CAPEX and OPEX costs prepared for the Swanson DFS qualifies as a Class 3 - Recommended Practice 47R-11.

The accuracy of the CAPEX and OPEX have been assessed at between +15% and - 15%. The overall contingency provision for CAPEX and OPEX are 10.0% and 7.5%, respectively.

All cost, commodity princes and exchange rates are as the DFS Base Date of 31st March 2023. The cost estimates applied a 4.0% escalation to allow for price increases from estimation completion in Q3 2022 to the DFS Base Date.

The DFS costs are presented in United State dollar (US$). The estimate was performed in Namibian Dollar (NAD) which is pegged to the South African Rand (ZAR) at a rate of 1:1. An exchange rate of NAD18.30/US$ was used to convert the NAD estimate to US$.

DFS costs are based on contractors performing the mining and the operation and maintenance of the Primary and Secondary Crushing and Screening Plant (Primary/Secondary Crushing Plant) and Spiral (Concentrator) Plant.

The DFS costs were estimated by the various specialist consultants as outlined in Table 1.8.

Table 1.8: CAPEX and OPEX Responsibility Matrix

Discipline	Responsibility
Geology and grade control	LexRox Exploration
Contractor mining	SPK Kundalila
Contract crushing and surface material handling	SPH Kundalila
Access and haulage roads and road maintenance	SPH Kundalila
Spiral Plant	Obsideo Consulting
Spiral Plant tailings	Prime Resources
Water pipeline and maintenance	Spes Bona Engineering
Electrical power line	Walters Electrical Services
Reagents	Obsideo
Laboratory	LexRox Exploration
Geology	LexRox Exploration
Survey	LexRox Exploration
Environmental monitoring	Impala Consulting
Owner's cost (salaries, wages, admin, vehicles)	ORP
Concentrate transport and CIF shipping to Hamburg	Kuehne and Nagel

Site security	Southern Security
IT hardware, software, communication, and CCTV	LexRox Exploration
Accounting	Fellowship
Office, furniture, and owner's vehicles	ORP
Insurance and policies	Namrisk

Capital Costs

The total CAPEX for the Swanson DFS was estimated to total **US$9,870,850**. This cost includes accuracy provisions and excluding Owner's contingency allowance which has been estimated at 5.0% of the total CAPEX. The 10.0% contingency has been included separately in the DCF model.

The CAPEX by work breakdown structure (WBS) is summarised in Table 1.9.

Table 1.9: Total CAPEX

Description	Cost (US$)
Geology and grade control	58,520
Access road	559,050
Haulage road	315,000
Mine establishment (equipment and workshop)	947,590
Primary/secondary crushing establishment	85,250
Spiral Plant	6,362,280
Spiral Plant Tailings	298,970
Water pipeline	514,320
Power supply	524,860
IT hardware, software, communication, and CCTV	13,180
Office and furniture	123,630
Owner's vehicles	68,200
Total	**9,870,850**

Operating Costs

The Swanson DFS OPEX consist of a fixed monthly and a variable component. The variable component is charged on a per tonne basis.

The OPEX (fixed monthly and variable per tonne material) per WBS are presented in Table 1.10. These costs exclude the 7.5% contingency which were included separately in the DCF model.

Table 1.10: Total OPEX (Fixed and Variable)

Description	Fixed Monthly (US$)	Variable (US$/t material)
Geology and grade control	10,910	-
Haulage road and road maintenance	1,700	-
Mining contract cost	87,200	-
mining contract cost ore D pegmatite	-	2.08
mining contract cost waste D pegmatite	-	2.08
mining contract cost ore EF pegmatite	-	2.09
mining contract cost waste EF pegmatite	-	1.96
Crushing cost	62,140	1.42
Mining equipment to be used in plant	-	0.88
Spiral plant CAPEX and OPEX	76,840	4.23
Spital plant tailings	2,984	-
Plant waste transport	-	1.02
Environmental monitoring	1,700	-
Water pipeline and maintenance	1,700	-
Ore transport to port and shipping Hamburg	-	668.97
Site security	9,390	-
IT hardware, software, communication and CCTV	930	-
Accounting and land use	3,410	-
Insurance and policies	5,650	-
Owner's team salaries and wages	18,750	-
Total	**283,480**	

Economic Analysis

The economics potential of the proposed Swanson Mine was assessed by performing of an Economic Analysis in the form of a discounted cash flow (DCF) model. The DCF model was estimated in real (constant US$) terms, thus excluding the effect of inflation.

Annual cash flow projections were estimated over the LoM based on CAPEX, production costs, transportation and refining charges, OPEX and sales revenue. Pre-tax and post-tax estimates were developed. The post-tax estimates are likely to approximate the true investment value. It must be noted that tax estimates involve many complex variables that can only be accurately calculated during operations. Consequently, the after-tax results are only approximations.

Sensitivity analyses were performed for changes in sales revenue (metal prices and head grade), OPEX, CAPEX and discount rate to determine their relative importance as value drivers.

Revenue is derived from the sale of tantalum concentrate, containing ≥25.0% Ta_2O_5. The separate sales of lithium RoM tailings as by-product are included. The tantalum concentrate is expected to attract a credit for contained niobium oxide content, which has been accounted for in the financial

model. The proposed Swanson Mine will produce a concentrate grade at the commercial grade of 25% Ta_2O_5. During operation, lithium RoM tailings will be produced, when ore containing spodumene is processed through the process plant. This will be sold as a by-product, possibly to neighbouring Hebei. Niobium oxide contained within the tantalum concentrate is credited to the sales price of the tantalum concentrate.

The proposed Swanson Mine is assessed by Arcadia to determine its exploitation potential at DFS level (AACE Class 3). The Economic Analysis relies on Mineral Resources, Ore Reserves, mine production schedule, recoveries, OPEX, CAPEX, commodity prices, etc. determined during the DFS by various specialist consultants coordinated by ORP, or inputs provided by ORP. The Economic Analysis was performed at 100% attributable to ORP, in which Arcadia has an 80% interest.

The economic analysis of the DFS Report presents all the relevant information to ensure the Economic Analysis adheres to the guiding principles (Competence, Materiality, Reasonableness, Transparency, Independence and Objectivity) described by the International Mineral Valuation Standards Template (IMVAL Template).

The Economic Analysis is not purported to be a mineral asset valuation. However, in adhering to the IMVAL guiding principles, it is ensured that the Economic Analysis adhere to current international best practices in determining the economic potential of the proposed Swanson Mine.

The scope of work was to perform an Economic Analysis in the form of a DCF model. The Economic Analysis evaluate if the proposed Swanson Mine presents economic potential thereby meeting the JORC (2012) standards that a Mineral Resource have “reasonable prospects for economic extraction”. The Economic Analysis will be an important part of documentation during final investment decision (FID) to guide decision-making whether to proceed with the development of the proposed Swanson Mine.

The DCF presents the mine development and LoM production, waste and plant processing schedules, as well as concentrate and by-product production, CAPEX and OPEX cost estimates, all determined during the DFS or supplied by ORP. The DCF included royalty payments, pre-tax income, tax calculations, projected cash flows, and a range of NPVs at the appropriate level.

The DCF determine an appropriate economic basis of value. Due to the various subjective inputs involved in generating a DCF, it is standard for the outcome to be regarded as an opinion, and not as a fact. For this reason, the resultant of the Economic Analysis is most appropriately stated as a lower and upper range.

The Economic Analysis is subjected to sensitivity analyses to determine their relative importance as value drivers. The resulting value range derived from the sensitivity analyses is used to guide the concluding range of economic value for the Swanson Mine.

M.Plan’s concluding opinion of the Economic Analysis was based on the methodology, assumptions and exclusions presented herein below. M.Plan is an independent advisory company. Its consultants have extensive experience in preparing CPs, Technical Advisors and Valuation Reports for mining and exploration companies. M.Plan’s advisers performing the Economic Analysis has significant experience in the analysis and evaluation of mining and exploration properties worldwide and are members in good standing of appropriate professional institutions. Neither M.Plan, nor its staff, associates or

subcontractors, have, or have had, interest in ORP, Arcadia, or the properties comprising the proposed Swanson Mine, capable of affecting their ability to give an unbiased opinion. M.Plan has not received, and will not receive, any pecuniary or other benefits in connection with this assignment, other than normal consulting fees. M.Plan was remunerated an agreed fee amount for the preparation of their scope of services, with no part of the fee contingent on the conclusions reached or the content of their services or the Economic Analysis.

The Specialist responsible for preparing the Economic Analysis, Mr. Derick, R. de Wit, is considered competent, as outlined in the JORC-code (2012), by way of his relevant and appropriate education, experience, and Professional association (ethics). Mr. de Wit is a Professional Engineering Technologist (Chem. Eng.), registered with the Engineering Council of South Africa, has more than five years' relevant experience in the analysis and evaluation of the type of exploration and mining properties discussed in the DFS Report and is a Fellow of both the Australasian and Southern African Institutes of Mining and Metallurgy. The Specialist responsible for preparing the Economic Analysis has worked closely with the CPs responsible for the Mineral Resource and Ore Reserve Estimates and the other CPs whose work are material to the Economic Analysis. The Specialist has performed a review of the work by the Specialists capable of impacting the outcome of the Economic Analysis.

Considering the above, the Specialist is satisfied that there is sufficient current information available to allow an informed Economic Analysis to be made without an inspection to the properties comprising the proposed Swanson Mine.

The Cash Flow Approach focuses on the value of a mineral asset's future income streams. The future forecasts are usually based on either historic results or the results of a mine feasibility assessment study and the value is based on the value, in present day terms, of an anticipated series of future income streams. The cash flow assumptions are based upon realistic estimates, at the time of the economic evaluation, of the costs of ongoing capital spending, production, sales revenues and expenditures.

A discount rate is then applied to the cash flows, which is dependent on the nature of the project and operating company's cost of capital and risk profile, to yield a NPV on the post-tax un-escalated DCF. The Cash Flow Approach considers the unique technical and financial characteristics of each project.

In M.Plan's experience, the difference between the results of the escalated and un-escalated DCF models is zero, where the correct real (excluding inflation) and nominal (including inflation) discount rates have been applied, and the correct cost inflation rates used to compile the nominal cash flow model. For this reason, the un-escalated (real) model, discounted at a real (no inflation) discount rate is considered accurate and the preparation of an escalated model to demonstrate the un-escalated model's accuracy is unwarranted.

The parameters, plans, assumptions and current economic, regulatory, financial and market conditions, may change over time. The Concluding Option of Value Range is based on certain forward-looking statements regarding operations, economic performance, commodity prices, exchange rates, and financial conditions, etc.

Subsequent developments and changes to the forward-looking statements may affect the Concluding Opinion of Value Range. As such, the Concluding Opinion of Value Range is related and applicable only as at the Effective Date.

Economic Analysis Assumptions

The Concluding Opinion of Value Range is based on the DFS on the proposed Swanson Mine and the material inputs outlined in Table **1.1** 1.11 and the following assumptions:

- Information provided by ORP and its contractors as presented in the DFS can be relied upon as input to develop the DCF model;
- Regulatory approvals will be timeously obtained and kept valid;
- ORP would continue as going concern and has or will secure the necessary funds to develop the Swanson Mine as intended in the DFS;
- Lithium sales revenue is limited to RoM tailings, when ore containing spodumene is processed through the process plant;

Project execution (detail engineering, design and construction) is based on the following:

- FID is expected on 1st July 2023;
- detail engineering, design, construction and commissioning will require 18 months, followed by ramp-up to full production;
- linear ramp-up will occur from ~16% in month 1 to ~100% in month 6;
- processing of ore (including ramp-up) is scheduled to occur for 97 months (8 years and 1 month) between 1st January 2025, to 31st December 2033; and,
- ore will be available at commencement of commissioning and ramp up and the production and stockpile schedule will ensure the process plant is continuously fed throughout the LoM at the design capacity.

ORP would be able to secure markets and product offtake (>25.0% Ta_2O_5) tantalum concentrate, niobium credits, and lithium RoM tailings;

Marketing cost assumptions used for the Economic Analysis are based on:

- independent Tantalite Market Report by Argus Media Group as summarised above; and,
- ORP's views based on discussions with concentrate trading companies.

It is reasonably expected that the majority of Inferred Mineral Resources within the mine production schedule and DCF model can be upgraded to Indicated Mineral Resources to thereby realise their economic value as forecasted within the DCF model.

However, the reader should exercise caution since the Swanson mine production schedule and DCF model includes for Inferred Mineral Resources which has a lower level of confidence than that applying to an Indicated Mineral Resource and thus is of higher risk.

Income is received and expenses are paid after 30 days;

The methodology to calculated tax payments for royalty, property and company income taxes were furnished by ORP and used as such in the DCF model;

The NPV is based on a real discount rate of 10.0% which the Specialist responsible for the Economic Analysis believe is appropriate for the risks and development stage of the proposed Swanson Mine;

Reliance can be placed on the forecasted; head grades, mining and milling production rates, recoveries, price forecasts, costs and other material assumptions as outlined in Table 1.1 below;

Accounting depreciation is equal to tax wear and tear; and accrued tax loss available to be applied to future profits.

The Concluding Opinion of Value Range is based on material inputs outlined in Table 1.11 and general assumptions and exclusions to develop the DCF model is presented below.

Table 1.11: DCF Model Material Inputs

Description	Unit	Value	Notes
General			
Project commencement	dd/mm/yyyy	01-Jan-23	Construction commences
Base Date	dd/mm/yyyy	31 March 2023	Escalation, currency, and commodity prices
Resource Information			
Production commence	month	13	Production start after
Invoice	month	1	Months after production
Cash receipt delay	month	1	Months after invoice receipt
Metal Recovery			
Tantalum recovery	%	65%	Saleable %
Niobium recovery	%	65%	Saleable %
Lithium recovery	%	98%	Saleable % (D ore only)
Tantalum material multiplier	multiplier	4	Material calc for transport
Average monthly production	tpa	12,500	To calculate variable OPEX
Financial Inputs			
Company tax rate	%	32.00%	Namibian Chamber of Mines
Royalties (base metals)	%	3.00%	Namibian Chamber of Mines
Export tax on concentrate	%	0.25%	Namibian Chamber of Mines
Social contribution	%	1.00%	ORP
Depreciation capital	%	33.33%	Namibian Chamber of Mines
Depreciation mining plant	%	100.00%	Namibian Chamber of Mines
Exchange rate	US$/NAD	18.30	Client
Opening bank balance	US$	0	Cash available at inception
Opening taxable loss	US$	(1,641,739)	Loss accumulated in company
Sales Price			
Tantalum	US$/kg Ta_2O_5	210	
Niobium	US$/kg Nb_2O_5	50	
Lithium	US$/t	60	

Description	Unit	Value	Notes
Sensitivity Analysis			
Financial			
Taxation	months	4	Paid months after year end
Interest on shareholders loans	%	0.0%	
XIRR date	date	1st January 2023	
Contingencies			
CAPEX	%	10.0%	
OPEX	%	7.5%	
NPV			
Discount rate financial risk	% p.a.	2.5%	
Discount rate project risk	% p.a.	5.5%	
Discount rate - total risk	% p.a.	8.0%	
NPV Sensitivity			
Variable OPEX	%	0.0%	
Fixed OPEX	%	0.0%	
Yield recovery	%	0.0%	
CAPEX	%	0.0%	
Selling price / kg	%	0.0%	

The NPV is based on a real discount rate of 8% which the Specialist responsible for the Economic Analysis believe is appropriate for the risks and development stage of the proposed Swanson Mine.

The Economic Analysis is based on JORC (2012) compliant Mineral Resources and Ore Reserves, from which a mine production schedule was developed. The mine production schedule does include Mineral Resources in the Inferred classification.

Cautionary Statement
The JORC Code (2012) state: "An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. Caution should be exercised if Inferred Mineral Resources are used to support technical and economic studies".

M.Plan constructed a constant DCF model, applying the "value in use" principle, using cash flow projections and future production, recoveries, sales and expenses over the LoM, as determined during the DFS.

The LoM cash flow forecast for the proposed Swanson Mine is available in the DFS Report on the Company's website. Using the Cash Flow Approach, the proposed Swanson Mine has an 100% attributable value range of between US$8.0 million and US$11.0 million at a 8% real discount rate, to the post-tax un-escalated cash flows. The upper and lower value range was determined, using varying discount rates, as well as sensitivities on sales revenue, CAPEX and OPEX.

The undiscounted IRR varies between 24% and 27%.

Since the NPV is positive, it can be concluded that:

- Mineral Resources and Ore Reserves can be declared since it meets the JORC-code (2012) definition of having "reasonable prospects for economic extraction"; and,

- Excluding other material factors, the proposed Swanson Mine can proceed to the next phase basic engineering and design.

Economic Analysis Exclusions

The Concluding Opinion of Value Range is based on the following exclusions:

- Mining will be by contractor mining. The mining contractor rates includes for amortisation of mining equipment and the required associated infrastructure.
- Cost provisions does not include for any licensing fees or intellectual property costs;
- The DCF model is generated in constant US$ and thus excludes for price escalation and inflation;
- All CAPEX and sales exclude value added tax (VAT);
- Provisional tax payments have been excluded from the DCF model; and,
- Hebei construction funding[10].

Sensitivity Analyses

Sensitivity analyses were performed for variations in the key economic parameters of sales revenue (metal prices and head grade), OPEX and CAPEX and discount rate. This was done to determine the key economic parameter's relative importance as value driver.

The results of the sensitivity analyses based on changes in NPV (8% real, after tax) and internal rate of return (IRR), after tax, to the key economic parameters are presented in the form of a spider diagram in Figure 1.3 and Figure 1.4, respectively.

[10] Refer to ASX Announcement 29 May "*Construction funding secured for Swanson Tantalum Project"*

Figure 1.3: NPV Sensitivity to Key Economic Parameters

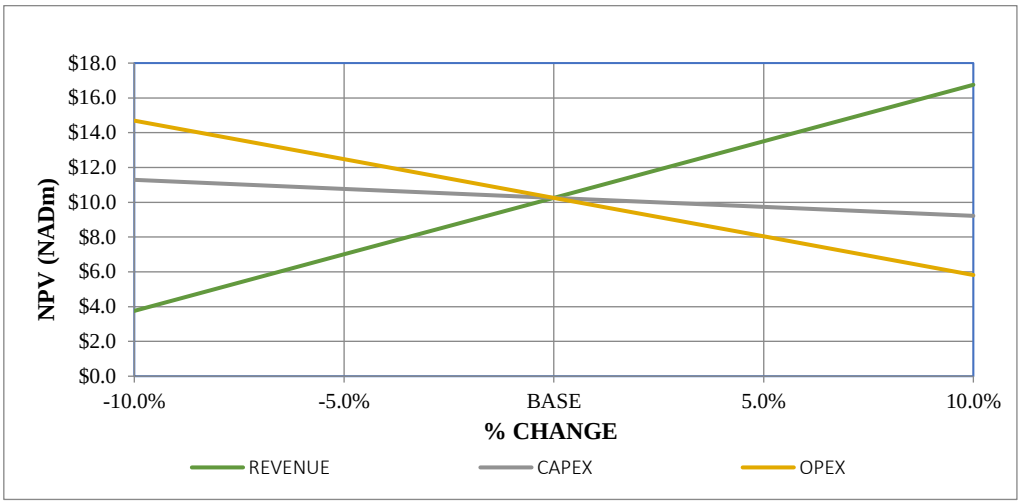


Figure 1.4: IRR Sensitivities to Key Economic Parameters

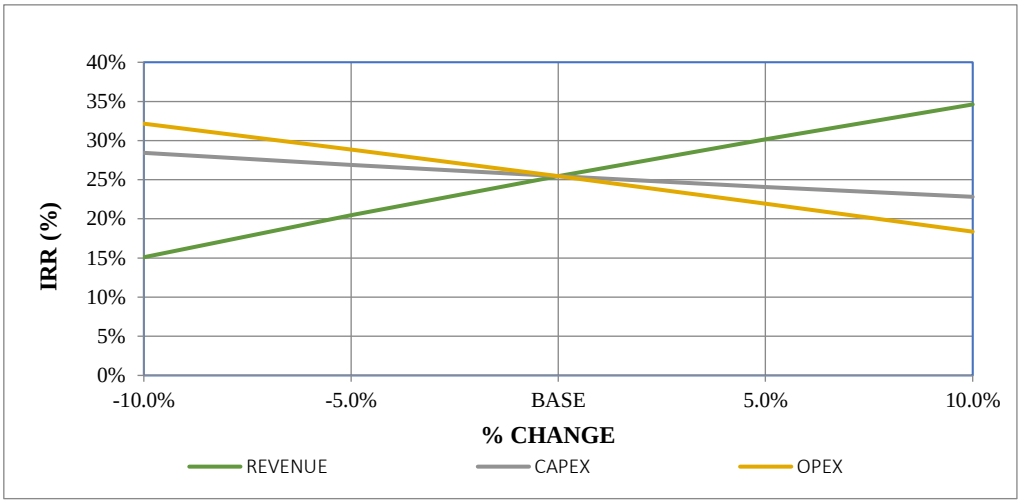


Figure 1.3 and Figure 1.4 indicates that the proposed Swanson Mine's NPV and IRR are both most sensitive to revenue and least sensitive to CAPEX with the sensitivity for OPEX between revenue and CAPEX. However, OPEX does closer aligned with CAPEX than with revenue.

Interpretations and conclusions

The interpretations and conclusions of the **geology and 1st May 2022 Mineral Resource Estimate** of the Swanson Property are as follows:

- More than 200 pegmatites have been identified on three EPL licences held by ORP. A total of 15 Ta_2O_5 mineralised pegmatites, called the Swanson swarm have been explored to date. The 1st May 2022 Mineral Resource Estimate quantified the outcropping and shallow deposits on three groups of the pegmatites, consisting of 10 pegmatites, namely the D, E and F pegmatites;

- These pegmatites are of uniform thickness (generally about 1.5 m to 2.5 m thick), are tabular, non-zoned, gently dipping, and contain tantalum, niobium and lithium mineralisation, together with quartz, sugary albite, spodumene and minor constituents including beryl, lepidolite, muscovite, apatite, fluorite, biotite and microlite. They intruded into competent gabbros and are bound on the northern side by a northwest trending mylonitic zone;
- The mineralogy gives the pegmatites a whitish appearance, which contrasts strongly with the dark gabbroic host rock;
- The 1st May 2022 Mineral Resource Estimate incorporated all the geological knowledge and exploration information up to 30th April 2022. Geological continuity of the pegmatites has been established through outcrop mapping and sampling (chip and channel) of surface exposures, and the extension of these pegmatites under shallow cover has been established by diamond drilling;
- The thickness of the pegmatites has been established through modelling of the hanging wall and footwall contacts. Ta_2O_5 ppm, Nb_2O_5 ppm and Li_2O % grades have been estimated using Ordinary Kriging, with geostatistical continuity of the Ta_2O_5 grades being established through variography analysis;
- The geological and grade continuity of the pegmatites was sufficient to classify the reasonably well-explored area of the Swanson deposit as Indicated Mineral Resources, with Inferred Mineral Resources being extrapolated 50 m beyond the last line of sampling;
- For the D-pegmatites the 1st May 2022 Mineral Resource Estimate identified a total of 568 kt of Indicated Mineral Resources at an average grade of 365 ppm Ta_2O_5, 87 ppm Nb_2O_5 and 0.27% Li_2O, and a total of 444 kt of Inferred Mineral Resources at an average grade of 365 ppm Ta_2O_5, 79 ppm Nb_2O_5 and 0.34% Li_2O; and,
- For the E and F pegmatites the 1st May 2022 Mineral Resource Estimate identified a total of 577 kt of Indicated Mineral Resources at an average grade of 578 ppm Ta_2O_5, 65 ppm Nb_2O_5 and 0.07% Li_2O, and a total of 995 kt of Inferred Mineral Resources at an average grade of 557 ppm Ta_2O_5, 69 ppm Nb_2O_5 and 0.05% Li_2O.

The interpretations and conclusions of the **mining and the Ore Reserve Estimate** of the Swanson Property are as follows:

- At the proposed RoM production rate of 12,000 tpm, the LoM is ~8 years;
- The overall conversion of total Inferred Mineral Resources to Probable Ore Reserves is between 72% and 79% for the D and E F-pits respectively;
- Further upgrading of the Inferred Mineral Resources to Indicated Mineral Resources would largely increase the Mineral Resources and Ore Reserves and extend the LoM;
- The mining schedule was developed based on the requirements to concentrate on the D-pegmatite initially and transition to the E F-pegmatites. However, with the low stripping of waste required for the D-pegmatite initially, the mining equipment may not be optimally employed over this period resulting in underutilisation of any fixed costs. Further due to the high pre-stripping of overburden required to access E & F ore to ensure plant feed is maintained at 12500tpm, the total production volume results in a significant spike around 2026, requiring a potential change in equipment and fleet required. Going forward, this would

need to be considered from a cost and operational optimisation perspective to ensure that equipment is available and best utilised for total volumes; and,

- The Ore Reserve Estimate reports for the D-pegmatite 409 kt of Ore in the Probable category containing 347 ppm Ta_2O_5, 0.23% Li_2O and 142 tonnes Ta_2O_5 and for the E and F pegmatites 457 kt Ore in the Probable category containing 550 ppm Ta_2O_5, 0.07% Li_2O and 251 tonnes Ta_2O_5. No Proved Ore reserves were declared.

The interpretations and conclusions of the **mineral processing and metallurgical testing** are as follows:

- The proposed DFS flowsheet consists of comminution to -600 µm, followed by primary recovery spirals. The concentrate from the spirals is milled to 150 µm to produce a final product grade of ≥25% Ta_2O_5 in an MGS circuit;
- All technologies proposed for the DFS flowsheet are well established within tantalum recovery;
- The addition of a fines circuit to recover Ta_2O_5 lost to the spiral tails can add an additional 10% to 13% recovery. However, will require additional CAPEX and as such has been excluded from the DFS process flow to first perform a trade-off to assess the increase in cost versus revenue improvement;
- MGS testwork indicated that it was possible to recover at least 80% on all the different samples;
- Variability test indicates that the DFS flowsheet achieves similar recoveries to the F pegmatite when treating ore from the D and E pegmatites;
- Based on the testwork, it can be concluded that the overall Ta_2O_5 recovery of 65% is plausible regardless if the ore originates from the D, E or F pegmatites;
- Based on the testwork, it can be concluded that an overall Li_2O recovery of 99% to the process plant tailings is achievable when treating ore from the D, E and F pegmatites;
- The proposed DFS flowsheet can produce a concentrate grade of 25% Ta_2O_5 at a Ta_2O_5 recovery of at least 65%; and,
- Optimisation of crushing and grinding need to be further investigated to improve overall recovery. The plant design should allow for changes in grind size as well as leave space available for possible future milling.

The interpretations and conclusions of the **Spiral Plant** are as follows:

- The plant location is well positioned on a flat area to the north of the pegmatite swarm - above the D-pit to save on haul distance;
- Metallurgical and mineralogical testwork led to the development of a process flowsheet to recover tantalum concentrate from the pegmatite ore;
- The Spiral Plant was designed with technology that was used during metallurgical testing;
- The Spiral Plant was sized to processes 40 t/h of material with a top size of 600 µm and an operating time of 3,588 h/a. This amounts to the processing of 143,520 t of material per annum;

- From the 143,520 t of feed material, 176716 kg of concentrate is produced at a minimum Ta_2O_5 concentration of 25 wt%;
- The amount of Ta_2O_5 being introduced into the plant through the RoM, is approximately 70 t/a, 46 t of Ta_2O_5, the tantalum reports to the final concentrate, which translates to a recovery of approximately 65.1 wt% at a maximum particle size of 600 µm;
- It is possible to increase the recovery with the introduction of a fines beneficiation circuit to approximately 78 wt%. This is technically feasible; however, it requires an additional CAPEX investment of approximately US$ 2.2 million that needs to be justified by the profitability at the increased recovery rates;
- The CAPEX estimate for the Spiral Plant was completed in accordance with a BoE methodology which conforms to AACE Class 3; and,
- Construction has been estimated to require approximately 11.5 months. The detail design phase requires approximately 5 months and procurement approximately 9 months. To optimise the implementation time, the detail design and procurement phases will be executed simultaneously to complete construction and commissioning within the estimated timeframe.

The interpretations and conclusions of the **infrastructure** required are as follows:

- The DFS includes for the standard bulk infrastructure supply and other services normally associated with open cast mining in Southern Africa;
- ORP received confirmation from Nampower, that the mine can be fed up to 2.7MVA from the substation located at the town of Warmbad. The DFS includes for ~40 km 33 kV line from the Warmbad substation;
- A good, unsealed (gravel), access road exists to the operational offices. The Environmental Scoping Report makes provision for new unsealed roads to support the mining and recovery plant areas;
- The main access road will connect the C10 secondary gravel road with the Swanson Property; and,
- ORP elected to source water via a pipeline from Warmbad instead of extracting water from local underground aquifers.

The interpretations and conclusions of the mining **Waste Rock Dump** are as follows:

- The WRD is positioned to the south of the E and F-pits to save on haul distances from the three open pits;
- The waste rock from the mining of the D-pit and E F-pit is hauled and placed by the mining fleet;
- The majority of the waste rock are deposited on the WRD, with a portion of the waste rock being used to backfill the D-pit, after it has been mined and to construct the toe wall, attenuation berms and energy dissipaters of the WRD;
- The WRD are developed in 10 m raises to a final elevation of 765 m, with a maximum height of 96 m; and,
- A stream diversion is required as the D-pit is positioned within an ephemeral river course.

The interpretations and conclusions of the **Spiral Plant Tailings** facility are as follows:

- The beneficiation of the pegmatite ore produces fine and coarse tailings. The tailings are produced as an unsaturated filtered material, with a moisture content ranging between 15% and 20%, and are delivered to the TSF by truck;
- A suitable site for the disposal of the tailings has been identified to the north-west of the Spiral Plant, within a short haul distance from the plant;
- The TSF are designed to accommodate both tailings stream over the LoM with further space allowance to the west for future expansion, if required;
- The TSF are designed to allow for the dry stacking of the tailings to a final height of 20 m, with intermediate benches at 5 m vertical increments;
- The tailings are contained by perimeter embankments, with perimeter drainage measures to control any runoff and seepage from rain events. Stormwater management measures are also included; and,
- The rehabilitation of the coarse tailings facility includes the flattening of the side slopes to 1V:3H and the flattening of the perimeter infrastructure but keeping the stormwater diversion measures functional.

The following are concluded from the **Argus Tantalite Market Report**:

- The tantalum outlook continues to remain robust, regardless of its international supply chain scrutiny. Its application in electronics, aircraft, medical, and especially thermal batteries assure its continued global consumption;
- Tantalum production has held steady in central Africa, the world's largest producing region, although continuing concerning practices remains. This could potentially create pressure on supply from the region until compliance and traceability improve. Lithium expansion could bring large increases in tantalum production which will cause stability to the tantalum industry;
- Tantalum supply is poised to grow strongly due to lithium battery demand over the coming years. Argus predicts that on balance, supply is likely to outgrow demand, although the impact of a stable and secure supply should not be overlooked and could potentially spur faster demand growth; and,
- After a small dip in tantalum prices toward the end of 2021, it has rallied on the current geopolitical situation to average US$202.50/kg (25% Ta_2O_5 inclusive of CIF delivered to main port Europe) in March 2022.

The interpretations and conclusions of the **environmental studies, permitting and community impacts** are as follows:

- ORP was granted ML 223 on June 3, 2022. ML 223 authorise ORP to commence development work towards mining operations for base and rare metals, industrial minerals and precious metals for 15 years (19th May 2022 to 18th May 2037);

- ORP was granted an ECC 02187 to undertake the proposed development of the Swanson Mine, and to commence with activities specified in their Environmental Assessment Report and the filed EMPR;
- The National Heritage Council of Namibia has Consent to mining operation over ML 223, valid for a year from 14th October 2021 to 13th October 2022. ORP is not aware of any reason why renewal for another year will not be granted;
- The Environmental Management Principles and proposed mitigation measures, outlined in the EMPR, is standard for mining operations within Namibian. These do not impose any stricter requirements on ORP for the development of the proposed Swanson Mine. Similarly, proposed monitoring, auditing and reporting to ensure compliance with the EMPR and recommended closure and rehabilitation activities post mining, conforms to standard mining practices;
- The Environmental Scoping Report concludes that the proposed Swanson Mine has great potential to improve livelihoods and contribute to sustainable development within the area surrounding the town of Warmbad; and potential negative impacts associated with the proposed Swanson Mine are expected to be low to medium in significance;
- The report on the archaeological survey presents that no sites of heritage significance were found, and proposed that the ORP be given consent to proceed with exploration and mining activities;
- The report on the water specialist study suggests little or no impact on groundwater resources from the proposed mining activities;
- The report on the flora specialist study, state that only one plant species of high conservation concern would be substantially affected by the proposed Swanson Mine. It proposes that if mitigation measures are followed, then the impact of the proposed Swanson Mine on vegetation is likely to be minor; and,
- The report on air quality and noise study state environmental deterioration of air quality and noise pollution can be addressed through implementing the recommended Environmental Management and Monitoring Plans.

ENSafrica(Namibia) generated and **independent legal opinion** in respect of the legal ownership (holdership) of ML 223. The key findings of ENS' Executive Risk Summary are as follows:

- ORP is the sole (100%) holder of ML 223, which, has been validly granted and issued;
- ML 223 was granted on 19th May 2022, over a certain portion of land situated in the Karas Region in the magisterial district of Karasburg in respect of base and rare metals, industrial minerals and precious metals;
- ML 223 is granted for a period of fifteen years, subject to certain terms and conditions and is in our opinion, active;
- As on 22nd August 2022 ORP is still operational, and the relevant annual duties have been paid;
- ENSafrica found no records indicating that ORP has been placed into provisional or final liquidation or judicial management, or that any resolution for ORP's liquidation or winding-up has been passed, nor have we found any records indicating that there are legal proceedings

for the provisional or final liquidation or judicial management of ORP pending before the High Court of Namibia;

- ORP was issued an ECC on 19th May 2022, to undertake "The Proposed Development of a Tantalite Mine in the Karas Region, Southern Namibia". The certificate expires on 14th May 2025; and,
- The Register of Mineral Licences records no encumbrances over ML 223.

The interpretations and conclusions of the **DFS CAPEX and OPEX cost estimates** are as follows:

- The DFS cost estimates qualifies as AACE Class 3, in accordance with Recommended Practice 47R-11;
- The accuracy of the cost estimates has been assessed at between +15% and -15%. The overall contingency provision for CAPEX and OPEX is 10.0% and 7.5%, respectively;
- All cost, commodity princes and exchange rates are as the DFS Base Date of 31st March 2023. The cost estimates applied a 4.0% escalation to allow for price increases from estimation completion in Q3 2022 to the DFS. Base Date;
- The DFS costs are presented in United State dollar (US$);
- DFS costs are based on contractors performing the mining and the operation and maintenance of the Primary/Secondary Crushing Plant and Spiral Plant;
- The total CAPEX for the Swanson DFS was estimated to total US$9,870,850. This cost includes accuracy provisions that forms part of the cost and excluding Owner's contingency allowance which has been estimated at 5.0% of the total CAPEX. The10.0% contingency has been included separately in the DCF model;
- The Swanson DFS OPEX consist of a fixed monthly and a variable component. The variable component is charged on a per ton basis; and
- The fixed monthly OPEX equates to US$283,304 per month. The variable costs equate to about US$28.60/t RoM processed.

The **overall risks** rating to develop the Swanson Project and operate the proposed Swanson Mine is acceptable for a DFS and is classified as moderate to low since the geology is well understood, mining will be by low-risk open cast – however, to note is the high variability between the D-pit and EF-pits and increasing stripping ratios at depth.

The design of the Spiral Plant is "modular" and is based on a simplistic process flow with a short execution schedule that require relative low CAPEX and OPEX.

The Swanson Project is located in a country with low-risk rating and has an established mining industry. The Swanson Project will produce a commodity that has extensive applications in the growing electronics market, that will be a reliable source of supply from an area not associated with the finance of armed conflict or using forced labour.

Recommendations

The following are recommended to improve understanding, decrease risk, and improve the engineering and design. It is proposed to perform these prior to commencement of basic engineering and design.

Geology and Mineral Resources

- Some highly prospective areas on EPL 5047 have not been surveyed and has the potential to increase the 1st May 2022 Mineral Resource Estimate;
- Additional drilling to increase the classification of the Inferred Mineral Resources can extend the LoM;
- Drilling to increase the classification to the Measured category will improve confidence and reduce uncertainty; and,
- Down-hole structural logging of orientated boreholes is recommended to better understand the nature and true displacement of the faults and structures.

Mining and Ore Reserves

- Upgrading of the Inferred Mineral Resources can allow conversion to Ore Reserves and improve the LoM;
- The Ore Reserve is sensitive to the geotechnical assumptions regarding overall slope angles. Geotechnical assumptions should be continually assessed as mining of the D-pit commences for potential cost reduction and ore extraction. Due to the nature of mining being against a hillside, overburden stripping can easily be accelerated or reduced, as required;
- Optimisation of the production schedule is possible. The current mine production schedule focus to first mine the D-pegmatite that has a lower Ta_20_5 but higher Li_2O and lower strip ratio. This is then followed by mining of the EF-pits. This schedule does result in some high and erratic stripping volumes that will require smoothing to yield an operational schedule;
- It is recommended that a detailed trade-off study be performed to smoothing waste stripping versus the benefit of prioritising mining from the D-pit that has lower Ta_2O_5 and higher Li_2O grades.

Mineral Processing and Metallurgical Testing

- By crushing to a smaller top size (<600 µm) there is recovery upside. This will require further testwork after the plant is operational. Consequently, it is proposed that the VSI should be designed to crush to a top size of 600 µm and that space is left for a possible future milling circuit to <212 µm; and,
- During the next phase, detail engineering and design, the plant configuration should be optimised with regards to grind and screen sizes.

Recovery Method

- Additional tailings testwork is required to perform the basic engineering of the tailings handling and dewatering circuit;

- The opportunity exists to increase the tantalum recovery by introducing a fines beneficiation step. The addition of a fines circuit to recover Ta_2O_5 lost to the spiral tails can add an additional 10% to 13% recovery. However, will require additional CAPEX and as such a trade-off will be required to assess the increase in cost versus revenue improvement;
- The opportunity exists to reduce the CAPEX and OPEX of the Spiral Plant and to improve recovery. The DFS identified the following value engineering initiatives that could realise these benefits. It is recommended that these initiatives be investigated before the commencement with basic engineering:
    - valuation of instrumentation requirements;
    - fines beneficiation;
    - finer grinding of coarse tails; and,
    - tailings handling and water recovery.

Infrastructure

- Bulk water, electricity and access road require geotechnical and topographical surveying before commencing of basic engineering to ensure appropriate design and accurate cost estimation.

Spiral Plant tailings

- Perform further assessment of the geochemical profile, physical characteristics and properties of the fine and coarse tailings. Long-term kinetic testing is proposed to assess pollutant release to determine appropriate mitigation measures;
- Undertake slope stability analysis on the respective tailings streams and confirm the design criteria to ensure correct detail engineering and design;
- Improvement on CAPEX and OPEX cost estimates with further optimization of the earthworks; and,
- Optimisation of the required footprint of the fine tailings since the DFS propose selling the fine tailings as lithium RoM tailings and thus different footprint size may be required should this option not materialise.

Waste Rock Dump

- Undertaken flow modelling and analysis of the ephemeral river course to determine the peak flood discharge to assess the required capacity of the diversion measure;
- Undertake a detail engineering and design of the diversion measure of the ephemeral river course;
- Assess the potential release of nitrates from the waste rock as a resulting of the blasting activities to assess the need and to propose appropriate mitigation measures; and,
- Undertake slope stability analysis of the waste rock material and confirm the design criteria to ensure correct detail engineering and design.

Marketing

- Due to the opaque nature of the tantalum industry and market it is recommended that ORP have the Argus Tantalite Market Report revised annually to ensure key technical and economical decision are based on the latest pricing, market dynamics and outlook and price forecasts. This will be a prerequisite for proper planning, budgeting and forecasting.

Environmental Studies, Permitting and Community Impacts

- Review the EMPR after basic and detail engineering to ensure conformance and to identify any changes that may require amendments or addendums; and,
- Review proposed monitoring, auditing and reporting to ensure compliance with the EMPR and recommended closure and rehabilitation activities post mining, to ensure compliance.

Legal Opinion

- It is proposed that prior to FID to update the various searches performed by ENSafrica to identify changes that can materially impact the FID; and,
- The legal opinion should be updated annually to ensure compliance with changes in mining, environmental and other applicable legislation.

Economic Analysis

- The Economic Analysis should be kept up to date with changes in costs, commodity prices and discount rate (risk) thereby ensuring decisions are correctly made and changes implement proactively to ensure the profitability of the Proposed Swanson Mine; and,
- Following detail and basic engineering the Economic Analysis should be updated to revise the economics of the Swanson Project, to proactively assess the need to implement cost improvements, or changes in operation and procurement strategies.

Risk Identification

- All engineering disciplines should contribute throughout the basic and detail engineering phases towards the risk register which should be discussed during design review meetings and formal HAZOP to ensure appropriate mitigating or corrective actions are applied;
- To have influence on the design, it is proposed to keep the risk register up to date and to perform a HAZOP as a final check prior to finalising the detailed design;
- A HAZOP should also be performed during construction and installation to ensure recommendations are implemented; and,
- Also, a HAZOP should be performed regularly during the operational phase to identify modifications that should be implemented to reduce risk and operability problems.

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

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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.

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COMPETENT PERSONS STATEMENT & PREVIOUSLY REPORTED INFORMATION

The information in this announcement that relates to Exploration Results (including JORC tables included as Annexure 1) 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 (Director Arcadia Minerals)	South African Council for Natural Scientific Professions #400125/09	This announcement
Mr Matt Mullins (Executive Consultant Snowden Optiro)	Australasian -Institute -of Mining and Metallurgy (AusIMM) No 209421	Geology and Mineral Resource of the DE and F pegmatites. Report Number Jb018308, May 2022
Mr Matthew Jarvis (Principal Consultant Snowden Optiro)	South African Institute of Mining and Metallurgy No 701853	Report for Orange River Pegmatite Ore Reserve Estimation and Mine Schedule for the D and E-F Pegmatites, Project Number JB018308, March 2023.
Mr Derick R de Wit (Chemical Engineer Principal MPlan)	Australasian Institute of Mining and Metallurgy (FAusIMM) No 301519	Competent Person Report on the Swanson Tantalite and Lithium Definitive Feasibility Study, Namibia Project No. MPP2201, May 2023.

The information in this announcement does not contain any new information in relation to exploration results and the Company confirms that any information relating to exploration work has not materially changed from previously reported information.

Mineral Resources

The information in this announcement that relates to the Mineral Resources and Feasibility Study is extracted from Snowden Optiro Report No. JB018308, May 2022, that refer to the Geology and Mineral Resource of the D, E and F Pegmatites in the Orange River Pegmatite (Pty) Ltd License area. 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

The information in this announcement that relates to the Ore Reserve estimate, is extracted from Snowden Optiro Report JB018308, March 2023 that refer to the Ore Reserve and Mine Schedule for the D and E-F pegmatites. Mr Jarvis (details and qualifications above) has reviewed the ore reserve statement in this announcement and has given his permission for the publication of this information in the form and context within which it appears. The MPlan Report MPP22001 that refer to the Competent Person report on the Swanson Tantalum and Lithium Definitive Feasibility Study, Namibia, can be found at www.arcadiaminerals.global.

Metallurgical work

The information in this announcement that relates to metallurgy has been complied and assessed under the supervision of Mr de Wit (details and qualifications above). Mr de Wit has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration andto the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr de Wit consents to the

inclusion in this announcement of the matters based on his information in the form and context in which it appears.

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.

Release Date	ASX Announcements
29 May 2023	*Construction funding secured for Swanson Tantalum Project*
6 May 2022	*JORC Mineral Resource at Swanson Tantalum Project double in Size.*

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

APPENDIX 1 – JORC TABLE 1 - SECTIONS 1 TO 4

Snowden Optiro estimated the Mineral Resource and Ore Reserve in accordance with JORC Code (2012 Edition)

TABLE 1 SECTIONS 1 SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code Explanation	Commentary
Sampling techniques	*Nature and quality of sampling (e.g., 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.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (e.g., '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 (e.g., submarine nodules) may warrant disclosure of detailed information.*	Sampling was undertaken using industry standard practices and consist of large-scale chip and channel sampling and diamond drilling by ORP during 2020 and 2022. All 52 drillholes were drilled vertically. 234 samples were taken from the core of the drilling campaign. ORP conducted reconnaissance chip sampling and channel sampling during 2018. Samples were between 220 g and 6 kg. A total of 283 samples consisting of 204 channel and 79 chip samples were taken from 15 pegmatites during 2019. The average sample weight is 7.5 kg. Three additional samples were taken for mineralogy testwork. An additional 15 samples collected from different pegmatite feldspar types. All drillhole and sample locations are mapped in WGS84 UTM zone 34S. During 1981 Placer Development Ltd (Placer) collected 91 channel samples with an average weight of 14.22 kg. Bulk samples were taken at four locations, with 3–5 tonnes of material being obtained through drilling and blasting.
Drilling techniques	*Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g., core diameter, triple or standard tube, depth of*	52 vertical diamond drillholes were drilled at ten pegmatites.

	diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	The drillholes are HQ with a 63.5 mm∅ core. The holes were drilled with a 50 m strike spacing on drill lines and have a total core length of 1 568.92 m. The depth of the holes ranged from 4.36 m to 134.81 m.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.* *Measures taken to maximise sample recovery and ensure representative nature of the samples.* *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.*	Core recovery in the mineralised pegmatite was more than 90% due to the competent nature of the pegmatite bodies and even in the fractured country rock minimal core loss was recorded. Core loss was recorded as part of the operational procedures where the core loss was calculated from the difference between actual length of core recovered and penetration depth measured as the total length of the drill string after subtracting the stick-up length. Measures taken to maximise sample recovery and ensure representative nature of the samples is not recorded in available documents. No apparent bias was noted between sample recovery and grade.
Logging	*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.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* *The total length and percentage of the relevant intersections logged.*	All drillholes were fully logged. The core, channel and chip samples have been logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. The total length of the intersected pegmatite logged is 198.87 m and the percentage is 13% of total core drilled. It is assumed that the Placer samples have been logged according to industry standards at the time; however, the specific logging techniques used are not stated in available documents. These samples information were also not use for the MRE.

Subsampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.* *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *Quality control procedures adopted for all subsampling stages to maximise representivity of samples.* *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.* *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Three field duplicate samples of previously field channel sample F1_3, F1_25 and F1_37 were collected on the F pegmatite. The samples were dry. At the laboratory the samples were crushed to 2 mm. A 200 g subsample of the crushed material was taken to be milled in a carbon milling pot to 90% <75 micron. Samples consisted of half core, with the core being split using a saw. Approximately 200–220 g of sample was taken per drilled mineralised metre was recovered. Half core samples were also taken for comparison purposes. No information is available on subsampling techniques and sample preparation by Placer, because such procedures are not recorded in available documents.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *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.* *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	The samples were analysed at Scientific Services (Pty) Ltd, a laboratory based in Cape Town, South Africa. At the laboratory, the samples were crushed to 2 mm. A 200 g subsample of the crushed material was taken to be milled in a carbon milling pot to 90% <75 micron. 0.25 g of the milled material was prepared and analysed through inductively coupled plasma-optical emission spectroscopy (ICP-OES) analysis for tantalum, niobium, and lithium. The samples are measured against standards. ORP added a total of 25 standards and the laboratory added an additional nine standards to the samples. The standards used are AMIS0339, AMIS0340, AMIS0342, AMIS0355 and AMIS0408. A total of 17 blanks AMIS0439 (Blank Silica Chips) were added to the samples.

		The two samples were submitted to the Sci-Ba Laboratories in England where the samples were subjected to petrographic and x-ray diffraction (XRD) analyses at the University of Southampton. The Standard Method BS EN 12407-2007, natural stone method was used for a petrographic investigation of the samples. All quality assurance/quality control (QAQC) samples plotted within acceptable analytical limits as defined for their type (i.e. certified reference materials – CRMs). No reporting issues were identified with any labs in question. It is assumed that industry best practices were used by the laboratories to ensure sample representivity and acceptable assay data accuracy, however, all the QAQC procedures used are not recorded in available documents.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	All samples and data were verified by the ORP exploration geologist. The database was structured in a format suitable for importing into ArcGIS and 3D modelling software. Snowden reviewed all available sample 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. Verification was done by comparing drilling results with the closest channel sample data for each borehole. All sample material was bagged and tagged on site as per the specific pegmatite it was located on. The sample intersections were logged in the field and were weighed at the sampling site. All hard copy data-capturing was completed at the sampling locality. All sample material was stored at a secure storage site at the company site office.

		The original assay data has not been adjusted.
Location of data points	*Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *Specification of the grid system used.* *Quality and adequacy of topographic control.*	The sample locations are global positioning system (GPS) captured using WGS84 UTM zone 34S. All drillholes collars used for the MRE were surveyed by a qualified surveyor, African Geomatics in February 2022 with the accuracy being 20 cm.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.* *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.* *Whether sample compositing has been applied.*	The drillholes were drilled at the two locations involving ten pegmatites with sections spaced 50 m apart with 50 m strike spacing on drill lines. For the channel and chip samples, each sampling point was carefully selected according to the physical quality of a sample point, normally on a 15 m, 25 m or 50 m interval, depending on the sample density required. The data spacing and distribution of the drillholes channel and chip sampling is insufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Where pegmatites had a true thickness of >2 m, the channel samples were accordingly split into an equal length “top” and “bottom” channel sample. ORP prioritised the importance of bulk-pegmatite properties. Therefore, these channel sampling results were composited (i.e. weighted average of the entire intersection). The Placer samples were spaced on a 100 m grid.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	All holes were all drilled vertical. The channel and chip samples were also taken vertically from top to bottom of the pegmatites. Channel sampling conducted on pegmatite faces approximate right-angle intersections relative to the dip of the pegmatite at that

		specific location and thereof are unbiased by excessively oblique intersections. The tantalite is very fine and mostly not visible; therefore, no bias could take place when selecting the sample position. Orientation of the Placer sampling data in relation to the geological structure is not known, because it is not recorded in available documents.
Sample security	*The measures taken to ensure sample security.*	ORP maintained strict chain-of-custody procedures during all segments of sample handling, transport and samples prepared for transport to the laboratory are bagged and labelled in a manner which prevents tampering. Samples also remain in ORP's control until they are delivered and released to the laboratory. An export permit was obtained from the Namibian Mining Department to transport the samples across the border. Measures taken by Placer to ensure sample security have not been recorded in available documents.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	The deposit was visited by the Creo Competent Person during 2019 and Snowden during 2020. The visit was specifically to review the recent sampling campaign, and to review the sampling and assay procedures being used by the Company. Creo and Snowden considers that given the general sampling programme, geological investigations, check assaying and, in certain instances, independent audits, the procedures reflect an appropriate level of confidence.

TABLE 1 SECTION 2: REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code Explanation	Commentary
Mineral tenement and land tenure status	*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 settings.* *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.*	EPL 5047 is located in the Karas region, southern Namibia, near the South African border, and approximately 15 km to the north of the Orange River. The EPL is held by ORP and is 14,671 hectares in size. ORP also obtained an Environmental Clearance Certificate on 4 April 2019 from the Ministry of Environmental and Tourism. A land-use agreement, including access to the property for exploration has been signed with the owners of the farms Norechab 130, Kinderzit 132 and Umeis 110
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Swanson Enterprises held various claims on the farms Kinderzit and Umeis on EPL 5047 and mined tantalite, beryl, spodumene and tungsten on these claims in the 1970s to early 1990s. A Canadian company, Placer, also conducted detailed exploration in this area between 1980 and 1982. The Geological Survey of Namibia in collaboration with the Council of Geoscience of South Africa conducted a detailed mapping programme (1: 50,000 scale) over large parts of Southern Namibia including EPL 5047 (2012 to 2017).
Geology	*Deposit type, geological setting and style of mineralisation.*	Mineralisation is in the form of pegmatites of the lithium-caesium-tantalum (LCT) type which intruded granitic gneisses, metasediments and gabbroic-troctolitic rocks of the Tantalite Valley Complex. The primary mineral commodities occurring are tantalum (Ta_2O_5) and spodumene $LiAl(SiO_3O)_2$.
Drillhole information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* • *easting and northing of the drillhole collar* • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar* • *dip and azimuth of the hole* • *downhole length and interception depth* • *hole length.*	Drill results have been described in the report. All relevant data is included in the report.

	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.	
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* *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.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Information about data aggregation is not stated in the available documents.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').*	The drillholes were all drilled vertical, with the pegmatites dipping on average 12.33° to the southeast. The pegmatite thickness intercepted range from 0.1 m to 9.62 m.
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.*	The appropriate diagrams and tabulations are supplied in the main report.
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 to avoid misleading reporting of Exploration Results.*	The DFS report has been prepared to present the obvious targets and results of historical and recent exploration activities
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.*	ORP conducted reconnaissance and later detailed geological mapping to identify and prioritise targets. ORP appointed Asset Mapping Solutions (Pty) Ltd, a Cape Town based company, to conduct a detail drone survey of the Swanson prospect area in 2018. African Geomatics, a Windhoek based survey company conducted a more detail drone survey of the Swanson area in 2022.

Further work	*The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	The next exploration and assessment phases should be aimed at establishing a resource base into hopefully an "Indicated" category, as well as undertaking the necessary research into markets and recovery processes in order to support a further assessment for the Project. The pegmatite bodies not explored yet should be mapped and sampled and mineralised pegmatites should be drilled to expand the existing resources base.

TABLE 1 SECTION 3: ESTIMATION AND REPORTING OF MINERAL RESOURCES

Criteria	JORC Code Explanation	Commentary
Database integrity	*Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* *Data validation procedures used.*	A copy of the RAW database provided by the client was kept unedited for auditing purposes of edits conducted. Overlapping intervals, duplicates and other errors were flagged by Leapfrog modelling software and corrected. Collar elevations were checked relative to the LiDAR-generated topographic surface. Further visual checks were also conducted to ensure a clean database for modelling and estimation; that data was in spatially in valid locations. Statistical analyses were carried out to see if data lies within valid ranges, and to identify possible outliers.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	Matthew Mullins (CP Geology and Mineral Resource Estimate) undertook a site visit on 17–19 August 2021. He was accompanied by site personnel, senior company executives, and by Matthew Jarvis from Snowden. The borehole core, overall geological setting, and the nature and mineralisation in the pegmatites was observed in detail.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* *Nature of the data used and of any assumptions made.* *The effect, if any, of alternative interpretations on Mineral Resource estimation.*	The geological interpretation is that the tabular pegmatite bodies were formed by anatexis within existing fracture planes in the host gabbroic orebody. In terms of their geometry, most of the pegmatites at the Swanson deposit have a general northeast-southwest strike, with shallow dip angles (10-20˚) to the southeast. One of the pegmatites, however, has a different strike from the rest of the pegmatites investigated. Pegmatite 'F1' strikes approximately 148˚ and dips on average at 14˚ to the northeast.

	The use of geology in guiding and controlling Mineral Resource estimation. *The factors affecting continuity both of grade and geology.*	The pegmatites are sub-horizontal tabular orebodies within the host gabbro, with clearly defined and sharp hangingwall and footwall contacts. Mineral Resources were defined within the well explored D and E-F pegmatite zones, respectively. These pegmatites can be traced on surface at the kilometre scale, and have been confirmed with diamond drilling intersects, so there is a high level of confidence in the geological interpretation. They are uniform in thickness over large distances. Tantalum and niobium grades are uniformly distributed within individual pegmatites and vary slightly between different pegmatites. In both areas investigated, the highest lithium grades occur in the pegmatites highest up in the sequence (D0 and E7, respectively). The data used comprised mapping data, borehole diamond drilling, channel sampling of outcrops, and chip sampling. "Bars" and/or structures that influence the termination or displacement of pegmatites have been interpreted from available mapping and drilling information.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The pegmatite orebodies show a high degree of lateral continuity and can be traced in outcrop over the kilometre scale. The extension of the pegmatite bodies beyond the outcrop positions has been confirmed by diamond drilling. Down-dip continuation of all the shallower pegmatites has been confirmed by diamond drilling. This tendency is expected for the lower E-pegmatites as well but must be proven with additional deep boreholes.
Estimation and Modelling Techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* *The assumptions made regarding recovery of by-products.* *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).*	The pegmatite hangingwall and footwall contacts were modelled in Leapfrog software. Based on mapping information, it appears as if D0 terminates against the hangingwall side of D1 in some areas. This relationship was shown in the modelling but could also be the result of bifurcation of a single pegmatite. Minor north-northwest-striking faults that dip steeply to the northeast were observed in both the D and the E-F areas. Notes by the ORP field geologists suggest normal movement along these faults, however, similar vertical offsets of dipping pegmatites could have occurred through sinistral strike-slip kinematics. More information is needed to confirm the true sense of movement, but the apparent downthrow is to the north of these structures.

	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. *Any assumptions behind modelling of selective mining units.* *Any assumptions about correlation between variables.* *Description of how the geological interpretation was used to control the resource estimates.* *Discussion of basis for using or not using grade cutting or capping.* *The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.*	Each pegmatite was modelled separately, and as no zoning was apparent, either physically of from the chemistry, these were grade modelled as a single unit. The interpolation parameters were based on the variogram parameters. The Snowden Supervisor and Leapfrog Edge software was used for exploratory data analysis and for the variography. Ordinary kriging was used to estimate grades. No mining has taken place. The economics are based on the recovery of tantalum alone. Recovery assumptions are 67% Ta. Although economic concentrations of lithium are present, these were not considered. Niobium is present in solid solution in the tantalum. This was taken into account in the metallurgical testwork. The block size used was 10 m x 10 m x 2 m. It was assumed that the SMU would be equivalent to the block size. As the entire pegmatites were considered to be economic, no selective mining is envisaged. The pegmatites exhibit extremely sharp hangingwall and footwall contacts with the country rock, and these contacts were modelled as accurately as possible in the Leapfrog software. Any issues picked up during the validation were fixed immediately in the source data, to prevent reloading the same errors at a later stage. However, no edits were made to the copy of raw data.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	The tonnages are estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	The minimum cut-off was determined to be 237 ppm Ta_2O_5.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this*	It is assumed that the mining method would be by opencast mining. Because of the extremely sharp contacts, and the clear colour differential between the orebody and the host rock, no mining dilution was included.

	should be reported with an explanation of the basis of the mining assumptions made.	
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	In November 2020, CoreMet analysed a 5.45-tonne bulk sample and concluded that The ore was easily crushed but is highly abrasive. The spiral recoveries on the rougher spirals can be expected to be in the range of 70% to 80%. The lower recovery seems to be due to both liberation and particle size. At 76% spiral recovery and 90% MGS recovery, it will be possible to produce a Ta_2O_5 concentrate of above 20% Ta_2O_5 at a recovery of approximately 68%. This is without any optimisation and scavengers. This recovery value is slightly higher than the 65% recovery projected in the process plant study.
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	An independent environmental assessment concluded that: The potential negative impacts associated with the proposed mineral exploration project are expected to be low to medium in significance, apart from air quality, groundwater and some social impacts. Provided that the relevant mitigation measures are successfully implemented by the proponent, there are no environmental reasons why the proposed project should not be approved. The project will have significant positive economic impacts that would benefit the local, regional and national economy of Namibia.
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	ORP determined the specific gravity (SG) of the samples by using the Archimedes principle on 147 chip samples that were collected from all six pegmatites from the targeted pegmatite swarm. The SG of each sample was calculated using the formula SG = (weight in air) / (weight in air – weight in water). This technique measures the volume of a sample by water displacement and density is then calculated as the ratio of mass to volume. No bulk density has been measured because the SG is considered appropriate as an input into the orebody model. It was found that the 147 samples have an average SG of 2.64. This is the SG that was used for reporting.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.* *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in*	Resources in the E-F Area were classified on a distance from sample basis. A boundary "shell" was created around sampled borehole traces that were used for the estimation – this includes boreholes and channel samples. A steeply dipping north-northeast-

	tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). *Whether the result appropriately reflects the Competent Person's view of the deposit.*	striking fault forms the southern boundary of this classification system for the E-F Area, whereas the intermittent stream that drains the area forms the eastern and northern boundaries. Resources within this boundary were classified to have an Indicated confidence level. Based on the average variogram range for the Li2O, a buffer of 50 m was created around the boundary shell described above. Pegmatite deposits within the 50 m buffer were classified as Inferred. Any deposits beyond the 50 m buffer are considered "Unclassified" and were not included in this resource report. A similar classification method was used for the D Area, but instead of using a "shell" around the borehole traces, a polygon around the borehole collars was projected vertically downward. The reason for using the shell approach in the E-F area was to take into consideration shallower holes that did not intersect the lowermost E pegmatite layers. Applying the same resource classification method in the E-F area that was used in the D Area would give unrealistically high confidence to these lower pegmatites, with shallow holes drilled above them, but not into them.
Audit or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	No audits or reviews were conducted.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	The relative accuracy of the estimate is based on the geological and statistical continuity of the tabular pegmatites. The pegmatites can be traced in outcrop over tens to hundreds of metres, and their continuity has been confirmed by surface boreholes. Grade continuity has been confirmed through geostatistical analysis. The Indicated Resource forms a firm basis for global mine planning and for economic assessment of the orebodies.

TABLE 1 SECTION 4: ESTIMATION AND REPORTING OF ORE RESERVES

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	*Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	The Mineral Resource Estimate used as the basis for conversion to the Ore Reserve was prepared by Snowden Optiro as at 6 May 2022. The data was provided as a Datamine (Studio RM) Block model ("20220519 D Sub-blocked Model (COMP Eval)v5.csv" and "20220519 E-F Sub-blocked Model (COMP Eval)v5.csv"). This block model was cut to the most recent (March 2022) surface topography. At the time of preparation, no Ore Reserves were declared when preparing the Mineral Resource estimate. The Mineral resource statement is reported in the document "20220502 ORP Geology and Mineral Resources 2022 Final.pdf") and is summarized in Section 14.0 of the DFS report. The resource is quoted at 236ppm Ta_2O_5 cut-off grade.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	Matthew Jarvis visited the site in May 2021. He has been involved with the project since January 2021 and reviewed key aspects of the project, including updated studies such as the geotechnical assessments,
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	This Study is to Feasibility Study standards and is based on sampling undertaken, analysis, process testing, specific studies to inform forecast operating performance. All modifying factors including dilution, ore losses, geotechnical, mining and processing costs and recoveries have been accounted for. Key contributors include: • Snowden Optiro (Resource Estimate) • ORP. (Resources and Geology) • SPH Kundalila and Associates (Mining and Production) • Oreology and ORP management (Processing) • Middindi Consulting (Geotechnical studies) • Prime Resources (Waste and overburden Handling)

Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied.*	A sign-off sheet was established for each pit and each type of pegmatite considering all costs relating to mining, processing, and site G&A. The cut-off grade as determined in the resource estimate has been validated against updated parameters and inputs used in the feasibility study as shown in Table 16.4 of the DFS Report. Furthermore, no grades within the resource area were found to be below this cut-off.
Mining factors or assumptions	*The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* *The mining dilution factors used.* *The mining recovery factors used.* *Any minimum mining widths used.* *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* *The infrastructure requirements of the selected mining methods.*	The process of converting Mineral Resources to Ore Reserves involved the process of pit optimisation followed by a preliminary pit design process. Resources were split into two distinct areas (D pegmatite and EF pegmatites) and would be extracted from two separate pits. Sections 16.0 of the DFS Report provide additional detail pertaining to the pit selection, mining method and design as well as assumptions made in converting the resources to reserves. • Key assumptions around geotechnical design criteria are provided in Table 16.2 of the DFS Report. • The extent of actual mining dilution is not yet known for this project as no mining has occurred. However, given the nature of the orebody, the mining method proposed and the relatively small production volumes proposed, dilution is not expected to be high and based on similar projects and opencast mining operations, 5% is deemed reasonable. However, sensitivities around this have been assessed. • Given the dip of the orebody and surface terrain, the proposed pit designs result in some ore loss (through pit design constraints) (~16.8%) from the resources that were initially included in the pit optimisation process as and due to the resulting pit designs would require excessive stripping to recover. Approximately 27% of Inferred resources were used in the production schedule for the feasibility study (33% in the EF pegmatite pit and 23% in the D Pegmatite pit. Pegmatite mineralisation occurs in layered, laterally dipping orebodies as shown in Section 14.0. As such, some Inferred resources

		occur together with the indicated resources within the pit shells arrived at for the ore reserve. While excluded from a "reserve" perspective, they have been included in the mining schedule as they would be mined and processed as part of the RoM.
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* *Whether the metallurgical process is well-tested technology or novel in nature.* *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* *Any assumptions or allowances made for deleterious elements.* *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	Mineral processing would be in the form of crushing, screening and concentrators to produce a concentrate product with a 25% Ta_2O_5 grade. The recovery assumed would be 65% which is regarded as conservative relative to bulk sample tests undertaken to date. Lithium Oxide would be sold as a by-product from the waste/fines product from the D pegmatite only. A LoI has been concluded on 23rd March 2023 with Hebei Xinjian Construction, which is conducting processing operations adjacent to the Swanson Project, for the offtake of >0.2% Li_2O grade RoM tailings (average grade ≥0.3% Li_2O). This is only achievable in the D Pegmatite pit as the Li_2O grades in the EF ore are too low for recovery. No Niobium Pentoxide (Nb_2O_5) has been included in the Ore Reserves and there are no deleterious elements that are expected to impact recovery or processing performance. In November 2020, CoreMet analysed a 5.45-tonne bulk sample and concluded that: • The ore was easily crushed but is highly abrasive. • The spiral recoveries on the rougher spirals can be expected to be in the range of 70% to 80%. The lower recovery seems to be due to both liberation and particle size. • At 76% spiral recovery and 90% MGS recovery, it will be possible to produce a Ta_2O_5 concentrate of above 20% Ta_2O_5 at a recovery of approximately 68%. This is without any optimisation and scavengers. This recovery value is slightly higher than the 65% recovery projected in the process plant study. • Metallurgical test work on a 60-t bulk sample has been completed, results pending to confirm these results.
Environmental	*The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the*	An independent environmental assessment (Impala, 2020) concluded that the potential negative impacts associated with the proposed mineral exploration project are expected to be low

	status of approvals for process residue storage and waste dumps should be reported.	to medium in significance, apart from air quality, groundwater and some social impacts. Provided that the relevant mitigation measures are successfully implemented by the proponent, there are no environmental reasons why the proposed project should not be approved. An environmental clearance certificate was issued on 14 May 2022 for a further period of 3 years and is renewable.
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	The project is located in a relatively remote region of Southern Namibia but within reasonable proximity to the well established township of Warmbad The site does not currently have any major infrastructure but is located within close proximity to the town of Warmbad. Water and electricity will be drawn from the national services supplied to the town and employees will be accommodated in the town and commute via bus. Roads to the project are well developed dirt roads and additional roads to the proposed site will be established as part of the project. Concentrate will be transported via road to the town of Luderitz. The project area is located in a dry desert region and not likely to be highly impacted by seasonal rainfall.
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.* *The methodology used to estimate operating costs.* *Allowances made for the content of deleterious elements.* *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.* *The source of exchange rates used in the study.* *Derivation of transportation charges.* *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* *The allowances made for royalties payable, both Government and private.*	Capital Costs pertaining to the project have been derived from quotations provided based on design details for the mine infrastructure and development requirements A detailed capital budget for the project has been provide by the individual contractors what was responsible for each aspect: • Plant Capex provided by Obsideo • Mine Infrastructure and Roads by SPH Kundalila • Geology and grade control by LexRox • Waste Dump and plant waste design by Prime Resources • Power line construction by Walters Engineering • Water pipe line construction by Spes Bona Engineering Operating costs have been derived from first principals and from benchmarks against other operations. Mining will be carried out by an industry experienced mining contractor SPH

		Kundalila on a fixed monthly cost basis for the initial commencement of production. Due to the fact that the monthly tonnages fluctuate during the initial production phases of the mine schedule ORP and SPH Kundalila have agreed that that the equipment to be supplied on site would have the capacity to produce the peak production demand of the mine schedule and ORP will pay for the full suite of equipment. This will result in production stability and ensure that equipment would not need to be removed from site on a regular basis. • Mining costs - provided by SHP Kundalila • Processing costs - provided by Obsideo • Logistics costs - Kuehne & Nagel • Mining and plant services – Lexrox • Overhead costs – ORP Management
Revenue factors	*The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	Macro-economic assumptions were determined based on information provided by leading commodity industry analysts and banks. Prices for 25% Ta_2O_5 concentrate have been sources from FastMarkets and supported by the (Argus market assessment) is based on a 3 year (TBC) historical average price. Ta_2O_5 concentrate is a well traded commodity and pricing is transparent. Exchange rates for the Namibian Dollar/South African Rand were sourced from publicly available information provided by ABSA bank.
Market assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* *A customer and competitor analysis along with the identification of likely market windows for the product.* *Price and volume forecasts and the basis for these forecasts.* *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	A detailed market assessment report was undertaken by Argus for Orange River Tantalite in Mar 2022 detailing the market supply and demand outlook for Tantalite and the key suppliers on the region.

Economic	*The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	A detailed economic evaluation of the Project was undertaken as presented in Section 22.0 of the DFS report.
Social	*The status of agreements with key stakeholders and matters leading to social licence to operate.*	ORP has entered into landuse agreement with the private land owner on which property the mining license has been issued. The land use agreement allow for mining to take place within the license area and all infrastructure plant, road, power lines and water lines to be constructed over this property.
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* *Any identified material naturally occurring risks.* *The status of material legal agreements and marketing arrangements.* *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	ORP has been awarded a Mining license over the project area ML223 issued on the 19 May 2022 valid for a period of 15 years. An Environmental Clearance Certificate (02187) for the project was issued on the 14 May 2022 and expire on the 14 May 2025.
Classification	*The basis for the classification of the Ore Reserves into varying confidence categories.* *Whether the result appropriately reflects the Competent Person's view of the deposit.* *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	The Mineral Reserves were based on only Indicated Resources.
Audits or reviews	*The results of any audits or reviews of Ore Reserve Estimates.*	No external audit or reviews of Ore Reserve Estimates has been performed.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve Estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the*	The relative accuracy of the estimate is based on the geological and statistical continuity of the tabular pegmatites. The pegmatites can be traced in outcrop over tens to hundreds of metres, and their continuity has been confirmed by surface boreholes.

	factors which could affect the relative accuracy and confidence of the estimate. *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	Grade continuity has been confirmed through geostatistical analysis. The Indicated Resource forms a firm basis for global mine planning and for economic assessment of the orebodies. The Probable Ore Reserve has been derived from Indicated resources only and conservative conversion factors have been applied to the conversion of resources to reserves. Between 72% and 79% of the Indicated Resources have been included as Probable Reserves based on economic and other technical inputs and assumptions.