

ASX Announcement

16 January 2025

ASX: OD6

Rock Chips up to 12.35% Copper and 1.04g/t Gold from Gulf Creek Project, NSW

OD6 Metals Limited (**OD6** or the **Company**) is pleased to report surface rock-chip assay results collected from further recent reconnaissance at the Gulf Creek Copper VMS Project in New South Wales.

Highlights:

- Up to 12.35% Cu in weathered malachite bearing sediments (Gulf Creek)
- Up to 11.60% Cu, 0.27g/t Au, 29.8g/t Ag assayed in banded massive sulphides (Gulf Creek)
- Up to 1.04g/t Au with 1.33% Cu in gossan (Gulf Creek)
- Up to 1.98% Cu & 0.57% Zn at Murchison Copper Workings located 1.8km north of Gulf Creek
- Up to **335ppm Cu** from silica-cap/chert near the Big Bend target area indicating potential at depth



Figure 1. Sample GC251226: weathered banded massive sulphides assaying 11.6% Cu, 0.27g/t Au, 29.8% Ag with green malachite (copper oxide) weathering on the surface of massive chalcopyrite bands



Brett Hazelden, Managing Director, commented:

"Assays from the rock chip samples collected by OD6 in December as part of our ongoing reconnaissance work, continue to show high grade copper occurrences at the Gulf Creek Copper Project.

Drill pads have been sighted and we look forward to **commencing the first substantive drill programs ever** on this project later this quarter."

Gulf Creek – Rock Chip Samples

Recent reconnaissance work at Gulf Creek included collecting further samples from in and around old workings over the >300m strike length of works at Gulf Creek. As previously reported, Gulf Creek was historically mined in the early 20th century from massive sulphide and massive magnetite-sulphide bodies.

It should be noted that many of the samples collected were not from in-situ outcrop and were collected from around historic shafts and waste dumps (mine-spoil). Refer **Appendix 1** for full sample details.

Significance of high-grade samples from historic workings at Gulf Creek

The area of historic workings contains numerous shafts and adits with weathered gossans and mine-spoil material discarded at surface. Samples were collected to primarily understand the mineral composition and styles of mineralisation ahead of drilling. Massive sulphides alternating between chalcopyrite and pyrite bands, with minor sphalerite, is encouraging and indicative of exhalative volcanogenic massive sulphide mineralisation (e.g. GC241226, Figure 1).

Gold was not recovered historically at Gulf Creek, but up to **0.27g/t Au** in a weathered sulphide sample (GC241226) and **1.04g/t** in surface gossan (GC241219) is encouraging. This elevated gold may be concentrated in the weathering process, though nevertheless will be considered in the upcoming drill programs.

The Murchison historic workings located 1.8km north of Gulf Creek were visited. A small digging over 10 metres strike length was noted with a sample of copper oxides in sediments returning **1.98% Cu** and **0.57% Zn** (GC241214) and secondary sulphides returning **0.47% Cu** and **0.32% Zn** (GC241215, Figure 2).

Copper appears to have a positive correlation with **zinc-silver-bismuth-cobalt-vanadium**, and this work provides indications of pathfinders which may be important in the geochemistry soil survey currently underway.





Figure 2. Sample GC241215 with secondary bornite coating sediments returning 0.47% Cu from the Murchison Workings north of Gulf Creek

Reconnaissance was conducted over extensional targets at Gulf Creek identified through analyses of magnetic data (refer release dated 14 November 2024). The dominant outcropping rock type is an exhalative chert unit, which is a known proximal indicator to VMS systems. Whilst copper mineralisation was not expected in the chert unit, some samples including those near the Big Bend magnetic anomaly yielded up **335ppm Cu**, which is considered anomalous and adds encouragement to the magnetic target at depth.

The mineralisation styles and host rocks at Gulf Creek are typical of copper-rich volcanogenic massive sulphide deposits (VMS) with analogues including mines such as Degrussa (Western Australia), Mt Lyell (Tasmania), Besshi (Shikoku, Japan), and Kidd Creek (Ontario, Canada). Besshi, Mt Lyell and Kidd Creek have a strong magnetite association with ore minerals.¹

Refer to Figure 3 and 4 for sample locations, and Appendix 1 for full assay results.

¹ Portergeo.com.au; Kanehira & Tatsumi (1970); Gemmel (2013); Corbett (2001)





Figure 3. Sample locations – Gulf Creek Corridor





Figure 4. Sample locations – Gulf Creek to Murchison workings

LOOKING FORWARD

The Company is currently preparing forward work programmes including:

- FLEM Geophysical results.
- Surface geochemistry results.
- Field reconnaissance and further sampling planned this quarter.
- Integration of historic data and information into the geological database
- Phase 1 Drilling to commence this quarter.
- First drill assay results from Phase 1 drilling program at Gulf Creek.



Competent Persons Statement

Information in this report relating to Exploration Results is based on information reviewed by Dr Darren Holden who is a Fellow of the Australasian Institute of Mining and Metallurgy. Dr Holden is a non-executive director and geological advisor to the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Holden owns shares in the Company and participates in the Company's employee securities incentive plan. Dr Holden consents to the inclusion of the data in the form and context in which it appears.

Forward Looking Statements

Certain information in this document refers to the intentions of OD6 Metals, however these are not intended to be forecasts, forward looking statements, or statements about the future matters for the purposes of the Corporations Act or any other applicable law. Statements regarding plans with respect to OD6 Metals projects are forward looking statements and can generally be identified by the use of words such as 'project', 'foresee', 'plan', 'expect', 'aim', 'intend', 'anticipate', 'believe', 'estimate', 'may', 'should', 'will' or similar expressions. There can be no assurance that the OD6 Metals plans for its projects will proceed as expected and there can be no assurance of future events which are subject to risk, uncertainties and other actions that may cause OD6 Metals actual results, performance, or achievements to differ from those referred to in this document. While the information contained in this document has been prepared in good faith, there can be given no assurance or guarantee that the occurrence of these events referred to in the document will occur as contemplated. Accordingly, to the maximum extent permitted by law, OD6 Metals and any of its affiliates and their directors, officers, employees, agents and advisors disclaim any liability whether direct or indirect, express or limited, contractual, tortuous, statutory or otherwise, in respect of, the accuracy, reliability or completeness of the information in this document, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this document, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and disclaim all responsibility and liability for these forward-looking statements (including, without limitation, liability for negligence).

No new information

The information in this report relating to the Mineral Resource estimate for the Splinter Rock Project is extracted from the Company's ASX announcements dated 18 July 2024. OD6 confirms that it is not aware of any new information or data that materially affects the information included in the original announcement and that all material assumptions and technical parameters underpinning the Mineral Resource estimate continue to apply.

ENDS

This announcement has been authorised for release by the Board of OD6 Metals Limited



About OD6 Metals

OD6 Metals is an Australian public company pursuing exploration and development opportunities within the critical minerals sector, namely rare earths and copper.

Copper

The Company is advancing the Gulf Creek Copper-Zinc VMS Project located near the town of Barraba in NSW, Australia.

Gulf Creek was mined at around the turn of the 20th century and was once regarded as the highest grade copper mine (2% to 6.5% Cu) in NSW until its closure due to weak copper prices in 1912. Very little exploration has occurred at the project in over 100 years, with OD6 aiming to apply modern day exploration technologies.

Mineralisation is associated with magnetite, with geophysics showing significant greenfields and brownfields exploration potential exists with over >3km of untested strike in the immediate mine-stratigraphy, and over >10km across the tenement.

Rare Earth Elements

OD6 Metals has successfully identified clay hosted rare earths at its 100% owned **Splinter Rock and Grass Patch Projects** which are located in the Esperance-Goldfields region of Western Australia.

The Company released a Mineral Resource Estimate (MRE) for Splinter Rock in May 2024, confirming that the project hosts the largest and highest-grade clay-hosted rare earths deposit in Australia with an Indicated Resource of 119Mt @ 1,632ppm TREO and a Inferred Resource of 563Mt @ 1,275ppm TREO with an overall ratio of ~23% high-value Magnetic Rare Earths (MagREE).

OD6 Metals believes that Splinter Rock has all the hallmarks of a world class rare earths project with a conceptual development which utilises the large and high-grade Splinter Rock resource to support a long-life REE operation supported by a low strip ratio

Corporate Directory

Managing Director	Mr Brett Hazelden
Non-Executive Chairman	Wayne Bramwell
Non-Executive Director	Dr Darren Holden
Non-Executive Director	Mr Piers Lewis
Non-Executive Director	Dr Mitch Loan
Financial Controller/ Joint Company Secretary	Mr Troy Cavanagh
Joint Company Secretary	Mr Joel Ives

Contact

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Appendix 1 – Assay Results

Table 1: Assay Results from surface rock/mine spoil samples collected during recent reconnaissance at Gulf Creek. Note 10000ppm = 1%. Samples sorted by Cu grade largest to smallest.

Sample ID	Easting	Northing	Cu (ppm	Zn (ppm)	Au (g/t)	Ag (ppm)	Bi (ppm	Co (ppm)	V (ppm	Fe (%)	Target Area	Comments
GC241224	276879	6657441	123500	265	0.127	21.2	5.53	252	170	20.7	Gulf Creek	Sediment/malachite
GC241226	276874	6657433	116000	868	0.266	29.8	22.8	476	223	25.1	GulfCreek	Weathered massive sulphide
GC241214	276798	6659214	19750	5700	0.049	3.28	1.86	120	377	40.3	Murchison	Malachite azurite in sedment
GC241217	277014	6657322	15500	908	0.409	29.1	1.72	84.1	23	50	GulfCreek	Gossan
GC241219	276973	6657343	13250	331	1.04	14.35	8.18	19.6	90	45.2	GulfCreek	Gossan
GC241202	276869	6657466	13100	3920	0.009	0.73	0.46	37.5	199	8.54	GulfCreek	Gossanous sediment with malachite
GC241201	276872	6657463	11600	771	0.351	21	21.7	136	138	26.7	Gulf Creek	Gossanous sediment with malachite
GC241223	276951	6657417	8130	10650	0.111	11.15	2.31	390	14	29.4	GulfCreek	Massive sulphide (py > cpy)
GC241215	276800	6659214	4730	3280	0.071	4.61	2.01	40.9	987	34	Murchison	Secondary sulphides in gossan
GC241221	276948	6657358	4600	368	0.164	29.3	3.24	77.1	17	41.8	Gulf Creek	Gossanous sediment
GC241218	277015	6657320	4210	230	0.054	19.25	7.1	9.2	35	18.5	Gulf Creek	Gossanous sediment
GC241225	276876	6657441	2390	485	0.016	2.45	0.31	42.6	67	16.8	Gulf Creek	Weathered sediment
GC241216	277078	6657274	2320	293	0.002	1.29	0.18	13.2	221	15.25	GulfCreek	Gossanous sediment
GC241220	276972	6657342	492	64	0.002	0.26	0.13	4.4	25	3	GulfCreek	Chert with fine quartz veins
GC241222	276951	6657417	432	4070	0.003	0.45	0.22	101	29	37.9	Gulf Creek	Massive magnetite
GC241205	276751	6657563	335	32	0.011	0.47	0.57	5.5	11	1.79	BigBend	Red chert
GC241206	276751	6657563	267	123	0.003	0.06	0.24	5.8	25	6.13	BigBend	Brecciated red chert with black oxides
GC241204	276756	6657565	239	16	0.002	0.12	0.16	2.2	16	0.87	BigBend	White/bleached chert
GC241203	276869	6657463	84	39	0.002	0.04	0.04	4.8	27	4.55	Gulf Creek	Altered chert
GC241210	276606	6657618	74.8	78	0.003	0.05	0.13	5.9	55	9.12	Other	Gossanous chert with boxwork Fe oxide
GC241211	276389	6658152	28.1	42	0.001	0.01	0.06	15.4	111	3.92	NW	Red chert with epidote
GC241209	276557	6657542	19.6	8	0.001	0.01	0.12	1.7	6	1.48	Other	Red chert with microfractures
GC241207	276750	6657595	17.8	39	0.001	0.01	0.02	92.5	36	4.68	BigBend	Basalt
GC241208	276659	6657663	11	9	0.001	0.01	0.07	1.2	6	1.1	Other	Altered chert with boxwork veins
GC241213	276511	6657701	8.7	74	-0.001	0.03	0.02	164.5	80	36	Other	Chert
GC241212	276346	6658278	7.8	7	0.001	0.01	0.05	2.2	4	1.01	NW	Red chert

References

Kanehira K, Tatsumi T (1970) Bedded cupriferous iron sulphide deposits in Japan, a review. In Tatsumi T (eds): Volcanism and Ore Genesis. Tokyo: University of Tokyo Press.

Corbett, K.D. (2001). The Geology of the Mount Lyell Mines Area, Tasmania. University of Tasmania, MSc Thesis.

Gemmell, T.P. 2013. Geology of the Kidd Creek Deep Orebodies – Mine D, Western Abitibi Subprovince, Canada. University of Ottawa. MSc Thesis.



JORC 2012 – Table1: Gulf Creek

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	 Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. 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 (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information 	 Samples collected were both surface rock samples and from mine spoil material as reported in the body of this release and in Appendix 1. These samples are not necessarily representative of the whole body of mineralization.
Drilling techniques	 Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc). 	• No drilling results reported in this release.
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. 	• No drilling results reported in this release.
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. 	 No drilling results reported in this release. Rock samples were lithologically and contextually described in hand specimen by OD6's geological advisor.
Sub-sampling 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, 	 No drilling results reported in this release. All samples were hand specimen mine spoil or rock chip samples and no sub-sampling was undertaken.



Criteria	JORC Code explanation	Commentary
	 including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	
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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. 	 Samples were sent to ALS Ltd laboratory in Orange. Samples were laboratory crushed and pulverised with Fire Assay for gold (ALS technique AU-ICP21) and four acid digest for multi-element (ALS technique ME- MS61). Overlimit (>10000ppm) for Cu and Zn were re-assayed using ALS techniques Cu-OG62 and Zn-OG621 No field standards or blanks were inserted; though laboratory standards and blanks and verification were conducted.
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. 	 No drilling results reported in this release and no field verification was undertaken of scout rock chip samples
Location of data points	 Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	• Grid system is MGA 94 Zone 56
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. 	 Refer to map in the body of the release. Data is not sufficient to establish geological or grade continuity and will not be used in Mineral Resource estimation
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. 	Sample collection is not oriented with respect to geological structure.
Sample security	• The measures taken to ensure sample security.	• Samples securely stored and hand-delivered by the Competent Person direct to the laboratory.
Audits or reviews	 The results of any audits or reviews of sampling techniques and data. 	 The Competent Person reviewed the historic reports. Whilst reported by previous studies are considered historic in nature and are yet to be verified by the Company, the various historic reviews by Geological Survey of New South Wales and academic researchers noted in the reference list concur the presence of high- grade copper mined historically at Gulf Creek.



Section 2 Reporting of Exploration Results

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

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. 	 OD6 Metals is 100% holder of the Exploration License through wholly owned subsidiary Gulf Creek Copper Pty Ltd. The License was renewed on 18/03/2024 is valid until 21/12/2029. Other than State Royalties, there is no overriding Royalties on the project. The License overlaps both Crown Land (being the area principally of the historic mine) and private farmland. Private land holders in the area have previously consented to exploration activity on their land, and the Company knows no reason why on-going land access cannot be granted. The land falls in the area of native title claimants – the Gomeroi people. On private land, the native title has been extinguished. The area of Crownland was subject to a ruling 31/03/2022 and that Native Title is effectively extinguished for the purposes of exploration. Further consents may be required prior to mining. Heritage – areas subject to future ground disturbing work are subject to the NSW Mineral Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects 2010. Historical archaeological sites are protected under the NSW Heritage Act (1977), which may be applicable to historic buildings and structures, including the presence of historic mine and smelter workings.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• The Gulf Creek mine has been subject to intermittent exploration for more than 100 years. In recent times, reconnaissance and geophysical surveys were carried out. <u>Refer to Company release 30/10/2024</u>
Geology	 Deposit type, geological setting and style of mineralisation. 	 Base metal (copper and zinc) mineralisation occurs as massive to semi-massive sulphides principally chalcopyrite and sphalerite. The mineralisation is closely associated with magnetite. Mineralisation is hosted in a series of cherts, (sedimentary radiolarian and exhalative) siltstones and basalts of the Bob's Creek Formation. The Bob's Creek formation is underlain by the Woodsreef Formation- an ophiolite sequence including harzburgite, dunite and gabbro. Mineralisation is considered to be Volcanogenic Massive Sulphide (VMS) deposit The sedimentary sequence, of which the mineralisation is parallel, has been folded into NW-SE striking and steeply dipping folds. At the historic Gulf Creek mine, mineralisation strikes NW-SE and is steeply dipping (70-85 degrees) to the NE.
Drill hole Information	 A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. 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 	• No drilling results reported in this release.



Criteria	JORC Code explanation	Commentary			
	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 (eg 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. 	• No drilling results reported in this release.			
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 drill hole 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 (eg 'down hole length, true width not known'). 	• No drilling results reported in this release.			
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. 	 No drilling results reported in this release. Diagrams are included at relevant sections in this 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. 	 All results reported are in the context with which they appear. Non-mineralised samples also reported. 			
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. 	 Refer to announcement dated 30 October 2024 for further substantive information. 			
Further work	 The nature and scale of planned further work (eg 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. 	 Mineralisation mined historically is open along strike to the NW and down-dip / plunge. The Company is planning on initially drilling the immediate vicinity and extensions of historic workings, before stepping out and drilling geophysical targets to the NW and elsewhere on the exploration license. 			