



## Taking further steps forward

Coda Minerals (ASX: COD) is the owner of the Elizabeth Creek copper-cobalt project in the world-class Olympic Copper Province in South Australia's Eastern Gawler Craton. As outlined in our initiation report in August, the project has a net present value (NPV) of A\$570m, an internal rate of return (IRR) of ~26.5% and a payback period of ~4.75 years. The project boasts high-quality geology, a favourable location and a low CAPEX relative to its peers.

### Further enhancements to the project

One of the things we have liked about this company is how management has advanced the project. Since its 2020 listing, COD has grown its total JORC compliant Resource from 250kt to over 1.1Mt of contained copper equivalent. COD's management has continued its hard work in recent months. Ongoing metallurgical optimisation has delivered flowsheet enhancements that have shown potential for increased copper recovery (>40%) while reducing costs through flotation optimisation and the use of tails leaching. The company has also developed a new geological model to provide direction to future exploration – particularly its IOCG targets.

### More to look forward to

Although COD still has some way to go in its journey to production, it has made significant progress since its listing (Figure 4). Since the completion of the Scoping Study, COD has advanced next stage economic and technical studies in which it is building on the work undertaken on the copper-cobalt mineralisation. An update to the Scoping Study is expected in Q4 2023 with potential cost breakthroughs and therefore improved economics expected from application of ore sorting and mechanical cutting to Emmie Bluff.

We think COD is likely to conduct further exploration for the sedimentary copper-cobalt deposits through near term targets, extension of mine life and discovery-driven value accretion, not to mention the IOCG potential. As of June 2023, the company remains well funded to progress the project with A\$4.7m cash. Recent commentary about advancing funding discussions with strategic partners is of particular interest given the re-rate potential of unlocking funding.

### Valuation range of A\$0.44–0.64 per share

We reiterate our valuation of COD as first outlined in our initiation report - at A\$0.44 per share in a base-case scenario and A\$0.64 per share in an optimistic-case scenario. Please see p.8 for more details on our valuation and p.9 for the key risks.

Share Price: A\$0.165

ASX: COD

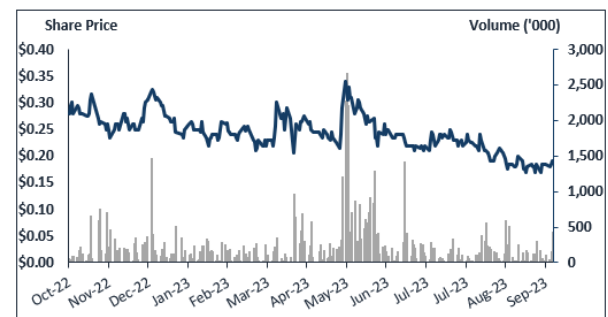
Sector: Materials

17 October 2023

Market Cap. (A\$ m)	23.4
# shares outstanding (m)	141.8
# share fully diluted (m)	154.1
Market Cap Ful. Dil. (A\$ m)	25.4
Free Float	100.0%
12-months high/low (A\$)	0.34 / 0.17
Avg. 12M daily volume ('1000)	237.8
Website	<a href="http://www.codaminerals.com">www.codaminerals.com</a>

Source: Company, Pitt Street Research

### Share price (A\$) and avg. daily volume (k, r.h.s.)



Source: Refinitiv Eikon, Pitt Street Research

<b>Valuation metrics</b>	
Fair valuation range (A\$)	0.44-0.64

Source: Pitt Street Research

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## Re-introduction to Coda Minerals

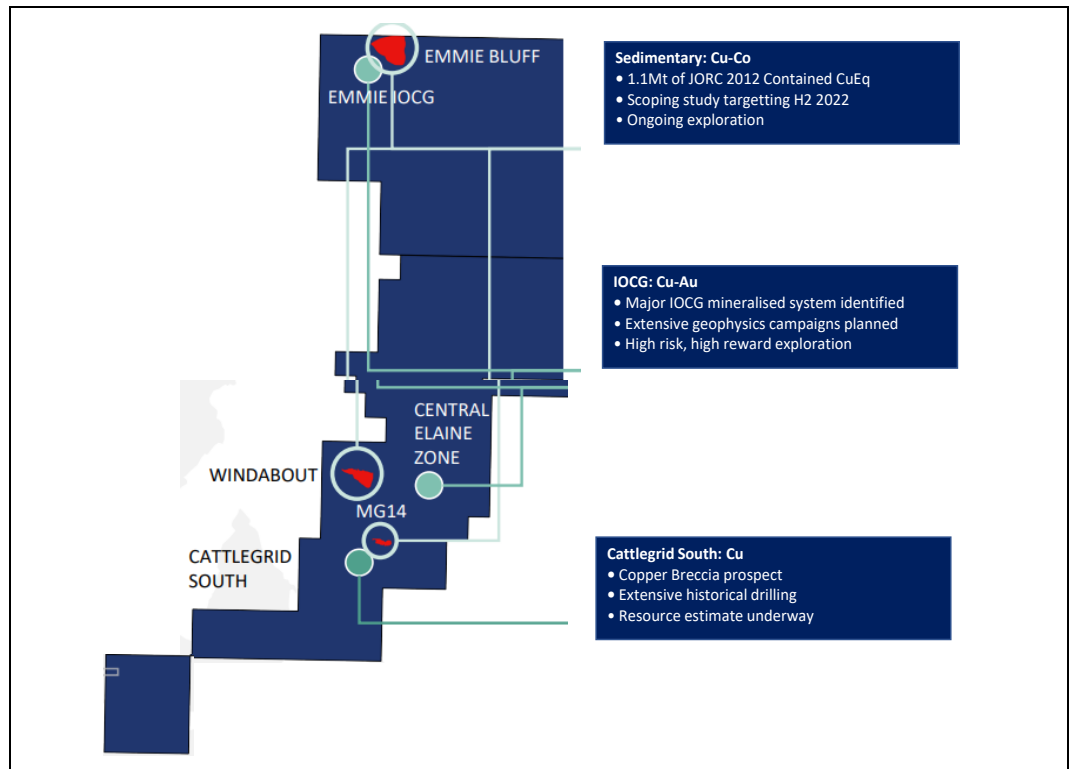
*Elizabeth Creek has several key advantages such as a favourable location, favourable infrastructure, solid geology, and superior project economics.*

Coda Minerals (ASX:COD) is focused on the Elizabeth Creek copper-cobalt project, in the highly prospective Olympic Copper Belt in South Australia. As outlined in our initiation report, Elizabeth Creek has several key advantages such as a favourable location (barely 100km from BHP's Elizabeth Creek mine), favourable infrastructure, solid geology, and superior project economics.

## All about the Elizabeth Creek deposit

The Elizabeth Creek's 1.1MT copper-equivalent resource comes from the Emmie Bluff, Windabout and MG14 prospects (Figure 1). It is Emmie where the company conducted drilling in 2021 and had spectacular success that sent shares into a brief frenzy. But this only barely scratches the surface of the potential of the project. There are 3 main prospects: Emmie Bluff, MG14 and Windabout. Two other prospects have been identified in Elanie and Cattlegrid South but these are far earlier stage and unlikelier to be prioritised ahead of the other prospects anytime soon so will not be mentioned further.

Figure 1: Overview of the Elizabeth Creek project



Source: Company, Pitt Street Research



## Emmie Bluff

Emmie Bluff has a Resource of maiden indicated and inferred Mineral Resource Estimate for the Emmie Bluff copper-cobalt deposit at Elizabeth Creek comprising ~43.3MT at 1.30%Cu, 470ppm cobalt, 11g/t of silver, 0.15% Zinc and a 1.84% CuEq, containing ~562kt of copper, 20kt cobalt, 15.5Moz of silver and 66kt of Zinc with 66Kt Zinc (800Kt CuEq). 92% of the contained metal is classified in the higher confidence 'Indicated Resource' category and is available for use in mining studies.

One thing that can confuse investors is that COD is chasing both Zambian copper belt-style mineralisation and IOCG mineralisation at Emmie Bluff. So far only the latter has been utilised as part of a JORC Resource. But it is potential for an IOCG deposit that got investors excited in 2021 – successful drilling found early-stage evidence of a large-scale IOCG deposit approximately 400m below the Emmie Bluff sediment.

Inertia got the better of investors as the company halted for IOCG drilling and undertook ambient noise tomography (ANT) surveying to find further drilling and not all the survey appeared to validate the company's hypothesis. But even though interpretation of the structures has changed and provided new drilling targets, this does not mean there is still potential for an IOCG discovery there. But the latter could be game changing considering their large size, potential by products and more simpler flow sheets – just look at BHP's Elizabeth Creek IOCG deposit.

The problem with Emmie Bluff was that the mineralisation was very thin seam and difficult to get to via conventional mechanised hard rock mining given the depth (i.e. >400m below surface). But the company solved this problem with external consultants to the company recommending long hole open stoping as a viable method for mining ore bodies with Emmie Bluff's geometry.

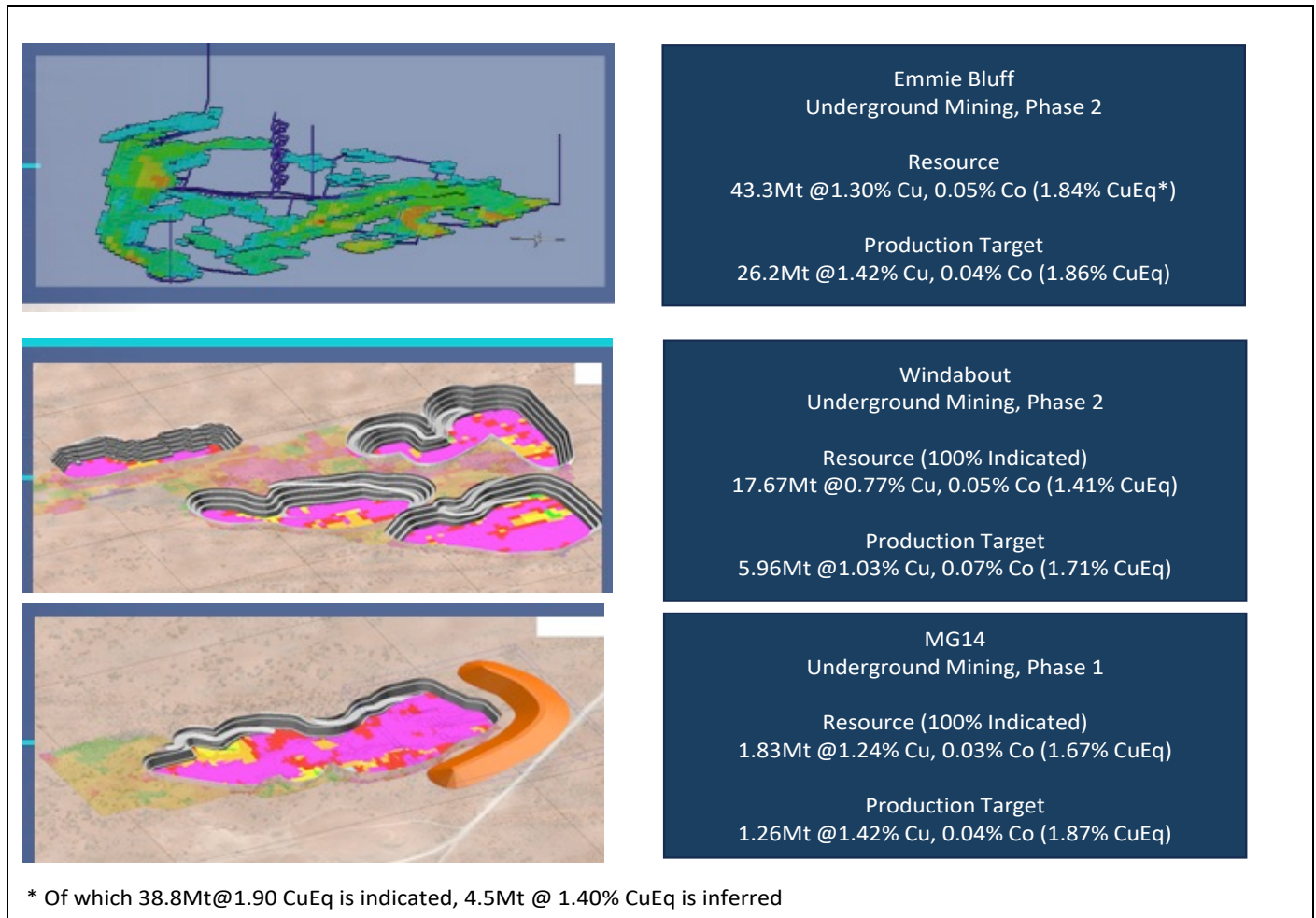
## MG14 and Windabout

MG14 holds an indicated Mineral Resource of ~1.83 mt at 1.24% Cu, 334 ppm Co, 14g/t Ag and a cutoff of 1.67% Copper Equivalent (CuEq). Mineralisation is relatively shallow, typically commencing from 20-25 metres. Windabout is ~1500 metre by 500 metres in plan view and supports an indicated Mineral Resource of 17.67mt at 0.77% Cu, 492 ppm Co, 8g/t Ag and 1.41% CuEq cutoff (Figure 2). Both form part of COD's JORC Resource for Elizabeth Creek and will be a part of the eventual mining operation. The company has undertaken testwork to prepare for this eventuality.

The current mining strategy for MG14 and Windabout deposits is based on the shallow depth, free dig overburden and the sheet-like and sub-horizontal structure. The first deposit to be mined will be MG14 due to its high grades and shallow depth, while Windabout is likely to be mined subsequently due to its lower grade, longer life, and higher stripping ratio.



Figure 2: Resources and Mining



Source: Company, Pitt Street Research

**The key statistics that depicted the project's potential were its pre-tax NPV of \$570m and 26.5% IRR.**

### The key advantages Coda has

A Scoping Study completed back in March showed solid economics (Figure 3). The key statistics that depicted the project's potential were its pre-tax NPV of A\$570m and a 26.5% IRR. The study modelled steady-state production of 25,000 tonnes a year of copper and 1,000 tonnes a year of cobalt, but only 14 years of mine life, with only the current resources included.

From a commodities perspective, the Elizabeth Creek Project offers exposure to commodities (namely, copper and cobalt) which are likely to be major beneficiaries of the increasing global trend towards decarbonisation. The project has favourable infrastructure being accessible by established roads, options to access electrical grid power and scheme water.

And, as highlighted above, the company has done substantial work over the past couple of years. Coda has added to the existing two small-scale open pit deposits through the definition of the flagship Emmie Bluff copper-cobalt resource, delivered a robust Scoping Study (more than quadrupling its JORC resource) and made a significant IOCG copper-gold discovery at Emmie Bluff.



Figure 3: Results of the March 2023 Elizabeth Creek scoping study

Area	Measure	Unit	LOM
Production	Mine Life	Years	14
	Ore Process Rate	Mtpa	2.5
	Feed from Indicated Resource	%	94%
	Feed from Inferred Resource	%	6%
	Copper produced	Kt	317
	Cobalt produced	Kt	14.4
Capital	Pre-production capital - Phase 1	A\$m	277
	Pre-production capital - Phase 2	A\$m	320
Operating	C1 Cash cost	USD/lb Cu	1.88
	All in sustaining cost	USD/lb Cu	2.19
Financials (Pre-tax)	Revenue	A\$m	5728
	Net Cash Flow (Pre-tax)	A\$m	1298
	Net Present Value (NPV)	A\$m	570
	Peak negative cash flow	A\$m	438
	IRR	%	26.50%
	Capital payback	Years	4.75

Source: Company, Pitt Street Research

## Highlights of the last quarter

### Test Work identifying upside potential to the current economics

In early September, Coda reported to shareholders the results of ongoing metallurgical optimisation work at Elizabeth Creek. The intent of these tests was to see how project economics could be improved by reducing costs and increasing copper recoveries. The company has assessed the amenability of flotation tails to leaching, and a separate set of tests to reduce reagent consumption during flotation.

This work has demonstrated the potential to reduce forecast processing costs and improve copper recoveries. Indeed, the use of tails leaching boosted copper recovery from MG14 by over 40%, specifically from 58% to 85%. As for flotation optimisation, the company found there was no material reduction in copper recovery when these concentrations were reduced, or lower cost chemicals were substituted. This suggests that flotation could be carried out at a lower cost than was assumed in the Scoping Study without compromising recovery.

### An updated Geological Model for Elizabeth Creek

A few weeks later, the company announced the results of a geophysical reinterpretation exercise of the Emmie IOCG prospect and the broader Emmie Bluff System. The review generated a new and comprehensive model explaining the structural controls underpinning the Emmie IOCG mineralisation with valuable explanatory and predictive power.

It suggests the presence of a vast, laterally extensive mineralising system with demonstrated potential to extend at least the 2.4NNE from the existing Emmie IOCG discovery to Coda's northern tenement boundary as well as further to the south. The review also reaffirmed the significance of a major

**The use of tails leaching boosted copper recovery from MG14 by over 40%, specifically from 58% to 85%.**



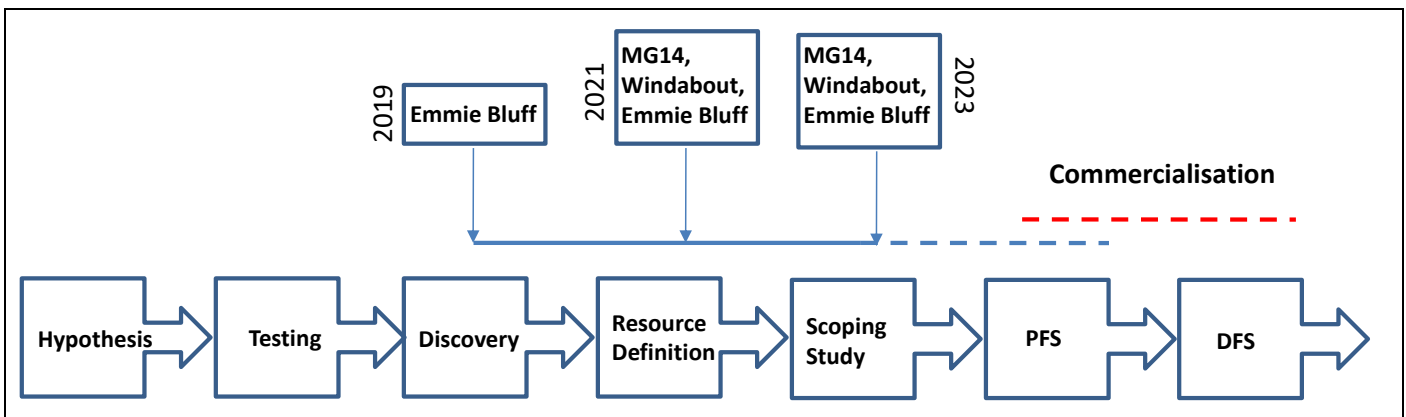
IOCG target, Maggie IOCG, located roughly 6km to the south-east of Emmie Bluff.

### What's next?

Although COD still has some way to go in its journey to production, it has made significant progress since its listing (Figure 4). Since the completion of the Scoping Study, COD has commenced a Pre-Feasibility Study (PFS) in which it is building on the work undertaken on the copper-cobalt mineralisation.

We think COD is likely to conduct further exploration for the sedimentary copper-cobalt deposits through near term targets, extension of mine life and discovery-driven value accretion, not to mention the IOCG potential. As of June 2023, the company remains well funded to progress the project with A\$4.7m cash. However, it has told shareholders it has been in discussion with interested parties in pursuing a funding partnership to progress exploration work (both IOCG and sedimentary).

Figure 4: The expected journey of COD



Source: Company, Pitt Street Research



## Our valuation of Coda

*We reiterate our previous valuation of COD – at \$0.44 per share in our base case and \$0.64 in our bull case.*

In our initiation report, we valued Coda at \$0.44 per share in our base case scenario and \$0.64 in our optimistic (or bull) case scenario. This was derived from a 10% of NPV in our base case (derived from an average list of its peers as outlined in our initiation report) and 15% in our optimistic case.

The present valuation of the company is only 5.5% of NPV. We note that, this is only on the foundational sediment hosted Zambian-Style Copper-Cobalt Deposits. It does not consider the massive rerate opportunity that may arise from drilling the IOCG targets, which we discuss below.

We reiterate our previous valuation.

Figure 5: Our valuation of COD

COD Valuation (A\$ m)	Current valuation	Base Case	Bull Case
Elizabeth Creek scoping study project value	570.0	570.0	570.0
Sector Average (EV/Total resource* in A\$m/t CuEq)	5.5%	10.0%	15%
<b>Implied project value</b>	<b>31.4</b>	<b>57.0</b>	<b>85.5</b>
Cash	5.9	5.9	5.9
Provisions and Liabilities	-0.05	-0.05	-0.05
Minority Interest	-	-	-
<b>Total Value</b>	<b>37.2</b>	<b>62.9</b>	<b>91.4</b>
Number of shares (m)	141.8	141.8	141.8
<b>Implied price (A\$)</b>	<b>0.26</b>	<b>0.44</b>	<b>0.64</b>
Current price (A\$)	0.17	0.17	0.17
Upside (%)	59.1%	168.8%	290.6%

Source: Pitt Street Research

## Catalysts for a re-rating of Coda

We believe Coda can re-rate to our valuation range driven by the following factors:

- Increases in copper prices.
- An increase in Elizabeth Creek indicated and inferred resources.
- Favourable geophysical work guiding the next drilling campaign.
- Future drilling, particularly related to the IOCG opportunity at Emmie Bluff.





## Risks

Although we believe that Coda is an interesting story, especially with the increasing shift towards decarbonisation and electrification, we foresee the following risks to our investment thesis:

- **Underlying commodity risk** – Any decline in copper prices is likely to expose the company to commodity price risk, which depends on macroeconomic factors and the global demand and supply dynamics of the underlying metal.
- **Funding risk** – The inability to raise funds on a timely basis is likely to pose a significant challenge for the company's objectives.
- **Delays in execution** – Coda's management is working on the PFS for the Elizabeth Creek project. Any potential delay in the finalisation of the feasibility study or receiving environmental clearance will jeopardise investor sentiment. Additionally, any difficulty faced by the company in commercialisation of its assets is further likely to dampen investor confidence.
- **Geological risk:** For a resources company at the exploration phase such as Coda, there exists a risk of downward estimates of reserve figures.
- **Key personnel risk:** There is the risk that the company could lose key individuals and be unable to replace them and/or their contribution to the business.



## Appendix I – Analyst certification

Stuart Roberts, lead analyst on this report, has been an equities analyst since 2002.

- Stuart obtained a Master of Applied Finance and Investment from the Securities Institute of Australia in 2002. Previously, from the Securities Institute of Australia, he obtained a Certificate of Financial Markets (1994) and a Graduate Diploma in Finance and Investment (1999).
- Stuart joined Southern Cross Equities as an equities analyst in April 2001. From February 2002 to July 2013, his research speciality at Southern Cross Equities and its acquirer, Bell Potter Securities, was Healthcare and Biotechnology. During this time, he covered a variety of established healthcare companies, such as CSL, Cochlear and Resmed, as well as numerous emerging companies. Stuart was a Healthcare and Biotechnology analyst at Baillieu Holst from October 2013 to January 2015.
- After 15 months over 2015–2016 doing Investor Relations for two ASX-listed cancer drug developers, Stuart founded NDF Research in May 2016 to provide issuer-sponsored equity research on ASX-listed Life Sciences companies.
- In July 2016, with Marc Kennis, Stuart co-founded Pitt Street Research Pty Ltd, which provides issuer-sponsored research on ASX-listed companies across the entire market, including Life Sciences companies.
- Since 2018, Stuart has led Pitt Street Research’s Resources Sector franchise, spearheading research on both mining and energy companies.

Nick Sundich is an equities research analyst at Pitt Street Research.

- Nick obtained a Bachelor of Commerce/Bachelor of Arts from the University of Sydney in 2018. He has also completed the CFA Investment Foundations program.
- He joined Pitt Street Research in January 2022. Previously he worked for over three years as a financial journalist at Stockhead.
- While at university, he worked for a handful of corporate advisory firms.

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