

Alkane Resources

A self-sufficient outlook

Since our outlook note published on 7 July 2022, Alkane has made several important announcements. Firstly, it improved its FY23 production guidance to 62,000–70,000oz (a 17% increase) after impressive H123 production at Tomingley and now expects to reach the upper end of this range. This has resulted in our EPS forecast for FY23 increasing by 30.6% from A\$0.0445/share to A\$0.0582/share. This was followed by the approval of the Tomingley Gold Extension Project, permitting open-cut mining at the Roswell and San Antonio deposits (including underground mining at the former), extending the mine life at Tomingley to at least 2031. Additionally, Alkane announced an inferred mineral resource at Kaiser of 4.7Moz AuE (0.48Mt Cu, 2.05Moz Au). Finally, it reported Q323 gold production of 16,641oz, bringing the current year to date production figure to 54,431oz.

Year end	Revenue (A\$m)	PBT* (A\$m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
06/21	127.8	46.3	5.35	0.00	15.2	N/A
06/22	165.0	52.1	3.68	0.00	22.1	N/A
06/23e	182.8	49.1	5.82	0.00	14.0	N/A
06/24e	166.5	58.5	6.84	0.00	11.9	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles and exceptional items.

Tomingley to fund further exploration

Following the announcement of the [Tomingley Gold Extension Project](#), Alkane expects underground mining to commence at Roswell before the end of CY23. Increased production guidance at Tomingley bodes well for further investment in both expansion of Tomingley and continued efforts to increase the accuracy of its resources at Boda and Kaiser. We estimate that cash flows will cover capex as the Tomingley mine extension is constructed, and further exploration is undertaken at the Kaiser-Boda deposits.

Valuation: Tangible assets cover 131% of share price

As per our valuation of Boda, we estimate that the inferred resource at Kaiser would offer an additional value to Alkane of US\$49.4m (US\$0.08/share or A\$0.12/share). Therefore, Alkane's share price continues to be more than 100% covered by the value of tangible assets underpinned by Tomingley, which contributes A\$0.61/share to Alkane's valuation. Liquid assets in the form of Alkane's holdings in Calidus and Genesis contribute a further A\$0.03/share, with Boda estimated at US\$125.5m (US\$0.21/share or A\$0.31/share) to Alkane, either as an in-situ resource or as a development project. This represents a total valuation estimate for Alkane of A\$1.07/share (cf A\$0.94/share previously). We also estimate A\$0.56/share additional upside in the event of further exploration success in the Northern Molong Porphyry Project (NMPP) at the Boda Two and Three deposits. Including all other contingent assets, this takes Alkane's potential valuation to A\$2.22/share (cf A\$1.53/share previously).

Tomingley extension approval and inferred Kaiser resource

Metals and mining

11 April 2023

Price **A\$0.815**

Market cap **A\$488m**

A\$1.4971/US\$

Net cash (A\$m) at end December 2022 70.6

Shares in issue 598.8m

Free float 65%

Code ALKX

Primary exchange ASX

Secondary exchange OTCQX

Share price performance



% 1m 3m 12m

Abs 14.0 27.3 (33.5)

Rel (local) 14.7 24.3 (29.9)

52-week high/low A\$1.27 A\$0.53

Business description

Alkane Resources has two main assets in Central West New South Wales: the Tomingley gold mine, where exploration to date increased the mine life by at least eight years from FY23 to FY31, and its Northern Molong project, which is shaping up to be a tier 1 alkalic porphyry district.

Next events

Q423 activity report July 2023

Boda & Kaiser updated resource estimate Q423

Underground production at Roswell begins Q4 CY23

100koz annual production FY25

Potential for dividend FY26

Analysts

Tom Batho +44 (0)20 3077 5700

Lord Ashbourne +44 (0)20 3077 5724

mining@edisongroup.com

[Edison profile page](#)

Alkane Resources is a research client of Edison Investment Research Limited

Investment summary

Company description: Australian gold miner and explorer

Listed on the ASX since 1969, Alkane Resources is a gold production company with a multi-commodity exploration and development portfolio. Having de-merged its Dubbo rare earths project into Australian Strategic Metals in 2020, Alkane's focus is a multifaceted gold investment strategy at its two major projects, Tomingley (including its Roswell and San Antonio extensions) and the NMPP (Kaiser, Boda, Boda Two and Three), both in New South Wales (NSW). In addition to its owner-operated assets, Alkane has also made a number of strategic investments in junior gold mining companies and high-potential projects, where it is in a position to contribute capital, expertise and operating capability, for mutual benefit; for example, in Calidus Resources (ASX:CAI), which commenced production in May 2022, and Genesis Minerals (ASX: GMD), which is developing the Ulysses gold project in Western Australia.

Valuation: Share price 131% covered by tangible assets

Our valuation of Alkane continues to be underpinned by Tomingley as it develops the San Antonio and Roswell deposits (SAR) to its immediate south, which we estimate contributes A\$0.61/share to the company's valuation. Liquid assets in the form of Alkane's holdings in Calidus and Genesis contribute a further A\$0.03/share. Boda also remains a significant asset to Alkane. In May 2022, Alkane announced a maiden resource at Boda of 5.2Moz gold, or 10.1Moz gold equivalent (AuE). We estimate that this is worth an immediate US\$125.5m (or US\$0.21/share or A\$0.31/share) to Alkane either as an in-situ resource or as a development project, albeit with the proviso that the project-based valuation will likely increase in the future, both as a result of continued resource increases and upgrades and as a result of Alkane's de-risking the project by achieving future development milestones and with the passage of time, as previously described in detail in [our July 2022 note](#). Alkane has since increased this resource at the NMPP, by announcing an [initial inferred resource estimation](#) at its Kaiser deposit (part of the NMPP) of 2.05Moz Au and 0.48Mt Cu (4.7Moz AuE) contained within 270Mt ore at a grade of 0.54g/t AuE. This would add an additional value to Alkane of US\$49.4m (US\$0.08/share or A\$0.12/share). Finally, we calculate a value for our current resource estimate of 2,744koz at Boda Two and Three of A\$0.16/share cf A\$0.035/share previously (based on the US\$24.08/oz average valuation of in situ ounces calculated in our report [Gold stars and black holes](#), published in January 2019).

Sensitivities: Material early stage sensitivity to metals prices

Quantitatively, the sensitivity of our Boda project valuation to long-term changes in metals prices ($\pm 69\%$ for every $\pm 10\%$ change in metals prices) is much greater than the sensitivity of our Tomingley valuation ($\pm 24\%$ for every $\pm 10\%$ change in prices). Qualitatively, however, as it is a greenfield project development, as opposed to a brownfield one, it carries a higher level of execution risk.

Financials: Liquidity on several fronts

Alkane had A\$70.6m in net cash on its balance sheet at end H123, comprising A\$86.1m in cash and A\$15.5m in external borrowings. According to its 5 April Tomingley Q3 production update, Alkane had A\$92.9m in unaudited cash including A\$6.5m of bullion on hand and, we estimate, A\$17.8m in listed investments in Calidus, Genesis and Sky Metals. Alkane generated A\$43.8m in cash from operating activities in H123 compared to A\$86.5m in FY22. During H123, it invested A\$25.3m in exploration as it continues to fund its Kaiser and Boda deposits to increase the accuracy of their resource estimates plus a further A\$13.4m for property plant and equipment largely relating to its Tomingley extension project. Hereafter, we estimate that free cash flow will

remain positive as the Tomingley mine extension is constructed (following the recent project approval) and further exploration is undertaken at the Kaiser-Boda deposits. To de-risk the completion of these company targets, financing has been secured via A\$50m of debt funding from Macquarie Bank, in conjunction with 100koz of gold hedging at a weighted average price of A\$2,825/oz (US\$1,909/oz at the current FX rate of A\$1.4971/US\$, Bloomberg, 28 March 2023). The terms of this facility are confidential but are merely an amendment to the existing facility agreement that has been in place with Macquarie for several years for the purpose of hedging.

Recent developments

Since our July 2022 [outlook note](#) on the company, Alkane has:

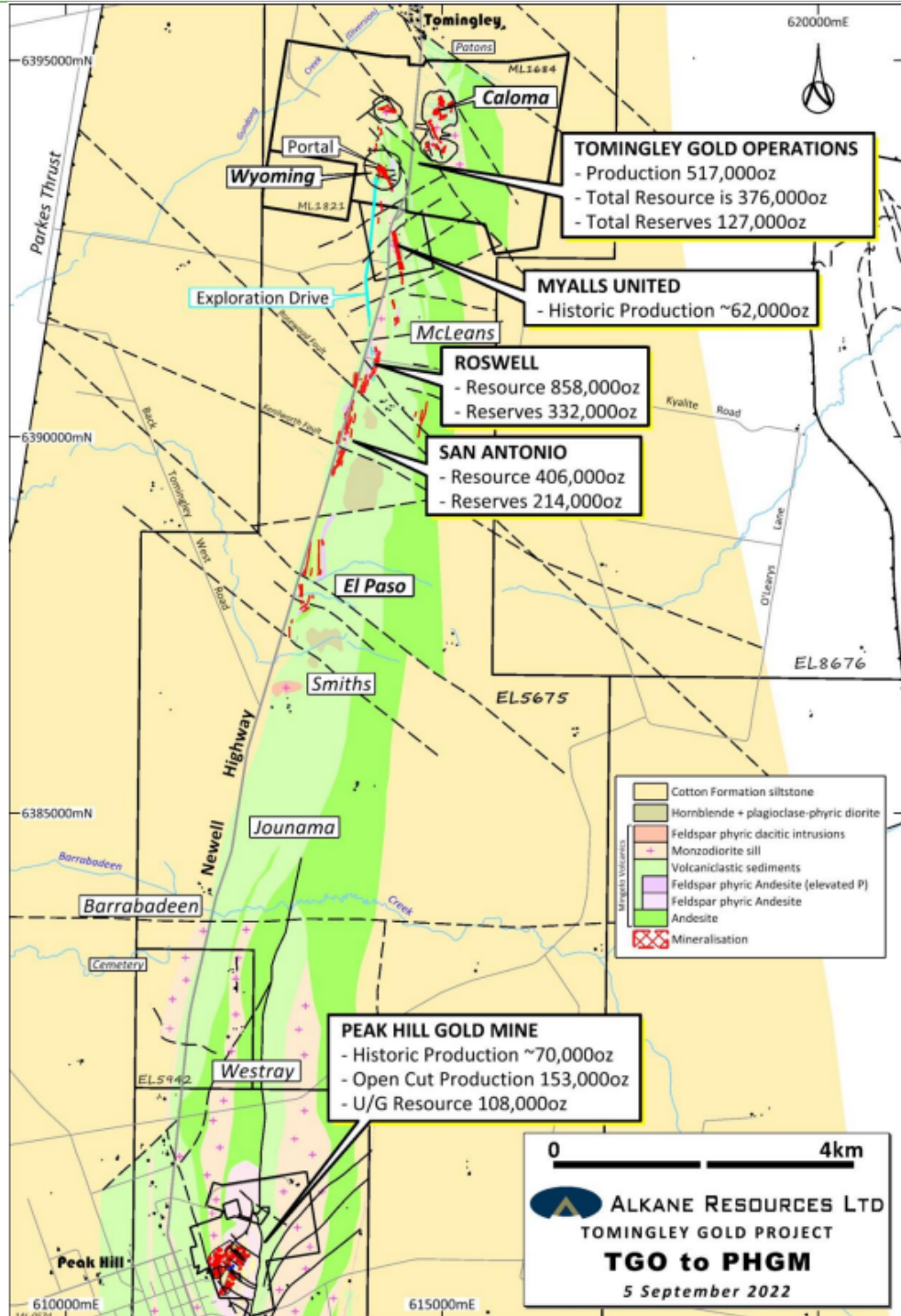
- Announced the approval of the [Tomingley Gold Extension Project](#).
- Announced leveraging via A\$50m of debt funding from Macquarie Bank, together with 100koz of gold revenue protection hedging at a weighted average price of A\$2,825/oz (US\$1,909/oz).
- Reported [an inferred mineral resource](#) at Kaiser of 4.7Moz AuE (0.48Mt Cu, 2.05Moz Au) on 27 February 2023.
- Announced operational and [financial results for H123](#) to December 2022.
- Upgraded its [FY23 guidance](#) from 55,000–60,000oz to 62,000–70,000oz at an all-in sustaining cost (AISC) of A\$1,550/oz to A\$1,800/oz (cf A\$1,650–1,900/oz) on 5 January following strong production in H123 at Tomingley of 37,790oz.
- Released Q323 production figures of 16,641oz.

This note updates our analysis of the company in respect of all these announcements.

Tomingley Gold Extension Project

The Tomingley Gold Project covers an area of approximately 440km², stretching 60km north-south along the Newell Highway from the Tomingley mine in the north, through Peak Hill and almost to Parkes in the south (Exhibit 1).

Exhibit 1: Location of the Tomingley Gold Mine



Source: Alkane Resources

As expected, on 22 February 2023, the NSW minister for planning approved Alkane's Tomingley Gold Extension Project. This approval permits open-cut mining at the Roswell and San Antonio deposits (including underground mining at the former), resulting in the diversion of a section of the

Newell Highway, which is now over 50% complete and reviewed frequently by Transport for NSW. The project extension coincides with recent resource confirmation at the Roswell and San Antonio deposits in May 2022 (as discussed in our note, [Coming to fruition](#)). Together, Roswell and San Antonio comprise a 19,867kt resource at an average grade of 1.98g/t, containing 1,264koz gold ([as per the current company resource and reserve statement](#)). This adds to existing resources at Tomingley of 5,026kt at an average grade of 2.3g/t containing 377koz gold (see link above).

Commissioned in 2014, the processing plant is to be upgraded from 1.00Mtpa to 1.75Mtpa to account for the increased rate of mining from three gold deposits to five. Underground mining is expected to commence at Roswell before the end of CY23, pending the applications for the Environmental Protection Licence and Mining Lease (which cannot now be refused following the minister's planning approval for the Tomingley Gold Extension Project) and completion of updated management plans, potentially extending the mine life at Tomingley to 2032. Additionally, on 22 February, Alkane completed a A\$50m financing facility with Macquarie Bank to ensure the completion of the Tomingley Gold Extension Project. This facility is an amendment to a pre-existing agreement used for hedging. Although the key terms are confidential, there is an agreement to sell 100koz of gold production across the debt service period (March 2024 to December 2026), at a weighted average price of A\$2,825/oz (US\$1,909/oz at a current FX rate of A\$1.4971/US\$, Bloomberg, 28 March 2023), to be used for revenue protection purposes (c 40% of expected production over the period). The first debt drawdown is permitted on approval of the mining lease, expected in mid-2023, with the loan tenor running to 31 December 2026.

Mining

Open cut

The open-cut mining plan envisages three pits, joined at the pit crest on a north-south line, which are expected to be mined from the south (ie the San Antonio end) to the north (the Roswell end) with the Roswell pit being mined in two stages. In deference to environmental considerations, scheduling will require the San Antonio pits to be mined first (with most of the early waste being used to backfill the Coloma One and Caloma Two pits at Tomingley), so that waste from Roswell can be placed into them, leaving Roswell as the final, open void. Among other things, this will create a c 2Mt run-of-mine stockpile at its peak (ie more than one year's milling capacity).

Underground

In the meantime, the NSW Resources Regulator granted approval of the development of an exploration drive (May 2020) from the existing underground Wyoming One operation at Tomingley to the Roswell deposit, which will extend into the upper half of the currently planned stoping area, allowing both upwards and downwards development. Underground mining will be similar to that currently employed at Tomingley, using standard long-hole open stoping. However, to maximise recovery in the higher-grade, wider sections of the Roswell ore body, Alkane also intends to use paste fill from a hired plant using consolidated tailings. In the context of underground mining at Roswell, of note is the fact that c 33% of tonnes (and ounces) mined will be from material currently classified as inferred, based on the operating experience and reconciliations at the existing Tomingley operation. Nevertheless, in mitigation, a substantial grade control programme is planned in advance of stoping commencing.

Processing

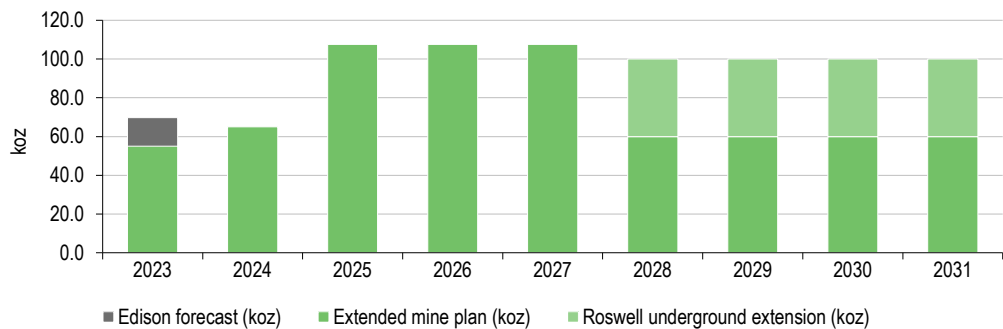
Under its previous approval, on commissioning in 2014, the Tomingley plant had permission to operate at a throughput rate of 1.5Mtpa of ore, which was requested to allow faster processing of oxide material from the original pits. However, since the start of CY21, it has been running at a rate

closer to 1.0Mtpa. As part of the new project approval, Alkane has increased its licence to 1.75Mtpa. The plant modifications required to achieve this enhanced throughput capacity include:

- crushing down to 40mm, as well as modifying the crushing circuit so that the secondary crusher does not recycle;
- adding a 1.5MW mill before the existing ball mill, with its own cyclone pack and feed pumps;
- adding an additional Knelson gravity concentrator and upgrading the Acacia capacity;
- upgrading the tailings thickening circuit; and
- associated electrical and reagent upgrades.

Now approved and once developed, the [Tomingley Gold Extension Project](#) will, from FY24, add an additional eight years and c 628koz of gold output to Tomingley’s life-of-mine production profile relative to our prior expectations. Following the project approval, the Roswell underground extension is also expected to add a further 160koz, taking the total to c 788koz with production reaching 100koz per annum in CY25.

Exhibit 2: Tomingley extended mine life production compared to previous Edison forecast

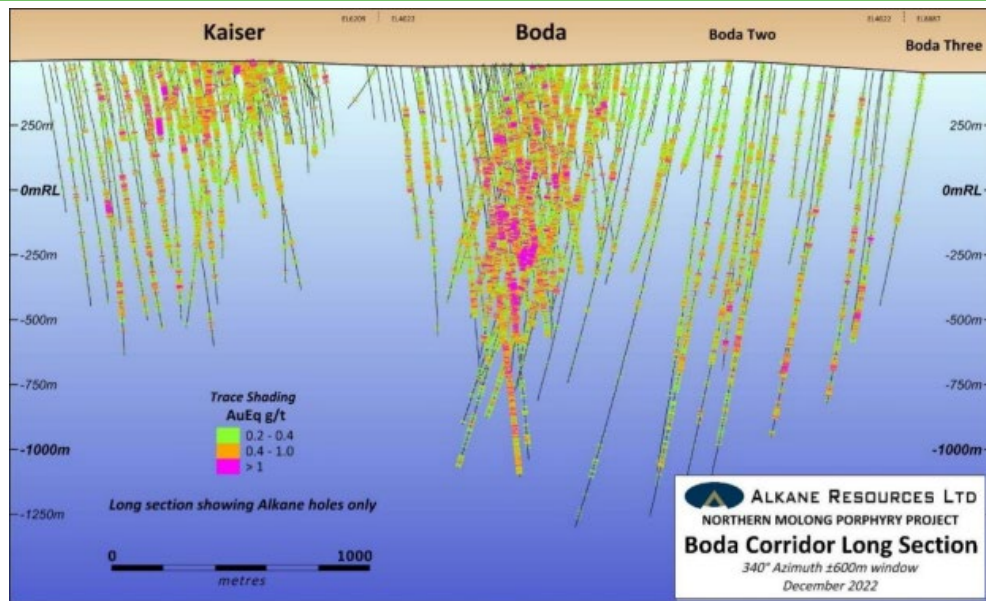


Source: Alkane Resources, Edison Investment Research

Kaiser resource estimate

Exploration around the Boda-Kaiser area within the NMPP has defined a 3.5km corridor of extensive calc-potassic alteration associated with gold-copper porphyry mineralisation. The corridor trends north from Boda Three to Boda for approximately 1km, where it rotates to the north-west from Boda to Kaiser for a further 2.5km.

Exhibit 3: Kaiser-Boda prospect drilling cross-section



Source: Alkane Resources

On 27 February, Alkane [announced](#) an initial inferred mineral resource for its Kaiser deposit, approximately 500m north-west of the Boda deposit. The exploration programme, consisting of c 49,400m of drilling, concluded with an estimate of 270Mt grading at 0.54g/t AuE for 4.7Moz AuE contained (0.48Mt Cu, 2.05Moz Au). At the prevailing copper and gold prices (Bloomberg, 28 March 2023: Cu, US\$8,964/t and US\$1,960/oz), the value of the contained copper is now roughly 50:50 with the value of contained gold for the Kaiser-Boda resources, with a combined total of 894Mt at 0.52g/t AuE for 14.8Moz AuE (7.26Moz Au, 1.38Mt Cu).

Kaiser's maiden resource estimate of 2.05Moz exceeds the top end of our [July 2022](#) range of estimates of 0.7–1.7Moz for Kaiser by at least 19.9% (albeit our estimate was based on only a portion of the final drill data). It also adds to the existing resource of 5.2Moz (10.1Moz AuE) already delineated at Boda. Our mineral inventory estimate is also compared with the locally comparable resource disclosed by Newcrest for Cadia Ridgeway c 100km to the south (Exhibit 4).

Exhibit 4: Kaiser maiden resource cf prior Edison estimates

Source of underlying data	Alkane Resources			Edison	Alkane Resources		Newcrest
	Kaiser + Boda	Boda (actual)	Kaiser (actual)	Kaiser (prior)	Alkane est. dimensions	Cadia Valley Ridgeway	Cadia Ridgeway underground actual*
Strike (m)				986	800	250	
Ave est true width (m)				85	250	150	
Est surface area (m ²)					0.200		
Ave est true depth (m)				315	315**	600	
Est volume (m ³)				26.3	63.1	22.5	
Est density (t/m ³)				3	3	3	
Est tonnage (Mt)	894.0	624.0	270.0	79.0	189.2	67.5	151.0
Est ave gold grade (g/t)	0.25	0.26	0.24	0.28	0.28**		0.49
Est ave copper grade (%)	0.16	0.14	0.18	0.18	0.18**		0.32
Est ave AuE grade (g/t)	0.51	0.51	0.54	0.52	0.52**	2.0	0.84
Est contained gold (koz)	7,293	5,210	2,050	702	1,681		2,400
Est contained copper (kt)	1,386	900	486	142.2	340.6		480
Est contained AuE (koz)	14,788	10,100	4,688	1,320	3,161	4,340	4,925

Source: Edison Investment Research, Alkane Resources. Note: *From Newcrest reserve and resource statement, 22 June 2022. Updated gold equivalent resource inventory and grades calculated at US\$1,909/oz Au and US\$8,964/t Cu. **Edison estimates.

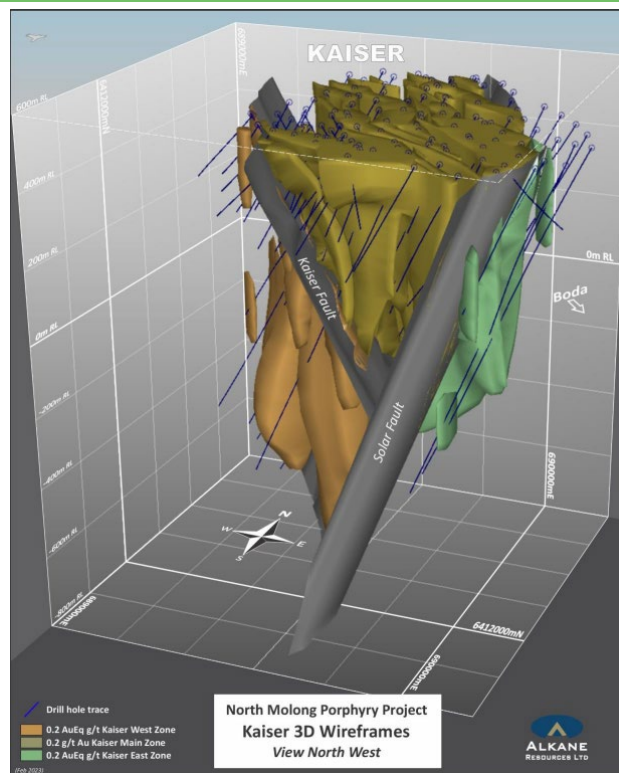
Applying the same US\$24.08/oz valuation benchmark to the maiden estimate of Kaiser's resource would add additional value to Alkane of US\$49.4m (US\$0.08/share or A\$0.12/share). Additional

exploration is now underway at Boda and Kaiser, with an updated resource estimate expected at the end of CY23.

After a company review of comparable Australian deposits, a 0.3g/t AuE cut-off grade was agreed for the prospect, using an open-cut mining method owing to the shallow nature of the ore body. The resource remains open along both depth and strike with further infill and extension drilling to be undertaken, with a view to defining the continuity of the mineralisation at depth to improve confidence in the mineral resource. The current estimation used a nominal drill hole grid of 100m × 100m to depths averaging 400m and up to 800m below surface (c 490mRL). It utilised a total of 130 drill holes for a combined 49,398m (average 380m/hole), including an historical assay component captured by Rio Tinto and Newcrest (1995–2002) from 37 drill holes comprising 3,224m of reverse circulation (RC) drilling and 4,169m of diamond core (average 200m/hole).

During the mineral resource exploration programme, two significant reverse faults were located dislocating the main zone of mineralisation at Kaiser. There is potential for further extensions to higher-grade mineralisation on the down thrust at the Kaiser west zone of mineralisation, south-west of the Kaiser Fault, supported by drilling results released on 25 October 2022, such as hole KAI090, which intersected a bornite-chalcocopyrite crackle breccia, including 122.4m @ 0.40% Cu, 0.42g/t Au from 576.6m and 28m @ 0.84% Cu, 0.92g/t Au from 646m.

Exhibit 5: 3D model of the Kaiser mineralisation and faulting



Source: Alkane Resources

Furthermore, drilling immediately south-west and along strike of the east Kaiser zone has returned promising drill hole results (of note, BOD065: 64m grading 0.43g/t Au, 0.12% Cu from 174m to end of hole).

Updated Boda Two and Three estimates

We have updated our estimated mineralisation of the Boda Two and Three deposits (Exhibit 6). New drilling at Boda Two and Three demonstrates similar grading to Boda, reporting 0.29g/t Au (c 0.10g/t, previously). This updated estimate has been largely facilitated by the increase in average

intercepts of the new holes at 303.8m of 128.4m previously. A summary of the total assay results of the holes drilled to date at the Boda Two and Three prospects is as follows:

Exhibit 6: Boda Two and Three drill hole assay results						
	From (m)	To (m)	Aggregate intercept (m)	Average gold grade (g/t)	Average Cu grade (%)	
KSRC039	136.0	320.0	14.0	0.07	0.13	
BOD052	332.0	511.0	79.0	0.08	0.12	
BOD053	85.0	356.0	213.0	0.12	0.19	
KSDD035	0.0	762.0	305.0	0.12	0.12	
KSRC045	67.0	534.0	210.0	0.12	0.11	
KSRC046	3.0	196.0	34.0	0.09	0.12	
KSRC047	45.0	210.0	44.0	0.10	0.11	
KSDD047	197.0	1,099.0	102.0	0.16	0.14	
KSDD048	94.0	1,314.0	463.9	0.24	0.15	
KSDD049	108.0	1,234.0	704.0	0.17	0.12	
KSDD050	409.0	1,294.0	578.0	0.41	0.04	
BOD061	583.0	1,493.0	636.0	0.29	0.14	
BOD064	355.0	1,348.0	679.0	0.28	0.13	
KSDD039	11.0	1,111.0	374.0	0.37	0.19	
KSDD046	66.0	713.0	147.0	0.17	0.11	
KSDD051	138.0	929.0	543.0	0.19	0.13	
BOD093*	420.0	1,380.0	571.3	0.35	0.14	
BOD095*	295.0	1,100.0	164.9	0.29	0.15	
BOD097*	160.0	791.0	116.0	0.25	0.10	
BOD098*	5.0	352.0	157.0	0.53	0.21	
BOD100*	156.0	376.0	5.0	0.11	0.15	
BOD101*	6.0	229.0	65.0	0.46	0.16	
BOD102*	135.0	215.0	18.0	0.14	0.18	
BOD104*	237.0	424.0	117.0	0.35	0.32	
BOD107*	168.0	215.0	21.0	0.21	0.12	
BOD108*	542.0	1,418.0	339.4	0.32	0.15	
BOD109*	520.0	870.9	173.9	0.56	0.11	
BOD109W*	514.0	1,302.0	405.0	0.29	0.12	
Average			260.0	0.27	0.13	

Source: Alkane Resources. Note: Multiple intersections amalgamated and grades averaged according to the width of the individual intersections. *[New drill core samples released 28 March 2023](#). Some of our estimate for Boda Two may fall within the boundaries of Boda. However, we note that the Boda resource was truncated to the south. Therefore, while the Boda Two resource may encroach into the Boda area, we believe that the degree of double counting will be minimal.

Drill hole results confirm that mineralisation continues for many metres to the south of Boda and possibly much further, with the potential for additional high-grade zones. They also demonstrate an extensive zone of low-grade gold-copper porphyry mineralisation with breccias that zone to higher grades. These breccias are in the process of being targeted. In the meantime, our best estimate of the mineral inventory that may be encompassed by current drilling, based on the drill hole assay data announced so far (and using the same methodology as for Boda), is as follows:

Exhibit 7: Size of Boda Two and Three mineralisation estimates and Kaiser/Boda actuals

Source of underlying data	Edison		Alkane	Actuals		
Characteristic (units)	Boda Two & Three updated (all holes)	Previous Boda Two & Three estimates*	Alkane est. dimensions	Kaiser	Boda	Kaiser plus Boda
Strike (m)	1,006	617	1,100			
Ave est true width (m)	160	108	500			
Est surface area (m ²)	0.16		0.55			
Ave est true depth (m)	644	527	644			
Est volume (m ³)	103.9	37.4	354.5			
Est density (t/m ³)	3	3	3			
Est tonnage (Mt)	311.6	112.3	1,063.4	270.0	624.0	894.0
Est ave gold grade (g/t)	0.27	0.16	0.27	0.24	0.26	0.25
Est ave copper grade (%)	0.13	0.13	0.13	0.18	0.14	0.16
Est ave AuE grade (g/t)	0.47	0.34	0.47	0.54	0.51	0.51
Est contained gold (koz)	2,744	591	9,364	2,050	5,210	7,260
Est contained copper (kt)	411	148	1,404	486	900	1,386
Est contained AuE (koz)	4,693	1,236	16,015	4,688	10,100	14,788

Source: Edison Investment Research, Alkane Resources. Note: *Previous gold equivalent resource inventory and grades calculated at US\$1,825/oz Au and US\$9,279/t Cu; updated estimates calculated at US\$1,909/oz Au and US\$8,964/t Cu (Bloomberg, 28 March 2023).

Our updated best estimate of the mineral inventory contained within the Boda Two and Three prospects is 2,744koz Au at an average grade of 0.27g/t (cf 591koz at 0.16g/t previously). However, if intersections in this area ultimately increase to those implied by the deposit's apparent 1,100m × 500m coincident gold-copper soil and magnetic high footprint with separate conductive IP anomalies, we calculate that a resource several times this size (see column entitled 'Alkane est. dimensions', Exhibit 7) may still be possible. Kaiser and Boda are also included as a comparison to highlight the size of the potential resources within the magnetic footprint.

As before, readers are cautioned that such estimates are very far from being JORC code-compliant and experience would suggest they have an accuracy of approximately ±75%. In this context, we calculate a value for our current resource estimate of 2,744koz at Boda Two and Three of A\$0.164/share, cf A\$0.035/share previously (based on the US\$24.08/oz average valuation of in-situ ounces calculated in our report [Gold stars and black holes](#), published in January 2019). In the event that the ultimate resource delineated expands to 7,900koz (as potentially implied by the dimensions noted in the table above), we calculate a value for Boda Two and Three of A\$0.560/share (ie on a par with, or even exceeding, the resource at Boda). See the 'Combined valuation of Alkane' section on page 14 for more detail on the valuation range of Boda Two and Three depending on the method of valuation.

Northern Molong Porphyry Project background

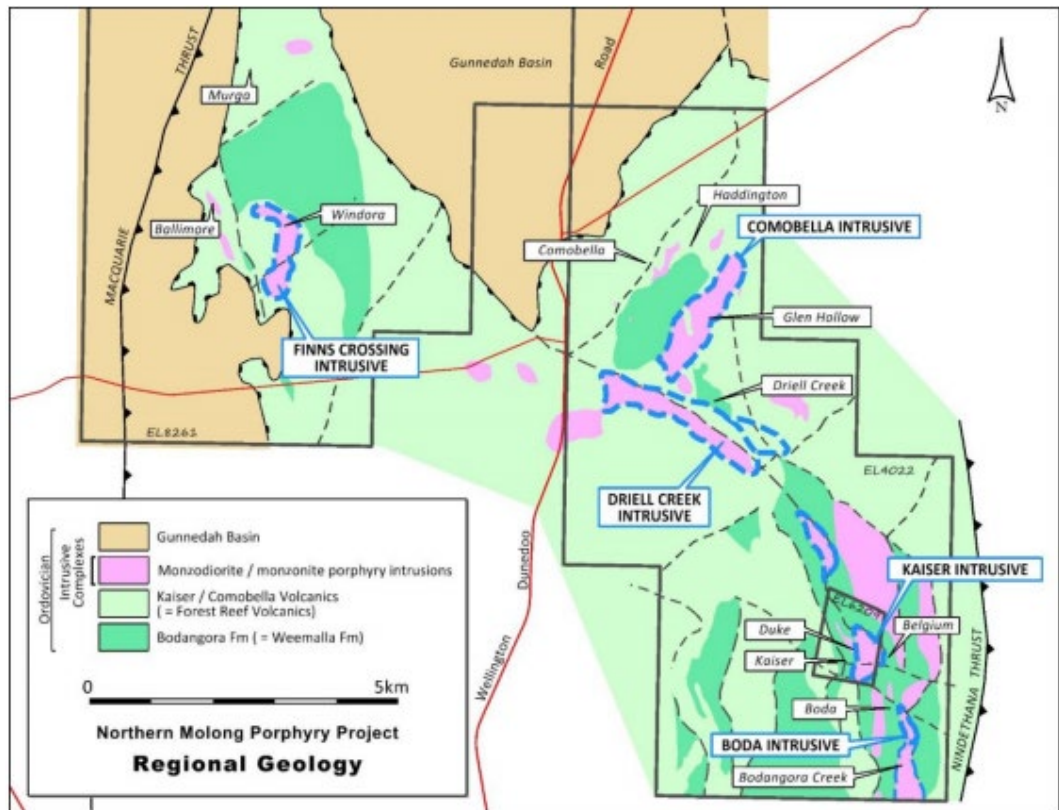
The NMPP is 100% owned by Alkane, covers c 115km² of the northern Molong Volcanic Belt and is around 80km to the north-east of the Tomingley Gold Mine, in Central West NSW (Exhibit 1).

The Kaiser geology and mineralisation style is almost identical to Boda and possibly represents a deeper part of the system thrust over the shallower level Boda deposit. In addition, Alkane's drill results at Kaiser-Boda have shown both a similar stratigraphic sequence and style of alteration and mineralisation to Newcrest's Cadia Province mines 110km to the south. Nevertheless, the Cadia Province mines host a JORC-compliant mineral resource estimate of 37.7Moz Au at a grade of 0.35g/t Au and 8.4Mt of copper at a grade of 0.26% Cu plus silver and molybdenum, and produced 561koz of gold in FY22 for Newcrest at an AISC of minus US\$124/oz Au (net of by-product credits) to generate US\$1,744m in revenue, US\$1,229m in EBITDA, US\$1,296m in operating cash flow and US\$613m in free cash flow.

The NMPP now comprises four exploration licences, Bodangora, Boda South, Kaiser and Finns Crossing, within which Alkane has defined five magnetic anomalies interpreted to be intrusive

complexes, denoted Kaiser, Boda, Comobella, Driell Creek and Finns Crossing, all within a 15km north-west to south-east trending corridor (Exhibit 8) and all close to road, rail, gas and water infrastructure. Significantly, the Boda anomaly correlates with a historical IP survey completed by CRA Exploration (now Rio Tinto) over the Boda Intrusive Complex (BIC). This survey showed a strong, high-chargeable anomaly along the northern edge of the survey area coincident with the magnetic anomaly, as a result of which Alkane subsequently completed a 70-line kilometre IP survey over the 6km strike extensions of the BIC to generate drilling targets.

Exhibit 8: Northern Molong Porphyry Project regional geology



Source: Alkane Resources

Four of these targets have now been drill tested: Kaiser, Boda, Comobella and Glen Hollow. Exploration has identified the margins of major monzonite intrusive complexes that provide the primary control for porphyry and epithermal mineralisation, with significant intersections reported along the western margin of both the Kaiser Intrusive Complex and the Boda Intrusive Complex. Specifically, gold mineralisation has been discovered at Kaiser, Boda and Glen Hollow (which is part of Comobella), with recent drilling identifying multiple phases of monzonite to monzogabbro intrusion that are plumbing a north-west structural corridor hosting extensive (calc-)potassic alteration and significant gold-copper mineralisation.

As such, the Kaiser porphyry system manifests in a series of near-vertical, north-west striking, intrusive related breccias hosted within a thick sequence of andesite lavas. Magmatic-hydrothermal breccias appear to be the focus for the calc-potassic alteration and gold-copper mineralisation at Kaiser, where the highest gold and copper grades are related to the transition from intrusive breccias to hydrothermal breccias. The majority of brecciation is found as 'crackle breccia', which can either have a hydrothermal matrix typically composed of calcite + actinolite + pyrite + magnetite + chalcopyrite + bornite or an igneous matrix. Copper mineralisation is also observed throughout the prospect outside the magmatic hydrothermal breccias within calcite + quartz + epidote dominant veins and as disseminations and patches, often intergrown with epidote. Locally, copper has been identified along the Kaiser Fault zone in thicknesses up to 10m wide. As shown in Exhibit 5, two

significant reverse faults bound and dislocate the main zone of mineralisation at Kaiser, where the west dipping solar fault thrusts the Kaiser main zone over the Kaiser east zone. Located immediately north-west of Boda, the east Kaiser zone comprises potassic to inner propylitic alteration with up to 10% pyrite by volume, which can be found to hold gold grades over tens of metres and can average from 0.2g/t to 0.3g/t in grade with occasional thin intervals of >10g/t Au.

Half-year results and FY23 guidance

H123 financials and FY23 guidance

Since our last [outlook note](#), Alkane has announced operational results and financial results for H123, including Q323 production figures. Additionally, on 5 January 2023, Alkane upgraded its FY23 guidance for gold production from 55,000–60,000oz to 62,000–70,000oz at an AISC of A\$1,550–1,800/oz, down from previous guidance of A\$1,650–1,900/oz. This follows strong production at Tomingley of 37,790oz in H123 and Q323 production of 16,641oz, totalling a combined 54,431oz year to date. Management stated on 5 April that full year production will be at the upper end of its full year guidance. However, given that Alkane's production has been tracking to outperform guidance (as shown in Exhibit 9, below) we estimate a lower level of production in H223, staying in line with the updated overall FY23 gold production and AISC guidance. A summary of Alkane's quarterly results to date for FY23 (including our estimates for Q323 and Q423) is as follows:

Exhibit 9: Tomingley quarterly operating results, Q421–Q423e

	Q421	Q122	Q222	Q322	Q422	Q123	Q223	Q323e	Q423e	FY23e
Ore milled (t)	201,437	247,884	257,384	261,675	262,264	270,618	239,078	264,180	289,282	1,063,158
Head grade (g/t)	2.16	1.79	2.42	2.27	3.23	2.75	2.56	2.24	1.92	2.35
Contained gold (g/t)	13,989	14,266	20,026	19,098	27,236	23,927	19,678	19,040	17,813	80,457
Recovery (%)	87.1	85.1	85.4	79.3	84.9	87.0	84.6	87.4	87.4	87.0
Gold poured (oz)	13,500	12,141	16,935	14,635	23,091	19,489	18,301	16,641**	15,568	70,000
Gold sold (oz)	11,526	13,359	17,754	14,635	21,135	18,344	17,855	16,641	15,568	68,409
Gold price (US\$/oz)	1,814	1,790	1,796	1,878	1,873	1,727	1,698	1,894*	1,986*	1,824
Forex (A\$/US\$)	1.2989	1.3613	1.3728	1.3806	1.4011	1.4646	1.5223	1.4630	1.4883	1.4845
Average realised price (A\$/oz)	2,401	2,467	2,475	2,437	2,481	2,547	2,618	2,772	2,956	2,723
C1 site cash costs (A\$/oz)	1,199	1,531	1,089	1,193	940	1,095	1,103	1,406	1,556	1,277
AISC (A\$/oz)	1,669	1,961	1,338	1,598	1,150	1,191	1,323	1,793	1,974	1,550

Source: Alkane Resources, Edison Investment Research. Note: *Excludes forward sales. **Reported figures.

As a result of Alkane's operational results to date and its H123 financial results, we have adjusted our FY23 financial forecasts to those shown below in Exhibit 10.

Exhibit 10: Alkane underlying* income statement, H121–H223e (A\$m, unless otherwise indicated)

	H121*	H221	H122	H222	H123	H223e	FY23e	FY23e (prior)
Revenue	65.252	62.581	76.911	88.099	93.465	89.343	182.808	140.056
Cash cost of sales	(24.087)	(21.226)	(35.423)	(32.104)	(34.789)	(48.915)	(83.704)	(63.529)
Gross profit before depreciation	41.165	41.355	41.488	55.995	58.676	40.428	99.104	76.528
Other net income	0.350	3.015	0.808	0.628	0.216		0.216	(0.090)
Administration expenses	(7.215)	(4.778)	(5.504)	(4.481)	(6.589)	(6.589)	(13.178)	(7.367)
Exploration and evaluation expenditure expensed		0.000			0.000		0.000	0.000
Exceptional item		0.000	48.334	0.000	0.000		0.000	0.000
Gain/(loss) on disposal	(0.002)	(0.955)	0.000	(13.909)	0.000	0.000	0.000	0.000
Share of profit/(loss) of associates	(0.473)	(0.397)	(0.020)		0.000		0.000	
Depreciation	(9.226)	(12.028)	(14.171)	(20.942)	(17.715)	(19.985)	(37.700)	32.082
EBIT/(LBIT)	24.599	26.212	70.935	17.291	34.588	13.854	48.442	36.989
Interest income/(cost)	(0.495)	(2.246)	(1.318)	(0.344)	0.236	0.471	0.707	0.859
Loss after tax from discontinued operations		0.000		0.000		0.000	0.000	0.000
PBT/(LBT)	24.104	23.966	69.617	16.947	34.824	14.326	49.150	37.848
Income tax	7.485	7.018	21.122	4.927	10.131	4.298	14.429	11.354
Effective tax rate (%)	31.1	29.3	30.3	29.1	29.1	30.0	29.4	30.0
Profit/(loss) for the year	16.619	16.948	48.495	12.020	24.693	10.028	34.721	26.493
Non-controlling interest	0.189	(0.189)					0.000	0.000
Minority interest (%)	1.1	(1.1)					0.0	0.0
Adj. profit/(loss) for the year attributable to shareholders	16.430	17.137	48.495	12.020	24.693	10.028	34.721	26.493
Basic adjusted EPS (A\$/share)	0.0277	0.0288	0.0814	0.0202	0.0412	0.0168	0.0582	0.0445

Source: Alkane Resources, Edison Investment Research. Note: *Excludes 'profit/(loss) after income tax expense from discontinued operations' of A\$22,134k relating to the demerger of Australian Strategic Materials.

Genesis Minerals sale

In its interim report, Alkane sold 4.6m shares (December 2022) in Genesis for sale proceeds of A\$5.9m, and retained roughly 7m shares. In August 2022, it bought c 4.5m shares in Calidus at a cost of A\$3.0m. Together with its holding in Sky Metals, we estimate the value of Alkane's listed holdings, as at the time of this note, to be as follows:

Exhibit 11: Alkane Resources listed investment holdings

Holding	Ticker	Interest (%)	No. of shares held	Share price (A\$/share)	Valuation (A\$)	Valuation (US\$)	Valuation (A\$/share)	Valuation (US\$/share)
Calidus	ASX.CAI	9.8	42,780,356	0.23	9,625,580	6,467,500	0.0161	0.0109
Genesis	ASX.GMD	1.7	7,170,484	1.1	7,887,532	5,299,693	0.0132	0.0089
Sky Metals	ASX.SKY	1.9	7,000,000	0.04	280,000	188,134	0.0005	0.0003
Total					17,793,113	11,955,327	0.0297	0.0201

Source: Edison Investment Research, Alkane Resources. (Priced 05 April 2023)

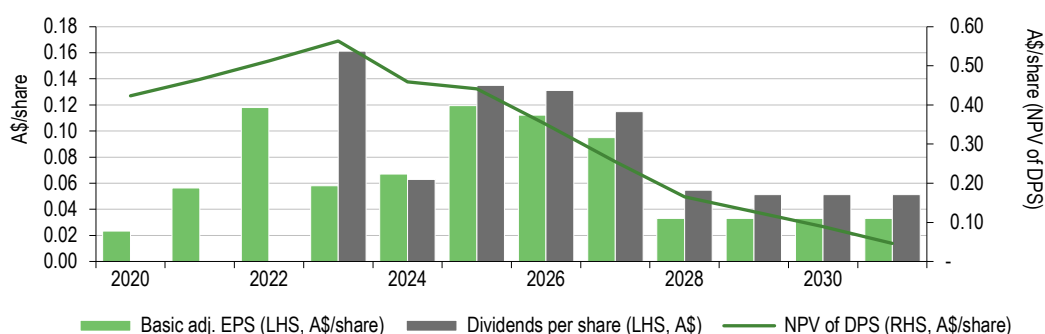
Alkane/Tomingley valuation

As in previous reports, our valuation of Tomingley is based on the present value of our forecast life of operations dividend stream to investors in Alkane as a result of the execution of the Tomingley mine plan (albeit now extended), discounted back to present value at a rate of 10% per year, excluding exploration expenditure.

In the wake of the H123 financial results, our valuation of the dividend stream potentially available to Alkane shareholders from its immediate Tomingley operations has risen 10.8% to A\$0.563/share (cf A\$0.508/share in July 2022 previously). However, to this must also be added the value of residual resources at the end of the life of operations, which we now estimate to be 834koz (cf 1.0Moz previously) with a current value of US\$20.1m (A\$29.9m), or A\$0.050/share, to bring our total valuation of Tomingley to A\$0.613/share (cf A\$0.567share previously) including cash.

A comparison of our updated expectations for Alkane's EPS and DPS stream and valuation from the present to the end of its life of operations is shown in Exhibit 12, below.

Exhibit 12: Alkane life of operations' forecast EPS and (maximum potential) DPS (A\$/share)



Source: Edison Investment Research.

Note that the DPS columns in Exhibit 12 represent theoretical, maximum potential dividends that we believe could be paid by the company, rather than actual dividends forecast, and are used solely for valuation purposes. In reality, and given the likely capital requirements of the NMPP, we would expect the majority of any cash flows that could be used for dividends to instead be reinvested into the business, either in the form of exploration or capital expenditure.

Combined valuation of Alkane

A summary of our updated valuation of Alkane in the light of both the announcement of an inferred resource estimation at Kaiser and H123, Q123 and Q223 financial and operating results (see Exhibits 9 and 10) is as follows:

Exhibit 13: Alkane Resources valuation summary (Australian cents per share)

Asset	Previous			Current/updated		
	Existing assets' valuation	Contingent assets' valuation	Potential total	Existing assets' valuation	Contingent assets' valuation	Potential total
Tomingley plus cash	57		57	61		61
Roswell underground		8	8		8	8
El Paso and ongoing Tomingley extension exploration		2	2		2	2
Investments in Calidus and Genesis*	6		6	3		3
Boda exploration	31		31	31		31
Boda Two & Three exploration		4-27	4-27		16-56	16-56
Kaiser & Duke exploration		4-10	4-10	12		12
Spot gold price level of long-term forecast		12	12		49	49
Total	94	30-59	153	107	75-115	222

Source: Edison Investment Research. Note: *At prevailing share prices of A\$0.24/share for Calidus and A\$1.05/share for Genesis. Totals may not add up owing to rounding.

A number of features of the valuation are noteworthy:

- The variation of valuation for Boda Two and Three exploration is described in [Coming to fruition](#), published on 7 July 2022. Differing methods of estimation generate a range of valuations (drill results return A\$0.16/share cf dimensions estimates at A\$0.56/share). Moreover, readers are reminded that such estimates are very far from being JORC code compliant and experience would suggest they have accuracy of approximately $\pm 75\%$.
- The proportion of our valuation accounted for by 'existing assets' continues to increase; this is primarily driven by the recently announced inferred mineral resource at Kaiser. As such, Alkane's share price of A\$0.815 could be interpreted as being more than 100% covered by the

value of 'existing assets', with no value whatsoever currently afforded to the company's share price by investors for 'contingent assets'. In this context, we also note that the May 2022 announcement of the resource increase at Roswell increases the probability that our Roswell underground valuation – currently included as a contingent asset – will shift into existing assets by the end of CY23.

- Contingent assets (now including the NMPP as a potential operating asset) also see a material increase in valuation as a consequence of rising metals prices, affecting the spot gold price level of long-term forecast valuation as the margin between spot prices and our long-term forecast grows with short-term increases in the gold price.

Financials

Alkane had A\$70.6m in net cash on its balance sheet at end H123, comprising A\$86.1m in cash and A\$15.5m in external borrowings. According to its 5 April Tomingley Q3 production update, Alkane had A\$92.9m in unaudited cash including A\$6.5m of bullion on hand and, we estimate, A\$17.8m in listed investments in Calidus, Genesis and Sky Metals. Excluding cash flows from financing activities, Alkane generated A\$43.8m in cash from operating activities in H123 compared to A\$86.5m in FY22. During H123 Alkane invested A\$25.3m in exploration as it continues to fund its Kaiser and Boda deposits to increase the size accuracy of their resource estimates plus a further A\$13.4m for property plant and equipment largely relating to its Tomingley extension project. Additionally, the company generated A\$49.4m throughout FY22 from liquidating a portion of its assets in Genesis (c 27m of its shares sold over Q2/Q322). Hereafter, we estimate that free cash flow from operations will continue to contribute meaningfully to capex as the Tomingley mine extension is constructed (following the recent project approval) and further exploration at the Kaiser-Boda deposits. To de-risk the completion of these targets, Alkane has secured financing via A\$50m of debt funding from Macquarie Bank, together with 100koz of gold hedging at a weighted average price of A\$2,825/oz (US\$1,909/oz). Based on our current estimates, it seems unlikely that the company will require the debt facility at gold price forecasts throughout the period (see further information below).

Macquarie finance facility

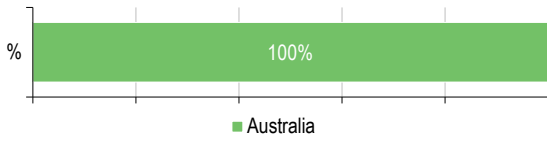
On 22 February 2023, Alkane announced that it had secured a A\$50m financing facility with Macquarie Bank, which is expected to fund the Tomingley Gold Extension Project. This facility is an amendment to a pre-existing agreement used for hedging. Although the key terms are confidential, management has stated that there is an agreement to sell 100koz of gold production across the debt service period (March 2024 to December 2026), at a weighted average price of A\$2,825/oz (US\$1,909/oz at a current FX rate of A\$1.4971/US\$: Bloomberg, 28 March 2023), to be used for revenue protection purposes (c 40% of expected production over the period). The first debt drawdown is permitted on approval of the mining lease, expected in mid-2023, with the loan tenor running to 31 December 2026. The terms of this facility are confidential but are merely an amendment to the existing facility agreement that has been in place with Macquarie for several years for the purpose of hedging.

Regarding our forecasts, we have continued to model hedges on a realised gains basis, such that any gains/(losses) will be intrinsically linked to the ever-moving gold price along with our current long-term forecast as opposed to a time value. In line with previously modelled debt structures, we report any profit or loss pertaining to hedges in the revenue line of the financial summary below.

Exhibit 14: Financial summary

AS\$'000s	2018	2019	2020	2021	2022	2023e	2024e	2025e
Year end 30 June	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
INCOME STATEMENT								
Revenue	129,973.6	93,994.9	72,549.0	127,833.0	165,010.0	182,808.3	166,534.8	276,402.2
Cost of Sales	(51,080.9)	(53,656.4)	(32,868.0)	(45,313.0)	(67,527.0)	(83,703.9)	(85,327.0)	(150,500.0)
Gross Profit	78,892.7	40,338.5	39,681.0	82,520.0	97,483.0	99,104.4	81,207.8	125,902.2
EBITDA	70,378.7	32,971.7	29,412.0	70,527.0	87,498.0	85,926.4	68,029.8	112,724.2
Normalised operating profit	31,658.3	25,808.8	20,171.0	49,940.0	53,821.0	48,442.4	57,370.8	102,065.2
Reported operating profit	31,658.3	25,808.8	20,171.0	49,940.0	53,821.0	48,442.4	57,370.8	102,065.2
Net Interest	(579.0)	(418.8)	389.0	(2,741.0)	(1,662.0)	707.4	1,147.2	1,574.7
Joint ventures & associates (post tax)	0.0	0.0	0.0	(870.0)	(20.0)	0.0	0.0	0.0
Exceptionals	0.0	0.0	(646.0)	1,741.0	48,334.0	0.0	0.0	0.0
Profit before tax (norm)	31,079.3	25,390.0	20,560.0	46,329.0	52,139.0	49,149.8	58,518.0	103,639.9
Profit before tax (reported)	31,079.3	25,390.0	19,914.0	48,070.0	100,473.0	49,149.8	58,518.0	103,639.9
Reported tax	(6,919.9)	(2,266.1)	(6,569.0)	(14,503.0)	(30,222.0)	(14,428.7)	(17,555.4)	(31,092.0)
Profit after tax (norm)	24,159.4	23,123.9	13,991.0	31,826.0	21,917.0	34,721.0	40,962.6	72,547.9
Profit after tax (reported)	24,159.4	23,123.9	13,345.0	33,567.0	70,251.0	34,721.0	40,962.6	72,547.9
Minority interests	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Discontinued operations	0.0	0.0	(583.0)	0.0	0.0	0.0	0.0	0.0
Net income (normalised)	24,159.4	23,123.9	13,991.0	31,826.0	21,917.0	34,721.0	40,962.6	72,547.9
Net income (reported)	24,159.4	23,123.9	12,762.0	33,567.0	70,251.0	34,721.0	40,962.6	72,547.9
Basic average number of shares outstanding (m)	506	506	547	595	596	597	599	599
EPS – basic normalised (A\$)	0.05	0.05	0.03	0.05	0.04	0.06	0.07	0.12
EPS – diluted normalised (A\$)	0.05	0.04	0.02	0.05	0.04	0.06	0.07	0.12
EPS – basic reported (A\$)	0.05	0.05	0.02	0.06	0.12	0.06	0.07	0.12
Dividend (A\$)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Revenue growth (%)	10.3	(-27.7)	(-22.8)	76.2	29.1	10.8	(-8.9)	66.0
Gross margin (%)	60.7	42.9	54.7	64.6	59.1	54.2	48.8	45.6
EBITDA margin (%)	54.1	35.1	40.5	55.2	53.0	47.0	40.9	40.8
Normalised operating margin (%)	24.4	27.5	27.8	39.1	32.6	26.5	34.4	36.9
BALANCE SHEET								
Fixed assets	138,275.0	172,196.0	129,077.0	203,161.0	257,497.0	282,338.0	295,963.0	295,088.0
Intangible assets	93,136.0	103,894.0	32,745.0	57,794.0	98,498.0	118,498.0	128,498.0	138,498.0
Tangible assets	36,266.0	51,038.0	62,322.0	99,411.0	107,386.0	115,086.0	118,711.0	107,366.0
Investments & other	8,873.0	17,264.0	34,010.0	45,956.0	51,613.0	48,754.0	48,754.0	48,754.0
Current assets	93,306.0	76,501.0	59,096.0	33,054.0	98,190.0	103,046.8	130,517.8	209,297.4
Stocks	19,153.0	4,816.0	7,647.0	11,648.0	17,952.0	7,011.8	6,387.6	10,601.7
Debtors	2,030.0	1,998.0	2,940.0	1,894.0	2,344.0	4,507.6	4,106.3	6,815.4
Cash & cash equivalents	72,003.0	69,582.0	48,337.0	18,991.0	77,894.0	91,527.4	120,023.8	191,880.3
Other	120.0	105.0	172.0	521.0	0.0	0.0	0.0	0.0
Current liabilities	(27,430.0)	(21,762.0)	(14,238.0)	(18,179.0)	(25,297.0)	(18,468.8)	(18,602.2)	(23,958.9)
Creditors	(9,299.0)	(8,007.0)	(9,425.0)	(11,082.0)	(13,708.0)	(6,879.8)	(7,013.2)	(12,369.9)
Tax and social security	(6,929.0)	(9,317.0)	0.0	0.0	(1,001.0)	(1,001.0)	(1,001.0)	(1,001.0)
Short-term borrowings	0.0	0.0	(2,090.0)	(3,294.0)	(5,930.0)	(5,930.0)	(5,930.0)	(5,930.0)
Other	(11,202.0)	(4,438.0)	(2,723.0)	(3,803.0)	(4,658.0)	(4,658.0)	(4,658.0)	(4,658.0)
Long-term liabilities	(13,647.0)	(13,059.0)	(19,522.0)	(26,471.0)	(61,516.0)	(61,516.0)	(61,516.0)	(61,516.0)
Long-term borrowings	0.0	0.0	(4,515.0)	(5,922.0)	(9,116.0)	(9,116.0)	(9,116.0)	(9,116.0)
Other long-term liabilities	(13,647.0)	(13,059.0)	(15,007.0)	(20,549.0)	(52,400.0)	(52,400.0)	(52,400.0)	(52,400.0)
Net assets	190,504.0	213,876.0	154,413.0	191,565.0	268,874.0	305,400.0	346,362.6	418,910.6
Minority interests	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shareholders' equity	190,504.0	213,876.0	154,413.0	191,565.0	268,874.0	305,400.0	346,362.6	418,910.6
CASH FLOW								
Operating cash flow before WC and tax	4	33,135.8	28,173.0	72,065.0	137,248.0	86,142.4	68,245.8	112,940.2
Working capital	(9,498.0)	(5,172.0)	(3,481.0)	(2,840.0)	(776.0)	1,948.3	1,158.9	(1,566.5)
Exceptional & other	1,277.0	1,454.0	3,704.0	4,632.0	(48,334.0)	0.0	0.0	0.0
Tax	(6,919.9)	7,047.9	(249.0)	0.0	0.0	(14,428.7)	(17,555.4)	(31,092.0)
Net operating cash flow	54,800.5	36,465.7	28,147.0	73,857.0	88,138.0	73,662.0	51,849.2	80,281.8
Capex	(9,224.0)	(19,621.0)	(46,122.0)	(59,477.0)	(42,581.0)	(45,400.0)	(14,500.0)	0.0
Acquisitions/disposals	0.0	4.0	(20,068.0)	1,522.0	619.0	0.0	0.0	0.0
Net interest	(579.0)	(418.8)	389.0	(2,741.0)	(1,662.0)	707.4	1,147.2	1,574.7
Equity financing	(5.0)	0.0	39,442.0	(31.0)	(4.0)	1,805.0	0.0	0.0
Exploration and Evaluation	(10,969.0)	(11,578.0)	(20,132.0)	(26,642.0)	(40,935.0)	(20,000.0)	(10,000.0)	(10,000.0)
Other	(4,317.0)	(7,442.0)	(9,522.0)	(18,129.0)	49,659.0	2,859.0	0.0	0.0
Net cash flow	29,706.4	(2,590.1)	(27,866.0)	(31,641.0)	53,234.0	13,633.4	28,496.5	71,856.5
Opening net debt/(cash)	(41,969.0)	(72,003.0)	(69,582.0)	(41,732.0)	(9,775.0)	(62,848.0)	(76,481.4)	(104,977.8)
FX	311.6	169.1	0.0	0.0	0.0	0.0	0.0	0.0
Other non-cash movements	16.0	0.0	16.0	(316.0)	(161.0)	0.0	0.0	0.0
Closing net debt/(cash)	(72,003.0)	(69,582.0)	(41,732.0)	(9,775.0)	(62,848.0)	(76,481.4)	(104,977.8)	(176,834.3)

Source: Company sources, Edison Investment Research

Contact details Level 4 66 Kings Park Road West Perth, WA 6005 Australia +61 8 9227 5677 www.alkane.com.au	Revenue by geography  <p>A horizontal bar chart with a single green bar representing 100% of the revenue from Australia. The y-axis is labeled with a percentage sign (%). A legend below the chart shows a green square next to the word 'Australia'.</p>																
Management team																	
Non-executive chairman: Ian Gandel Mr Gandel is a Melbourne business person with experience in retail management and retail property. He was a director of the Gandel Retail Trust and was involved in the construction and leasing of Gandel shopping centres. Previously he was involved in the Priceline retail chain and was the CEO of a chain of serviced offices. Through his private investment vehicles, Mr Gandel has invested in the mining industry since 1994 and is a substantial holder in a number of publicly listed Australian companies. He holds and explores tenements in Western Australia, both in his own right and via his private investment vehicles. He is a non-executive chairman of Alliance Resources and Australian Strategic Materials.	Managing Director: Nic Earner Mr Earner is a chemical engineer and graduate of the University of Queensland with 25 years' experience in the mining industry. He joined Alkane as COO in August 2013, prior to which he spent four years at Straits Resources, 11 years in Rio Tinto's Australian coal division and eight at BHP's Olympic Dam mine, where he managed the concentrator and hydromet functions, which included substantial milling, leaching and solvent extraction circuits. His other positions included production superintendent (smelting) and senior engineer (process control, instrumentation and communications). He is also a non-executive director of Australian Strategic Materials.																
Technical Director: Ian Chalmers Mr Chalmers is a geologist and graduate of the Western Australian Institute of Technology (Curtin University) and has an MSc from the University of Leicester in the UK. He has worked in the mining and exploration industry for more than 50 years, during which time he has had experience in all facets of exploration and mining. Mr Chalmers was MD of Alkane for 11 years, before making way for Mr Earner in 2017. During that time, he was responsible for the discovery of the gold deposits immediately to the south of Tomingley and the porphyry gold-copper body at Boda. He is also a non-executive director of Australian Strategic Materials.	Chief Financial Officer: James Carter A certified public accountant and corporate governance professional with more than 20 years' experience in the mining industry, Mr Carter has held CFO roles for the past 15 years in a number of publicly listed mining companies. His experience has primarily involved debt and equity capital market transactions, IPOs, treasury management, tax strategy, M&A and corporate governance.																
Principal shareholders																	
	<table border="1"> <thead> <tr> <th></th> <th>(%)</th> </tr> </thead> <tbody> <tr> <td>Ian J Gandel Esq</td> <td>25.32</td> </tr> <tr> <td>Van Eck Associates Corporation</td> <td>3.79</td> </tr> <tr> <td>Lilycreek Pty Ltd</td> <td>2.76</td> </tr> <tr> <td>Magnabay Pty Ltd</td> <td>2.76</td> </tr> <tr> <td>Aubumvalley Pty Ltd</td> <td>2.76</td> </tr> <tr> <td>Invesco Advisers Inc.</td> <td>1.94</td> </tr> <tr> <td>The Vanguard Group</td> <td>1.89</td> </tr> </tbody> </table>		(%)	Ian J Gandel Esq	25.32	Van Eck Associates Corporation	3.79	Lilycreek Pty Ltd	2.76	Magnabay Pty Ltd	2.76	Aubumvalley Pty Ltd	2.76	Invesco Advisers Inc.	1.94	The Vanguard Group	1.89
	(%)																
Ian J Gandel Esq	25.32																
Van Eck Associates Corporation	3.79																
Lilycreek Pty Ltd	2.76																
Magnabay Pty Ltd	2.76																
Aubumvalley Pty Ltd	2.76																
Invesco Advisers Inc.	1.94																
The Vanguard Group	1.89																

General disclaimer and copyright

This report has been commissioned by Alkane Resources and prepared and issued by Edison, in consideration of a fee payable by Alkane Resources. Edison Investment Research standard fees are £60,000 pa for the production and broad dissemination of a detailed note (Outlook) following by regular (typically quarterly) update notes. Fees are paid upfront in cash without recourse. Edison may seek additional fees for the provision of roadshows and related IR services for the client but does not get remunerated for any investment banking services. We never take payment in stock, options or warrants for any of our services.

Accuracy of content: All information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable, however we do not guarantee the accuracy or completeness of this report and have not sought for this information to be independently verified. Opinions contained in this report represent those of the research department of Edison at the time of publication. Forward-looking information or statements in this report contain information that is based on assumptions, forecasts of future results, estimates of amounts not yet determinable, and therefore involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of their subject matter to be materially different from current expectations.

Exclusion of Liability: To the fullest extent allowed by law, Edison shall not be liable for any direct, indirect or consequential losses, loss of profits, damages, costs or expenses incurred or suffered by you arising out of or in connection with the access to, use of or reliance on any information contained on this note.

No personalised advice: The information that we provide should not be construed in any manner whatsoever as, personalised advice. Also, the information provided by us should not be construed by any subscriber or prospective subscriber as Edison's solicitation to effect, or attempt to effect, any transaction in a security. The securities described in the report may not be eligible for sale in all jurisdictions or to certain categories of investors.

Investment in securities mentioned: Edison has a restrictive policy relating to personal dealing and conflicts of interest. Edison Group does not conduct any investment business and, accordingly, does not itself hold any positions in the securities mentioned in this report. However, the respective directors, officers, employees and contractors of Edison may have a position in any or related securities mentioned in this report, subject to Edison's policies on personal dealing and conflicts of interest.

Copyright: Copyright 2023 Edison Investment Research Limited (Edison).

Australia

Edison Investment Research Pty Ltd (Edison AU) is the Australian subsidiary of Edison. Edison AU is a Corporate Authorised Representative (1252501) of Crown Wealth Group Pty Ltd who holds an Australian Financial Services Licence (Number: 494274). This research is issued in Australia by Edison AU and any access to it, is intended only for "wholesale clients" within the meaning of the Corporations Act 2001 of Australia. Any advice given by Edison AU is general advice only and does not take into account your personal circumstances, needs or objectives. You should, before acting on this advice, consider the appropriateness of the advice, having regard to your objectives, financial situation and needs. If our advice relates to the acquisition, or possible acquisition, of a particular financial product you should read any relevant Product Disclosure Statement or like instrument.

New Zealand

The research in this document is intended for New Zealand resident professional financial advisers or brokers (for use in their roles as financial advisers or brokers) and habitual investors who are "wholesale clients" for the purpose of the Financial Advisers Act 2008 (FAA) (as described in sections 5(c) (1)(a), (b) and (c) of the FAA). This is not a solicitation or inducement to buy, sell, subscribe, or underwrite any securities mentioned or in the topic of this document. For the purpose of the FAA, the content of this report is of a general nature, is intended as a source of general information only and is not intended to constitute a recommendation or opinion in relation to acquiring or disposing (including refraining from acquiring or disposing) of securities. The distribution of this document is not a "personalised service" and, to the extent that it contains any financial advice, is intended only as a "class service" provided by Edison within the meaning of the FAA (i.e. without taking into account the particular financial situation or goals of any person). As such, it should not be relied upon in making an investment decision.

United Kingdom

This document is prepared and provided by Edison for information purposes only and should not be construed as an offer or solicitation for investment in any securities mentioned or in the topic of this document. A marketing communication under FCA Rules, this document has not been prepared in accordance with the legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research.

This Communication is being distributed in the United Kingdom and is directed only at (i) persons having professional experience in matters relating to investments, i.e. investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "FPO") (ii) high net-worth companies, unincorporated associations or other bodies within the meaning of Article 49 of the FPO and (iii) persons to whom it is otherwise lawful to distribute it. The investment or investment activity to which this document relates is available only to such persons. It is not intended that this document be distributed or passed on, directly or indirectly, to any other class of persons and in any event and under no circumstances should persons of any other description rely on or act upon the contents of this document.

This Communication is being supplied to you solely for your information and may not be reproduced by, further distributed to or published in whole or in part by, any other person.

United States

Edison relies upon the "publishers' exclusion" from the definition of investment adviser under Section 202(a)(11) of the Investment Advisers Act of 1940 and corresponding state securities laws. This report is a bona fide publication of general and regular circulation offering impersonal investment-related advice, not tailored to a specific investment portfolio or the needs of current and/or prospective subscribers. As such, Edison does not offer or provide personal advice and the research provided is for informational purposes only. No mention of a particular security in this report constitutes a recommendation to buy, sell or hold that or any security, or that any particular security, portfolio of securities, transaction or investment strategy is suitable for any specific person.