ALKANE
RESOURCES LTD
ABN 35 000 689 216

Initial San Antonio Inferred Resource
Lifts Tomingley Corridor Resources To Over 1 Million Ounces of Gold

- ➢ The drilling completed at the San Antonio Deposit has been modelled and demonstrates an Inferred Mineral Resource using a 0.5g/t gold cut-off of:

  7.92 million tonnes grading 1.78g/t gold (453,000oz)

- ➢ Resources at Tomingley Gold Operations (TGO) and the exploration tenements to the immediate south of the mine that include the San Antonio Deposit (4km from TGO) are now in excess of one million ounces of contained gold:

  Tomingley Underground: 1.36 Mt @ 3.8 g/t Au for 165 koz

  Roswell Deposit: 7.02 Mt @ 1.97 g/t Au for 445 koz

  San Antonio Deposit: 7.92 Mt @ 1.78 g/t Au for 453 koz

  Peak Hill Underground: 1.02 Mt @ 3.29 g/t Au for 108 koz

- ➢ The Resources are now being prepared into conceptual mine plans that can be used to progress mining approvals that would allow ore from the Roswell and San Antonio Deposits to be fed into the TGO one million tonne per annum processing facility. Alkane is seeking to demonstrate a continued mine life at TGO in excess of 10 years.

- ➢ NSW State Government Approval has already been sought for an underground exploration drive to the Roswell Deposit, with equipment purchased, personnel recruited and land acquired in order to facilitate rapid development on approval.

- ➢ Further drilling at San Antonio and Roswell is underway to reduce the drill hole spacing in order to convert Inferred Resources to Indicated and Measured status.

- ➢ Scope exists to expand the San Antonio Resources at depth with the drilling only defining resources to 250m from surface due to drilling difficulties.

- ➢ Exploration Drilling is continuing in the prospective gold corridor to the south of San Antonio.

Tomingley Gold Project
Alkane Resources Ltd 100%

The Tomingley Gold Project (TGP) covers an area of approximately 440km^2 stretching 60km north-south along the Newell Highway from Tomingley in the north, through Peak Hill and almost to Parkes in the south. The TGP contains Alkane's currently operating Tomingley Gold Operations (TGO), an open pit mine with a 1Mtpa processing facility that is transitioning to underground.

Over the previous two years Alkane has conducted an extensive regional exploration program with the objective of defining additional resources that have the potential to be mined either via open pit or underground operations and fed to TGO. The program yielded broad, shallow high grade intercepts that demonstrate potential for material project life extension in excess of 10 years and show that a return to open pit mining and/or underground extension is possible with appropriate resource confirmation, landholder agreement and regulatory approvals.

With the addition of the Inferred Resource at San Antonio the Resources at TGO and the exploration tenements to the immediate south of the mine down to Peak Hill are now in excess of 1 million ounces of contained gold:

- Tomingley Underground: 1.36 Mt @ 3.8 g/t Au for 165 koz (Measured, Indicated and Inferred Mineral Resource – ASX Announcement 23 September 2019)

- Roswell Deposit: 7.02 Mt @ 1.97 g/t Au for 445 koz (Inferred Mineral Resource – ASX Announcement 28 January 2020)

- San Antonio Deposit: 7.92 Mt @ 1.78 g/t Au for 453 koz (Inferred Mineral Resource – this Announcement)

- Peak Hill Underground: 1.02 Mt @ 3.29 g/t Au for 108 koz (Inferred Mineral Resource – ASX Announcement 18 October 2018)

The Roswell and San Antonio Resources are now being prepared into conceptual mine plans that can be used to progress NSW State Government mining approvals that would allow ore from the Roswell and San Antonio Deposits to be fed into the TGO processing facility. NSW State Government approval has already been sought for an underground exploration drive to the Roswell Deposit, with equipment purchased, personnel recruited and land acquired in order to facilitate rapid development on approval.


Geology

The Tomingley gold deposits are interpreted as orogenic gold systems positioned within a major structural zone. This style of deposit is well documented globally with the more significant examples in Australia being the Archaean greenstone belts of the Yilgarn Craton in WA and the Paleozoic slate belts in Victoria.

The San Antonio deposit is hosted in the Mingelo Volcanic Formation, a strongly deformed and hydrothermally altered Ordovician aged belt of volcanics that are predominantly andesitic volcaniclastic breccias, lesser sandstone/siltstone units, lavas and black mudstones. The volcanics are overlain by the younger Cotton Formation siltstones.

San Antonio deposit is located south of the Roswell deposit (7.02Mt grading 1.97g/t Au for 445,000oz, ASX Announcement 28 January 2020) dextrally displaced and separated by the Rosewood Fault. The drilling has defined north to north-northeast striking, sub-vertically dipping, deformed and attenuated andesitic volcanic and volcaniclastic stratigraphy. The mineralisation at San Antonio is primarily hosted

by two 'brittle' andesite units as per the structural setting observed at the Tomingley gold deposits. These volcanics host structural zones generated by a competency contrast between the 'brittle' volcanics and 'ductile' volcaniclastic meta-sediments. Litho-geochemistry has identified a phosphorous enriched (apatite bearing) andesite 60m to 70m thick with a 10m wide brecciated basal contact that appears to host the majority of mineralisation at San Antonio. A second andesite located 50m to the west is phosphorous poor also hosts mineralisation.

Alkane Resources Ltd – San Antonio 20 April 2020
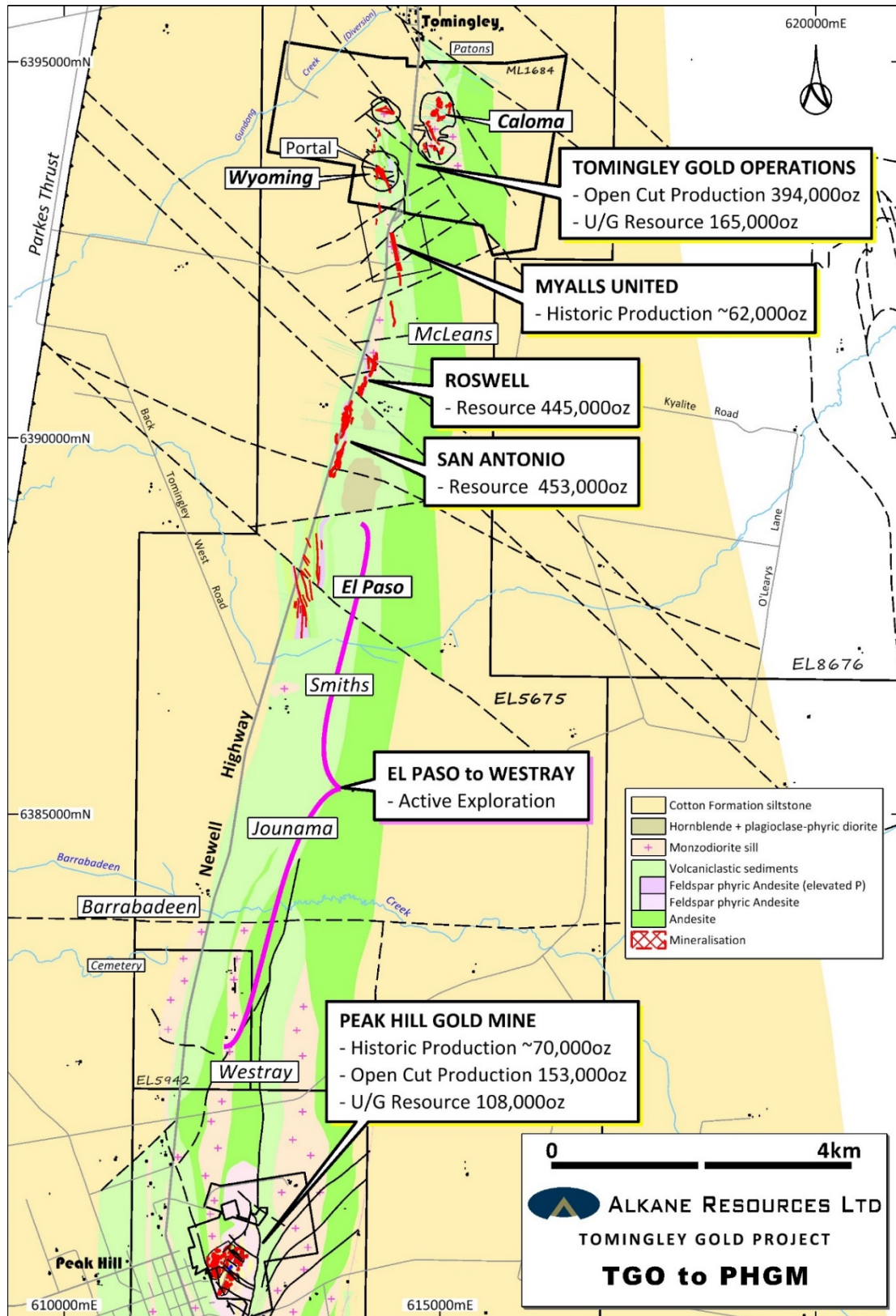
Mineralisation is characterised as shear hosted quartz-carbonate-pyrite-arsenopyrite veins primarily hosted within andesite unit and/or along its brecciated margin and occasionally in coarse grained volcaniclastic meta-sediments. The mineralisation appears to be constrained as steeply east dipping shear hosted veins dipping 70° towards 100°, hosted within subvertical dipping stratigraphy. The shear hosted vein zones range from 5m to 20m wide. San Antonio is currently defined with RC and diamond core drilling over a strike length of approximately 1,000m that is open along strike to the south and down dip.

The mineralisation at San Antonio is displaced by three significant sized, approximately 3 - 7m thick, dolerite dykes dipping steeply to the NNE, striking WNW. The dolerites postdate the gold mineralisation.

Weathering of the mineralised bedrock has developed a saprolitic clay profile extending approximately 35 metres from the base of alluvium to fresh rock. The mineralised bedrock lies beneath a Cainozoic alluvium overburden between 20 - 60m thick.

Inferred Resource

An initial Inferred Resource has been estimated on the San Antonio deposit with a nominal 40 metre drill hole spacing. Some of the drill hole spacing used in the estimation is already infilled to 20 metres, however due to the complexity of the geology, the resource will be converted to Indicated status when the confidence through drilling further areas of the resource to 20 m spacing is completed:
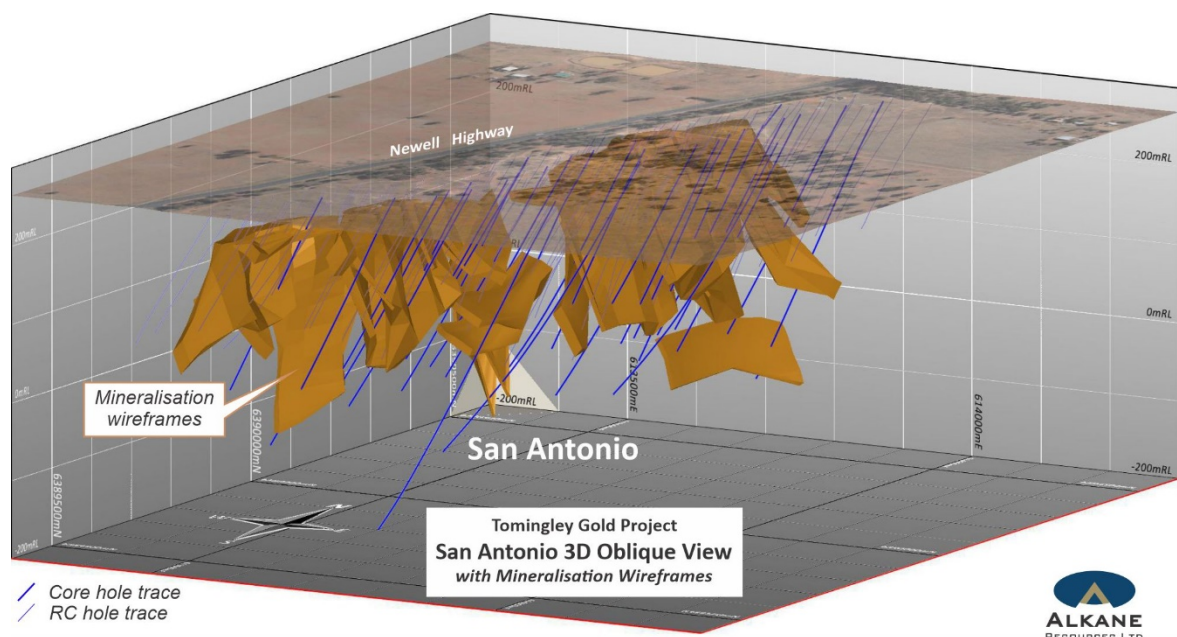
Table 1   Mineral Resource

Project	Resource Category	Cut-Off	Tonnes (Mt)	Gold Grade g/t	Gold Metal (Koz)
San Antonio	Inferred	0.5g/t Au	7.92	1.78	453

Full details are provided in the appended JORC Table 1 and text summary below

The Inferred Resource will be subject to further infill and extensional drilling with a view to both define the continuity of the mineralisation to the south and west and high grade zones at depth.

A 3D model of the San Antonio mineralisation is displayed below.

Tomingley Gold Project
San Antonio 3D Oblique View
with Mineralisation Wireframes

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Exploration Upside at San Antonio

The Inferred Resource was calculated down to the 12mRL on average in comparison to Roswell that was calculated to approximately the -50mRL. This was largely due to the RC drilling difficulties encountered at San Antonio causing early abandonment of holes. These abandoned holes are currently being diamond tailed to deepen the overall resource estimation to be included in the next round of resource calculations.

Other exploration targets include the significant mineralisation intersected within the western andesite (RWRC213 – 15m grading 7.43g/t Au from 147m) west of the main line of lode that is poorly constrained by the initial drilling due to the position of the Newell Highway and drilling difficulties causing early abandonment of RC drill holes. There is considerable upside to further test this western lode to over 80 metres north along strike and its depth extensions. The southern extensions to San Antonio remain poorly tested or closed off.

In addition, some targets will be tested from underground as the NSW State Government Approval has been sought for an underground exploration drive to the Roswell and San Antonio Deposits, with equipment purchased, personnel recruited and land acquired in order to facilitate rapid development on approval.

SAN ANTONIO MINERAL RESOURCE – Supporting information

The Mineral Resource Statement for the San Antonio Mineral Resource Estimate (MRE) is reported according to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') 2012 edition.

In the opinion of Alkane, the resource evaluation reported is a reasonable representation of the global gold mineral resource within the San Antonio deposit, based on reverse circulation (RC) and diamond drilling sampling data available as of April 2020, and is detailed below:

Drilling Techniques

The San Antonio deposit has been evaluated using all of Alkane's exploration reverse circulation (RC) and diamond drilling (DD) holes within the prospect area. No air core drilling by Alkane or drilling by previous companies' exploration in the region (shallow air core and RAB holes) were used in the assessment.

The San Antonio deposit estimate includes 3 metre composite samples with assay results of their 1 metre re-split pending at the time of the calculation. Over 95% of all RC and diamond drill holes used in the estimation were sampled on 1 metre sample basis.

Drilling at the San Antonio deposit has been completed in five phased programs since January 2018 for a total of 36,292 metres. Mitchell Services Ltd were used for the majority of RC drilling and 2 diamond core holes. Ophir Drilling Pty Ltd were used for 24 diamond core holes. Strike Drilling Pty Ltd were used for 5 RC drill holes. Drilling statistics are summarised in Table 2.

Table 2   Summary Drilling Statistics

San Antonio Drilling Statistics		
Hole Type	**RC**	**RC Pre-collar/ HQ3 Diamond**
No. Holes	142	26
Metres	26,740	2,454.8 / 7,097.2

The resource was drilled out using high capacity RC rigs (usually 144mm or 5¾") and RC pre-collared HQ3 diamond core drilling. Resource definition drilling has been completed on east-west sections. Drill sections are spaced 40m apart with drill holes at 20 metre or 40 metre intervals along these sections.

Sampling and Sub-Sampling Techniques

Sampling on all drilling techniques was conducted from the base of alluvium (the transported overburden contains no economic gold grades) to the bottom of hole. Sampling via the different drilling techniques used is described as follows:

RC Drilling:

Samples from the RC drilling were collected at 1 metre intervals via a cyclone into large plastic bags. Spear samples were collected from each 1 metre sample and composited to 3 metre for initial analysis unless the geologist on site determined visually strong mineralisation, then 1 metre samples were collected via a splitter below the cyclone and sent for analysis.

All composites assaying ≥0.2g/t Au together with their upper and lower bounding composite samples were re-split as 1 metre samples collected at the time of drilling into a calico bag via a splitter below the cyclone.

Diamond Core Drilling:

Half core samples were collected from all geologically logged and potential mineralised zones from the diamond core drill holes. The core was sampled for assay in a range of 0.3 metre to 1.3 metre intervals as determined by the geologist based on lithological contacts, alteration zones and mineralisation zones. Geotechnical and bulk density measurements were collected as well as lithology logging and structural data. The remainder of the core was transferred to racking and stored at the decommissioned Peak Hill Gold Mine.

Sample Analysis Method

All samples were submitted to ALS Chemex Laboratory in Orange. Sample was oven dried prior to crushing to <6mm using a jaw crusher (in the case of diamond core), split to 3kg if required then pulverised in an LM5 (or equivalent) to ≥85% passing 75µm. Bulk rejects for all samples were discarded. A pulp packet (±100g) is stored for future reference.

For all samples used in the resource estimate, gold was determined using a 50g charge fused at approximately 1100°C with alkaline fluxes, including lead oxide. The resultant prill was dissolved in aqua regia and gold determined by flame AAS.

In addition to gold assay, RC samples were assayed for As, Cu, P, Sc and Ti by aqua regia digest AAS finish (ALS method code ME-ICP41). Diamond core analyses in addition to gold, were assayed for a full multi-element suite using a four acid digest, with an AES and MS finish.

Commercially prepared Certified Reference Materials (CRM) and blanks were inserted at 1 in 50 samples. CRM's were not identifiable to the laboratory. Field duplicate samples were inserted at 1 in 50 samples (alternate to CRM's).

Laboratory QAQC sampling includes insertion of CRM samples, internal duplicates and screen tests. This data was reported for each sample submission. Failed standards result in re-assaying of portions of the affected sample batches.

These techniques are industry standard for gold and considered appropriate.

Geology and Geological Interpretation

The geology, structural setting, alteration and mineralisation is very similar to the deposits at Tomingley Gold Operations. The total resource inventory of the four deposits at Tomingley totaled 14.29 million tonnes grading 2.0g/t gold at a 0.5 g/t cutoff for 921,000 ounces of gold before commencement of mining.

The Tomingley, Roswell and San Antonio deposits are positioned in an apparent gold-arsenic structural zone termed the Tomingley Gold Corridor that is approximately 500m wide and positioned immediately east of the Cotton Formation contact. The Tomingley Gold Corridor is approximately 30km in length starting approximately 5km north of Tomingley striking south of Peak Hill. The individual prospects and deposits after an intense period of compression during an orogeny, resulting in suitable volcanic host rocks to act as structural buttresses in which hydrothermal fluids pond and precipitate gold.

San Antonio deposit is located south of the Roswell deposit (7.02Mt grading 1.97g/t Au for 445,000oz, ASX announcement 28 January 2020) dextrally displaced and separated by the Rosewood Fault. The drilling has defined north to north-northeast striking, sub-vertically dipping, deformed and attenuated andesitic volcanic and volcaniclastic stratigraphy. The mineralisation at San Antonio is primarily hosted by two 'brittle' andesite units as per the structural setting observed at the Tomingley gold deposits. These volcanics host structural zones generated by a competency contrast between the 'brittle' volcanics and 'ductile' volcaniclastic meta-sediments. Litho-geochemistry has identified a phosphorous enriched (apatite bearing) andesite 60m to 70m thick with a 10m wide brecciated basal contact that appears to host the majority of mineralisation at San Antonio. And a second andesite located 50 m to the west is phosphorous poor also hosts mineralisation.

The mineralisation at San Antonio is characterised as typical quartz-carbonate-pyrite-arsenopyrite veins hosted in phyllic altered volcanics and volcaniclastics. The mineralised zones range from 2m to 50m wide and shear hosted veins, sometimes becoming more stockwork in nature.

The mineralisation, as observed at Tomingley, is displaced by a swarm of post mineralisation dolerite dykes. The dolerite dykes have a similar orientation of dipping steeply to the north-northeast.

The phosphorous elevated andesite, phosphorous poor andesite and dolerites were modelled in 3D and formed the basis of wireframing the mineralisation in the estimation. The wireframes were built by Alkane geologists. This informed the estimates and along with grade guided the interpretation of the ore envelope wireframes at a nominal 0.2g/t Au lower cut-off. Where the intercept gold value was below the nominal cut-off however mineralisation continuity was supported by alteration and anomalous arsenic concentration the intercept was included within the domain due to the commodity and the style of deposit.

San Antonio Inferred Resource Area
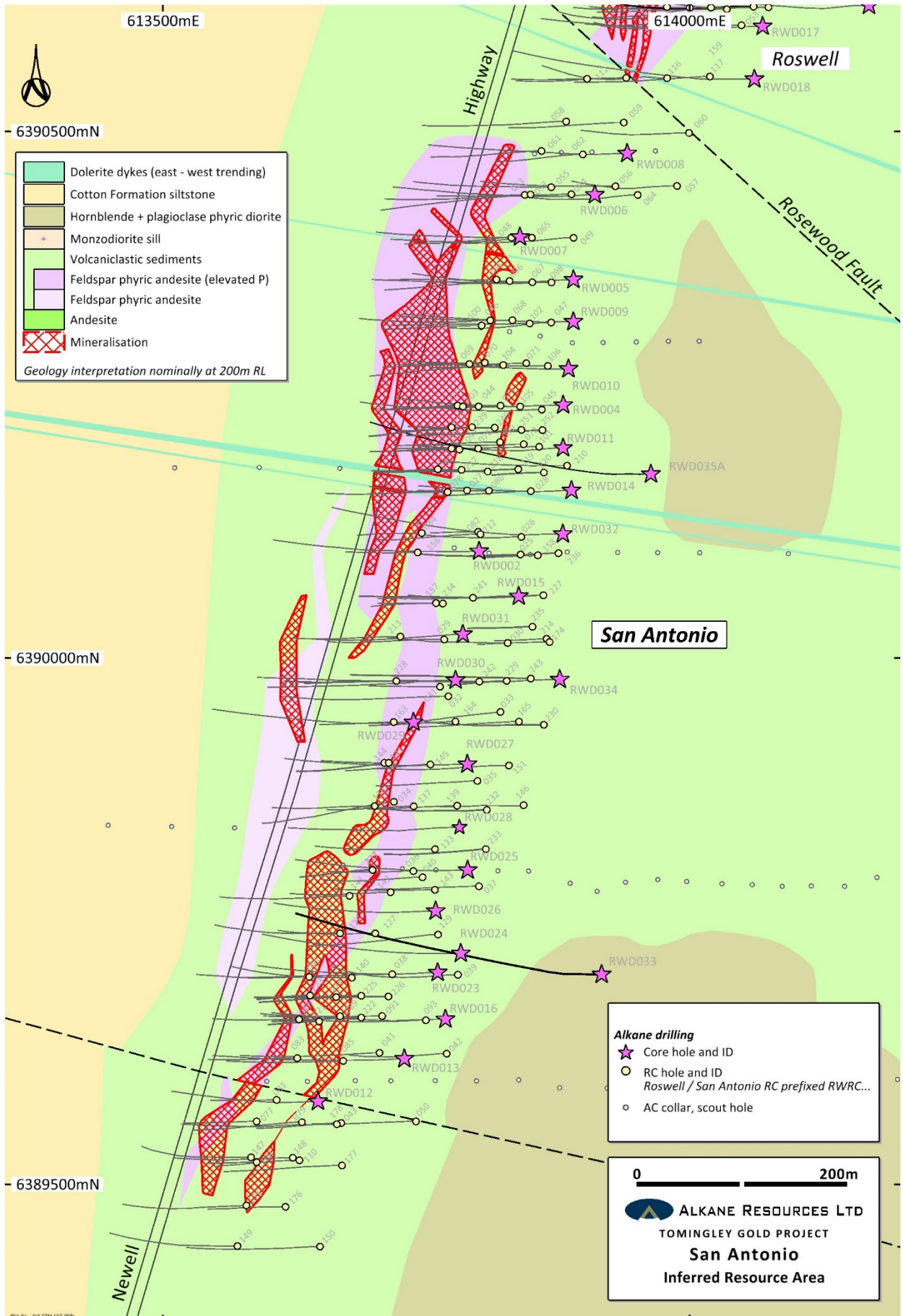
Estimation Methodology

Assessment of a global topcut for the San Antonio Inferred Resource was determined through simple statistical means by examination of both cumulative probability plots and sorted histograms of grade for points of inflection and disintegration, respectively. A global topcut of 22.5 g/t Au was selected through this analysis.

Based on the geological evidence and the large sample spacing the principal estimation for San Antonio was undertaken using Inverse Distance Squared (ID2). The Datamine Studio RM package was used as the estimation software. Estimation utilised mineralised domain boundaries as hard boundaries where only samples within that domain were used to estimate blocks coded as within that domain.

Interpolation was undertaken within parent cell estimation blocks of Y: 10 mN, X: 10 mE, Z: 10 mRL with sub-celling dilution of 1:5 to provide adequate domain volume definition of wireframe geometry. Considerations relating to selection of appropriate block size included the drill hole data spacing and conceptual mining methods. No block rotation was applied.

The blocks within the 3D model were then coded with density, weathering, lithology and mineralised zone prior to evaluation for Mineral Resource reporting. Three metre composites that fell within the mineralisation wireframes were recomposited to one metre samples to give them the same weighting as the rest of the samples.

Check estimates were completed with the Datamine Studio EM software package utilising different maximum sample numbers, search ellipses and data compositing.

San Antonio 3D Long Section with Mineralisation Wireframes
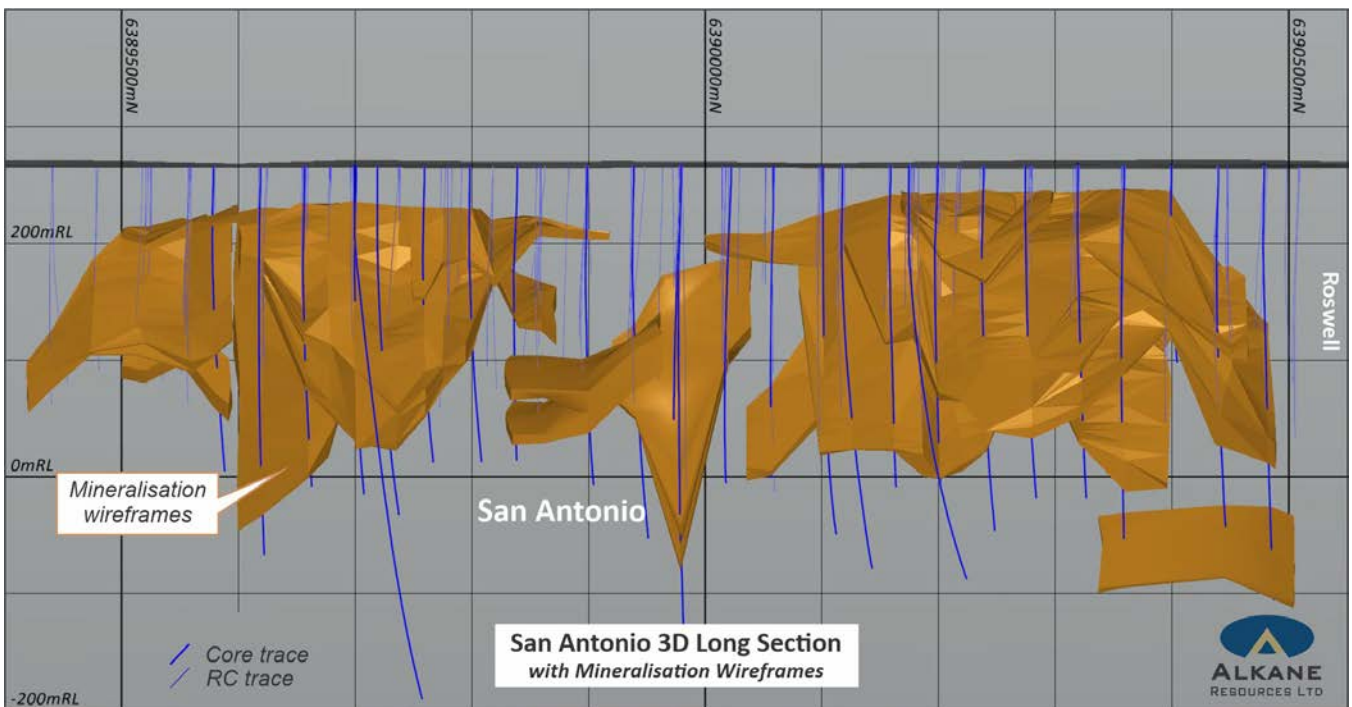
Classification Criteria

Mineral Resources were classified as Inferred to appropriately represent confidence and risk with respect to drill hole spacing, and geological and grade continuity. Additional considerations were the early stage of project assessment and the implications of 40 metre drill hole spacing on the understanding of mineralisation controls in a structurally complex deposit.

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Cut-Off Grade

The Mineral Resource cut-off grade for reporting of global gold resources for the San Antonio deposit chosen as 0.5g/t gold for open cut mining. This was based upon economic parameters utilised at Tomingley Gold Operations where deposits of the same style, commodity, comparable size and mining methodology are currently being extracted.

Mining

It was assumed that mineralisation at the San Antonio deposit would be extracted using open cut methods of a similar scale and size as per the Tomingley Gold Operations (TGO). Underground could be potentially mined via medium to small scale mechanised underground mining methods, similar to that currently being implemented at TGO.

No dilution or cost factors were applied to the estimate.

Metallurgy

The metallurgy of the Tomingley deposits is well studied. The Tomingley Gold Operations has been processing ore since 2014 from its four deposits and during this time no metallurgical issues have arisen, with recoveries ranging between 92% - 94%. Preliminary metallurgical work on San Antonio ore suggests it has similar metallurgical qualities as per the Tomingley deposits.

No metallurgical recovery factors were applied to the Mineral Resources or Resource Tabulations.

**This document has been authorised for release to the market by Nic Earner, Managing Director.**

ABOUT ALKANE   -   www.alkane.com.au   -   ASX: ALK and OTCQX: ANLKY

Alkane is a gold production company with a multi-commodity exploration and development portfolio. Alkane's projects are predominantly in the Central West region of NSW, but extend throughout Australia through investments in other gold exploration and mining companies.

Alkane's gold production is from the Tomingley Gold Operations (TGO) which has been operating since early 2014 and it's most advanced gold exploration projects are in the 100% Alkane owned tenement area between TGO and Peak Hill and have the potential for sourcing additional ore for TGO.

Alkane has other 100% owned exploration tenements in the Central West NSW prospective for gold and copper. The recently announced significant porphyry gold-copper mineralisation intersected at Boda is an example of this potential.

Alkane's largest non-gold project is the Dubbo Project (DP), a large in-ground resource of zirconium, hafnium, niobium, yttrium and rare earth elements. As it is an advanced polymetallic project outside China, it is a potential strategic and independent supply of critical minerals for a range of sustainable technologies and future industries. It has a potential mine life of 75+ years. The DP is development ready, subject to financing, with the mineral deposit and surrounding land acquired and all major State and Federal approvals in place.

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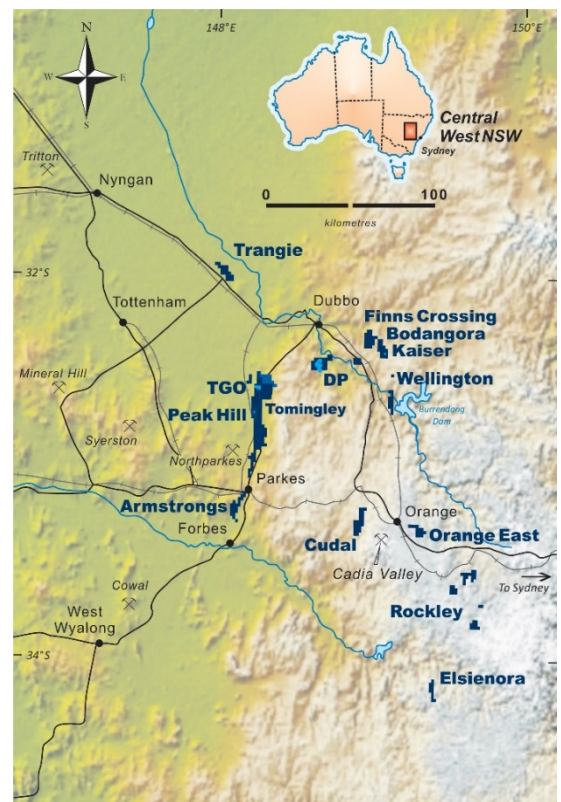
The following tables are provided to ensure compliance with the JORC Code (2012) edition requirements for the reporting of exploration results.

APPENDIX 1

JORC Code, 2012 Edition – Table 1 report – San Antonio
Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

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.*	The San Antonio deposit has been evaluated using reverse circulation and diamond drilling techniques. Reverse Circulation (RC) samples are collected at one metre intervals via a cyclone and riffle or cone splitter. Intervals outside of visual ore zones are composited to 3 metres. Diamond Drill (DD). sample intervals defined by geologist during logging to honour geological boundaries
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	RC drilling completed to industry standards Core is laid out in suitably labelled core trays. A core marker (core block) is placed at the end of each drilled run (nominally 3 or 6m) and labelled with the hole number, down hole depth, length of drill run. Core is aligned and measured by tape, comparing back to this down hole depth consistent with industry standards.
	• *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.*	RC Drilling - approximately 10% (3kg) of total sample is delivered via cone or riffle splitter into a calico bag with the remaining sample delivered into a large plastic bag and retained for future use if required. DD Drilling – sample intervals defined by geologist during logging to honour geological boundaries. All samples sent to laboratory are crushed and or pulverised to produce a ~100g pulp for assay process. All samples are fire assayed using 50g charge. Visible gold is occasionally observed in core.
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).*	The resource is based on 142 RC drill holes totalling 26,740 metres and 26 diamond core (DD) drill holes totalling 9,552 metres (7,097.2 metres of HQ3 core with 2,454.8 metres of RC pre-collar). Conventional RC drilling using 100mm rods and 144mm face sampling hammer. Diamond drill holes were pre-collared using either air core or RC drilling through to competent material averaging 95 metres depth and cased down to triple tube HQ3 (61mm diameter) core tails. HQ3 core is oriented using the "Reflex" core orientation tool.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	RC - sample recovery is visually estimated and generally very good (>90%) aided by the use of oversized shrouds through oxide material. Samples are even sized. Samples are occasionally damp or wet in RC holes drilled below 250 metres. Sample quality is

Criteria	JORC Code explanation	Commentary
		assessed by the sampler by visual approximation of sample recovery and if the sample is dry, damp or wet. Riffle and cone splitters were used to ensure a representative sample was achieved on all 1 metre samples.
		DD - core loss is identified by drillers and calculated by geologists when logging. Generally ≥99% was recovered.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	RC drilling completed using oversized shrouds to maintain sample return in oxide zone and all samples are split using riffle or cone splitters. Use of RC rigs with high air capacity assists in keeping samples dry.
		Triple tube coring is used at all times to maximise core recovery.
	• *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.*	There is no known relationship between sample recovery and grade.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	RC - each one metre interval is geologically logged for characteristics such as lithology, weathering, alteration (type, character and intensity), veining (type, character and intensity) and mineralisation (type, character and volume percentage).
		DD - all core is laid out in core trays and geologically logged for characteristics such as lithology, weathering, alteration (type, character and intensity), veining (type, character and intensity) and mineralisation (type, character and volume percentage). A detailed geotechnical log is also undertaken collecting parameters such as core recovery, RQD, fracture count, and fracture type and orientation.
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*	All logging is qualitative with visual estimates of the various characteristics.
		RC - A representative sample of each one metre interval is retained in chip trays for future reference.
		DD - Core is photographed and all unsampled core is retained for reference purposes.
	• *The total length and percentage of the relevant intersections logged.*	All DD core and RC chip samples have been geologically and geotechnically logged by qualified geologists.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	DD - zones of visual mineralisation and/or alteration are marked up by the geologist and cut in half using an Almonté (or equivalent) core cutting saw. The right half is sampled to sampling intervals that are generally based on geology but do not exceed 1.3 metres in length. The left half is archived. All mineralised zones are sampled, plus >5m of visibly barren wall rock.
		Laboratory Preparation – drill core is oven dried prior to crushing to <6mm using a jaw crusher, split to 3kg if required then pulverised in an LM5 (or equivalent) to ≥85% passing 75µm. Bulk rejects for all samples are discarded. A pulp packet (±100g) is stored for future reference.
	• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	RC - for each one metre interval with visual mineralisation and/or alteration the calico sample bag is numbered and submitted to the laboratory for analysis. Intervals without visual mineralisation and/or alteration are spear sampled and composited over three metres. Damp or wet samples are recorded by the sampler. For composited intervals returning grades >0.2g/t Au the calico bags are retrieved for assay.

Criteria	JORC Code explanation	Commentary
		Laboratory Preparation – the entire RC sample (3kg) is dried and pulverised in an LM5 (or equivalent) to ≥85% passing 75µm. Bulk rejects for all samples are discarded. A pulp packet (±100g) is stored for future reference.
	• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	ALK sampling techniques are of industry standard and considered adequate.
	• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	RC - field duplicate samples collected at every stage of sampling to control procedures. DD - external laboratory duplicates used.
	• Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	RC - Duplicate samples are riffle split from the riffle/conical split calico from the drill rig. Duplicates show generally excellent repeatability, indicating a negligible "nugget" effect.
	• Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are assumed to be within industry standard and considered appropriate.
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.	Gold is determined using a 50g charge fused at approximately 1100°C with alkaline fluxes, including lead oxide. The resultant prill is dissolved in aqua regia and gold determined by flame AAS. For other geochemical elements samples are digested in either aqua regia or a multi-acid digest with each element concentration determined by ICP Atomic Emission Spectrometry or ICP Mass Spectrometry. These additional elements are generally only used for geological interpretation purposes, are not of economic significance and are not routinely reported.
	• 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.	Not applicable to this report or deposit.
	• 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.	Commercially prepared Certified Reference Materials (CRM) are inserted at 1 in 50 samples. CRM's are not identifiable to the laboratory. Field duplicate samples are inserted at 1 in 50 samples (alternate to CRM's). Laboratory QAQC sampling includes insertion of CRM samples, internal duplicates and screen tests. This data is reported for each sample submission. Failed standards result in re-assaying of portions of the affected sample batches.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	Drill data is compiled and collated, and reviewed by senior staff. External consultants do not routinely verify exploration data until resource estimation procedures are deemed necessary.
	• The use of twinned holes.	Twinned holes have not been used at San Antonio.
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All drill hole logging and sampling data is hard keyed into excel spreadsheet for transfer and storage in an access database with verification protocols in place. All primary assay data is received from the laboratory as electronic data files which are imported into sampling database with verification procedures in place. QAQC analysis is undertaken for each laboratory report. Digital copies of Certificates of Analysis (COA) are stored in a central database with regular (daily) backup.

Criteria	JORC Code explanation	Commentary
		Data is also verified on import into mining related software.
	• *Discuss any adjustment to assay data.*	No assay data was adjusted. In the case of assay checks the original assay is utilised as there was no statistical variability.
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.*	Drill holes are laid out using hand held GPS (accuracy ± 2m) then surveyed accurately (± 0.1m) by surveyors on completion. RC drill holes are surveyed using a single shot electronic camera at a nominal 30m down hole interval. DD are surveyed at nominal 30m down hole during drilling to maintain drilling direction and then at 6m intervals on retrieval of rod string using a multi shot electronic camera.
	• *Specification of the grid system used.*	MGA94 grid system was used.
	• *Quality and adequacy of topographic control.*	A site based digital terrain model was developed from accurate (± 0.1m) survey control by licenced surveyors.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.*	Nominal drill hole spacing is 40m x 40m. The data spacing is deemed to be sufficient in reporting an Inferred Resource.
	• *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.*	The drill hole spacing has been shown to be appropriate to demonstrate spatial and grade continuity of the mineralised domains to support the definition of Inferred Mineral Resources under the 2012 JORC code once all other modifying factors have been addressed.
	• *Whether sample compositing has been applied.*	Sample compositing of 1 metre was applied for the estimation. RC – samples with no visible mineralisation or alteration are composited to 3m with 1m resamples assayed if the composite returned a gold value of >0.2g/t gold. One metre samples override 3m composites in the database. DD – core is sampled to geology
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.*	Much care is given to attempt to intersect structure at an optimal angle but in complex ore bodies this can be difficult.
	• *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.*	It is not thought that drilling direction will bias assay data at San Antonio.
Sample security	• *The measures taken to ensure sample security.*	All samples are bagged in tied numbered calico bags, grouped into larger tied polyweave bags and transported 5 minutes away to Tomingley Gold Mine. The samples are placed in large sample cages with a sample submission sheet and couriered to ALS in Orange via freight truck. All sample submissions are documented via ALS tracking system and all assays are reported via email. Sample pulps are returned to site and stored for an appropriate length of time (minimum 3 years). The Company has in place protocols to ensure data security.

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	The Company does not routinely have external consultants verify exploration data until resource estimation procedures are deemed necessary.

Section 2 Reporting of Exploration Results
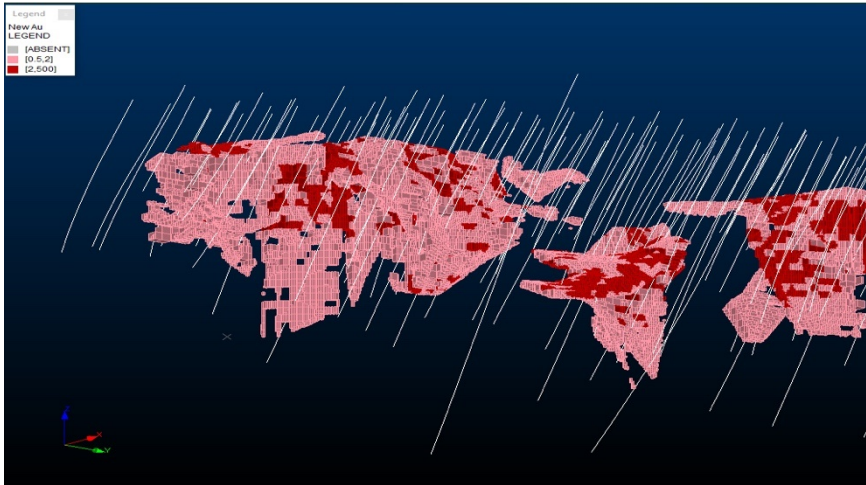(Criteria listed in the preceding section also apply to this section.)

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.*	EL5675 wholly owned by Alkane Resources Ltd (ALK).
	• *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.*	EL5675 is due to expire 17 January 2023.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	All reported drilling completed by ALK.
Geology	• *Deposit type, geological setting and style of mineralisation.*	Mineralisation at San Antonio is similar to the well documented Tomingley Gold Deposits. San Antonio, like Tomingley, is associated with quartz veining and alteration focused within andesite volcanics and adjacent volcaniclastic sediments. The deposits appear to have formed as the result of a competency contrast between the volcanics and the surrounding volcaniclastic sediments, with the volcanics showing brittle fracture and the sediments ductile deformation, and have many similarities to well documented orogenic - lode-style gold deposits.
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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.*	Too many, not practical to summarise all drill hole data used. All material information has been previously reported in the following announcements: 29 March 2019, ASX Announcement; 12 June 2019, ASX Announcement; 12 August 2019, ASX Announcement; 23 September 2019, ASX Announcement; 6 November 2019, ASX Announcement; 5 December 2019, ASX Announcement; 17 January 2020, ASX Announcement; 9 March 2020, ASX Announcement;

Criteria	JORC Code explanation	Commentary
		9 April 2020, ASX Announcement.
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	Exclusion of drill hole data will not detract from the understanding of this report. All drill data has been previously reported, holes are close spaced and near a developed mining area.
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.*	Exploration results previously reported – for uncut gold grades; intercepts are defined (bounded) by 0.25g/t gold outer limit and may contain some internal waste; only intervals grading ≥0.5 g/t gold are reported; grades are calculated by length weighted average.
	• *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.*	Exploration results previously reported as length weighted average grades with internal high grade intercepts reported separately.
	• *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No metal equivalents are reported.

Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.*
	  o *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*
	  o *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').*
		Previously reported exploration results include an estimate of true width. The mineralisation is structurally complex and true widths are variable depending on the ore zone intersected however average 60% of the drill intersection.

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Criteria	JORC Code explanation	Commentary
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.*	Cross sections and a plan showing geology with drill collars were included with previously reported exploration results detailing the unfolding significant discovery.
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.*	Data relating to all exploration drill holes has been reported in previous documentation of exploration results.
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.*	No additional or new drilling results are being reported at this time.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Additional drilling is underway to infill the drilling to 20m x 20m spacing to convert the inferred resources to indicated and measured. Deep core drilling is also being planned to test the continuation high grade mineralised structures at depth.
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	 The attached image above shows estimated blocks of +0.5g/t Au (pink) and +2.0g/t Au (red) inferred mineralisation highlighting the potential for further exploration.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Logging data is entered into Excel via drop down menus. All raw data is loaded directly to the Datashed database from the assay, logging and survey derived files.
	• Data validation procedures used.	There are validation checks to avoid duplications of data. The data are further validated for consistency when loaded into Datamine and desurveyed.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits. (If no site visits have been undertaken indicate why this is the case.)	The Competent Person has visited drill sites, regularly visits the exploration office for geological discussions, drilling updates, viewing of the data and of the core. The deposit is completely covered by 20m to 60m of barren alluvium and there is nothing to see on the surface.
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The geological model is built on structural data from core and lithological logging. The lode strike orientations are similar to Tomingley which approximate the strike of the volcanic bodies. The domain wireframes were built by Alkane geologists.
	• Nature of the data used and of any assumptions made.	Structural measurements from oriented drill core was used to assist in the geological interpretation along with lithological, alteration and mineralisation logging of RC chips. Lithogeochemistry was used to help define the different lithologies.
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.	A steeply east dipping interpretation was initially proposed over the entire San Antonio deposit however this was inconsistent with structural measurements obtained from oriented drill core in some sections of the deposit and the mineralisation was mapped here shallowly dipping. This had a negligible effect on the resource estimate.
	• The use of geology in guiding and controlling Mineral Resource estimation.	Geological (lithological) logging together with lithogeochemistry was used to develop a geological model. Alteration estimates along with anomalous arsenic grade and with Au grade guided the interpretation of the ore envelope wireframes. The majority of mineralisation is hosted by quartz veins within an andesite host rock, or along its margins within the volcaniclastics. A minor part of the mineralisation is hosted within a second andesite positioned in the west of the San Antonio deposit. Dolerite dykes post-date mineralisation and all mineralised lodes are truncated and stoped out by the modelled dolerites.
	• The factors affecting continuity both of grade and geology.	Mineralisation is directly associated with alteration and veining.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Strike length ~ 1,000m Width ~ 100m Depth ~ 30m from below surface to ~ 250m below surface
Estimation and modelling techniques	• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and	The resource model has used all the exploration drill data. 14 mineralisation wireframes (domains) and 3 dolerite wireframes were interpreted and used as constraints for the resource modelling. Three surfaces were also used to separate material types - topography, alluvium and base of oxidation surfaces.

Criteria	JORC Code explanation	Commentary
	parameters used.	The material type classification was used to allocate density values.
		The drillhole data was flagged by the domain wireframes in priority order, to prevent double use of the data in any intersecting zones.
		The drill hole data was flagged by dolerite and mineralised domain wireframes in priority order, to prevent double use the data in the intersecting zones. The mineralised zones of greater than 0.20g/t gold were wireframed and the samples within their respective zones were flagged, in order to prevent any overestimation that could be caused by use of assays outside these boundaries.
		Top-cuts were determined through simple statistical means by examination of both cumulative probability plots and sorted histograms of grade for points of inflection and disintegration, respectively. A global topcut of 22.5 g/t Au was selected through this analysis.
		Grade allocation was completed using a 3D ellipsoid with dynamic anisotropy, weighted average, inverse distance squared (ID2) interpolation. Dynamic anisotropy interpolation was enacted by manually generating trend strings through all of the mineralisation wireframes. These strings were then used by the estimation software to generate a range of dip and dip direction orientations that were coded to nearby blocks within the block model prior to estimation of Au grade. A parent block size of 10mE x 10mN x 10mRL with sub-blocking to a dilution of 5 was used in the block model.
		The principal estimation using Datamine Studio RM and checked using Datamine Studio EM using a search ellipse that simulated the modelled ore zones with ID2 and various sub-blocking parameters.
	• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*	There are no previous estimates or any production data to provide any validation.
	• *The assumptions made regarding recovery of by-products.*	No assumptions made - estimates were made only for gold.
	• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*	No deleterious elements identified for estimation.
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*	The primary block size was relatively small (10m x 10m x 10m) with a dilution of 5 for sub blocks because of the narrow dipping nature of the mineralisation zones. No block rotation was used.
		The average drill hole spacing was 40m.
		Search ellipse used was created using dynamic anisotropy with parameters of 100m x 100m x 20m. A minimum of 3 samples and maximum of 15 was used for the purposes calculating assigned grades to the blocks.
	• *Any assumptions behind modelling of selective mining units.*	No assumptions made
	• *Any assumptions about correlation between variables.*	No assumptions made
	• *Description of how the geological interpretation was used to control the resource estimates.*	Only data form the same domain were used to make estimates. The extents of modelled mineralisation wireframes were constrained by the modelled extent of the brittle andesite

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Criteria	JORC Code explanation	Commentary
		host. Mineralisation wireframes were extended ~40 metres up and down plunge if modelled to be within andesite, or ~20 metres up or down plunge if modelled outside andesite.
	• *Discussion of basis for using or not using grade cutting or capping.*	Top-cuts were determined through simple statistical means by examination of both cumulative probability plots and sorted histograms of grade for points of inflection and disintegration, respectively. A global top cut of 22.5 g/t Au was selected through this analysis resulting in a ~3% metal reduction.
	• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	The process of validation included checks of: wireframe vs block model volumes; compositing vs non compositing sum of gram metres; model average grade vs top-cut average grade; visual check of drill data vs model data in plan, section and three dimensions. All validation checks gave acceptable results. No mining, therefore no reconciliation data available.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	The tonnages were estimated on a dry tonnage basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	The cut-off grade 0.5 g/t gold is above the cut-off used for the low-grade stockpiles calculated for the Tomingley deposits 3km to the north. This takes into account likely mining costs and metallurgical recovery for similar material.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	No mining factors were invoked into the San Antonio Resource estimation process.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	The metallurgy of the nearby other Tomingley deposits is well studied. A preliminary metallurgical study suggests San Antonio has similar metallurgical characteristics.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be*	The Tomingley Gold Operations has been operating since early 2014 with an approved EIS plan and environmental licences. A new EIS would need to be conducted over the San Antonio Deposit. The San Antonio deposit is positioned in highly modified agricultural land and a new mining development will have little potential environmental impacts.

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Criteria	JORC Code explanation	Commentary
	reported with an explanation of the environmental assumptions made.	
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*	Density determinations for the San Antonio deposit were based on data from 26 diamond core holes and over 400 measurements. Data measurement was restricted to core that was either logged as oxide or fresh. Surficial alluvium was given a density of 1.96t/m^3, oxide material was calculated a density of 1.91 t/m^3, fresh host volcanics was calculated a density of 2.74t/m^3 and dolerites assigned a density of 3.0 t/m^3.
	• *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.*	SG measurements completed on all material types – see above.
	• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	No assumptions made – SG determined and individual values applied to each material type based on wireframed surfaces.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	*Resource Model* The resources were classified based on drilling density, geological confidence and grade continuity. The actual break-points for the different resource classes were chosen by inspection of the model in relation to the drilling density and confidence in the geological model. As a general rule all areas with a 10m x 10m drill spacing was classified as measured. Zones with a nominal drill spacing of 20m x 20m has been classified as indicated, material that has been drilled at a nominal 40m x 40m spacing is in the inferred category. The classifications are based on the confidence of ounce conversion. Measured would have a 90% conversion probability, indicated would have a 75% confidence level and inferred a 50% confidence in ounce conversion if mined.
	• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*	The use of RC drilling limits the amount of geological information that can be logged, and boundaries of mineralisation zones cannot be precisely located.
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*	The classification reflects the Competent Persons view of the deposit and its supporting data.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	As this is the first mineral resource estimation for this deposit, there have not been any audits or reviews.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	No statistical or geostatistical method (non-linear or simulation) was used to quantify the relative accuracy of the estimate within confidence limits. Variances to the tonnage, grade, and metal of the Mineral Resource estimate is expected with further definition drilling. It is the opinion of the Competent Person that these variances will not significantly affect economic extraction of the deposit. Accuracy of the estimate is dependent on: accuracy of the interpretation and geological domaining; accuracy of the drill hole data (location and values); and estimation parameters which are reflected in the variogram model used.

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Criteria	JORC Code explanation	Commentary
	• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*	The resources are global, being based on drill hole data at exploration spacing. To ensure the resources have 'reasonable prospects of eventual economic extraction' the resources have been restricted to all material above a gold cutoff grade of +0.5g/t Au.
	• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	There has not been any production from San Antonio.

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