21 January 2014

ASX & MEDIA RELEASE

SARACEN ACQUIRES THUNDERBOX OPERATIONS

The Directors of Saracen Mineral Holdings Limited (ASX:SAR) ("Saracen" or the "Company") are pleased to announce that Saracen has entered into a binding agreement to acquire the Thunderbox and Bannockburn gold mines and operations ("Thunderbox Operations") located in the North-Eastern Goldfields of Western Australia from Norilsk Nickel Australia Pty Ltd ("Norilsk").

Acquisition Highlights

- **The Thunderbox Operations includes the Thunderbox and Bannockburn gold mines as well as the Waterloo nickel mine;**
- **728,000 ounce gold Ore Reserve (JORC 2012 compliant);**
- **2.09 million ounce gold Resource (JORC 2012 compliant);**
- **Modern 2.5 Mtpa CIL gold treatment plant located adjacent to the Thunderbox Mine with extensive supporting infrastructure including a 268 person accommodation village and an unsealed airstrip;**
- **Production is targeted to resume within 18 months from settlement;**
- **Exploration upside including significant resource extension potential below the Thunderbox Deposit and further prospectivity across the 557km^2 tenement package.**

Acquisition Consideration

Consideration payable to Norilsk for the acquisition comprises:-

- A$20 million cash on settlement;
- A$3 million cash upon the sooner of commencement of commercial production, or if, after a period of 24 months following settlement, the prevailing gold price has exceeded A$1,550/oz for a calendar month;
- A 1.5% NSR Royalty on the Thunderbox Operations (capped at A$17 million).

The acquisition consideration reflects a prudent acquisition in line with Saracen's stated M&A strategy.

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Acquisition Funding

- The initial cash payment of A$20 million will be funded from a combination of cash on hand and the draw-down of debt facilities. As at 31 December 2013, Saracen had cash and bullion on hand of A$22.8 million.
- The Company has successfully secured an increase in its debt facilities with Macquarie Bank Limited ("MBL") following extensive due diligence of the Thunderbox Operations.
- Total available debt facilities have been increased from A$45 million to A$55 million. The Company has drawn down A$22 million of this facility.
- The $4.85 million of environmental bonding (non-cash) associated with the assumption of all environmental liabilities will be provided out of existing facilities with MBL.
- A deposit of A$2 million will be paid out of cash on hand and forms part of the initial A$20 million purchase price.

Saracen's Managing Director, Raleigh Finlayson, said:

"The acquisition of the 2.09 million Resource ounce Thunderbox Operations provides Saracen with a 53% increase in Mineral Resources to 6.0 million ounces of gold and the 728,000 ounces of Ore Reserves acquired provides an 84% increase in Ore Reserves to 1.6 million ounces of gold. The acquisition also includes a modern 2.5 Mtpa processing facility, and associated infrastructure, that could be brought back into production within 18-months.

"This acquisition complements Saracen's existing producing assets within the Carosue Dam Operations, including Whirling Dervish and Red October, and significantly extends the future production potential across Saracen's portfolio of projects.

"Importantly, Saracen can bring highly credentialed technical and operational knowledge, coupled with extensive experience in the WA Goldfields, to maximise the potential of the Thunderbox Operations assets.

"Our strong hedge book position and declining cost profile has allowed the Company to be proactive to secure these assets on terms that are value accretive for our shareholders."

The Combined Assets

Saracen will emerge from the acquisition with the combined Thunderbox and Carosue Dam Operations offering significantly enhanced mining assets and investment appeal:

- Total Gold Mineral Resources of **6.0 million ounces**;
- Total Gold Ore Reserves of **1.6 million ounces**;
- Existing gold production of approximately 120,000-135,000 ounces per annum with potential to double this once the Thunderbox Operations have been developed;
- Total milling capacity of approximately 5 million tonnes per annum;
- Diversification across 2 key operations in separate but relatively close geographical locations;
- Enhanced exploration potential from a tenement package of more than 3,000 km^2; and
- A proven and experienced management team to re-commission and develop the Thunderbox Operations.

Project Details

The Thunderbox Operations are currently on care and maintenance and include:-

- **Thunderbox Project** (comprising the Thunderbox, Rainbow and Mangilla gold deposits);
- **Bannockburn Project** (comprising the Bannockburn and North Well gold deposits);
- **Waterloo Project** (comprising the Waterloo and Amorac nickel deposits); and
- **The Warrida Well** Joint Venture.

The Mineral Resources of 2.09 million ounces of gold noted above (refer Table 3) are for the Thunderbox and Bannockburn deposits only. The Rainbow, Mangilla and North Well gold deposits are to yet to be updated to the JORC 2012 standard as is required by the ASX from 1 December 2013 and hence are not included in the Mineral Resource tables. The Waterloo Project, comprising the Waterloo and Amorac nickel deposits, are also yet to be updated to JORC 2012 standard and are also not included in the Mineral Resource tables. The Ore Reserves of 728,000 ounces of gold are detailed in Table 4.

The Thunderbox Operations are located in the highly prospective Yandal Belt and the Agnew-Wiluna Belt in the North Eastern Goldfields of Western Australia. The Yandal Belt hosts a number of world class assets including Newmont's Jundee mine, St Barbara's Gwalia mine and is in close proximity to Gold Fields' Agnew mine and their recently acquired Lawlers and Darlot mines.

The Thunderbox Operations are centred on the Thunderbox Open Pit and CIL gold treatment plant; located 45km south of the town of Leinster in Western Australia and immediately adjacent to the sealed Goldfields Highway (refer to Figures 1 and 6 below). The Thunderbox processing facility, which has been on care and maintenance since 2007, has an annual capacity of 2.5 Mtpa and incorporates a single-stage crusher, a SAG mill and a ball mill as well as conventional CIL leaching and elution circuits.

The gold assets in the Thunderbox Operations were seen as non-core assets for the nickel focused Norilsk and have been on care and maintenance since 2007. Importantly this means that the operations have not been subject to depletion since the gold price was approximately A$840/oz, a period that saw the gold price rise to approximately A$1,800/oz in 2011. During the same period many gold producers lowered cutoff grades and expanded operations to maximise gold production to take advantage of the higher gold prices.

Existing infrastructure included in the acquisition comprises a 268 person accommodation village, an airstrip, contract power supply, Goldfields Gas pipeline spur, borefield water supply and telecommunication services.

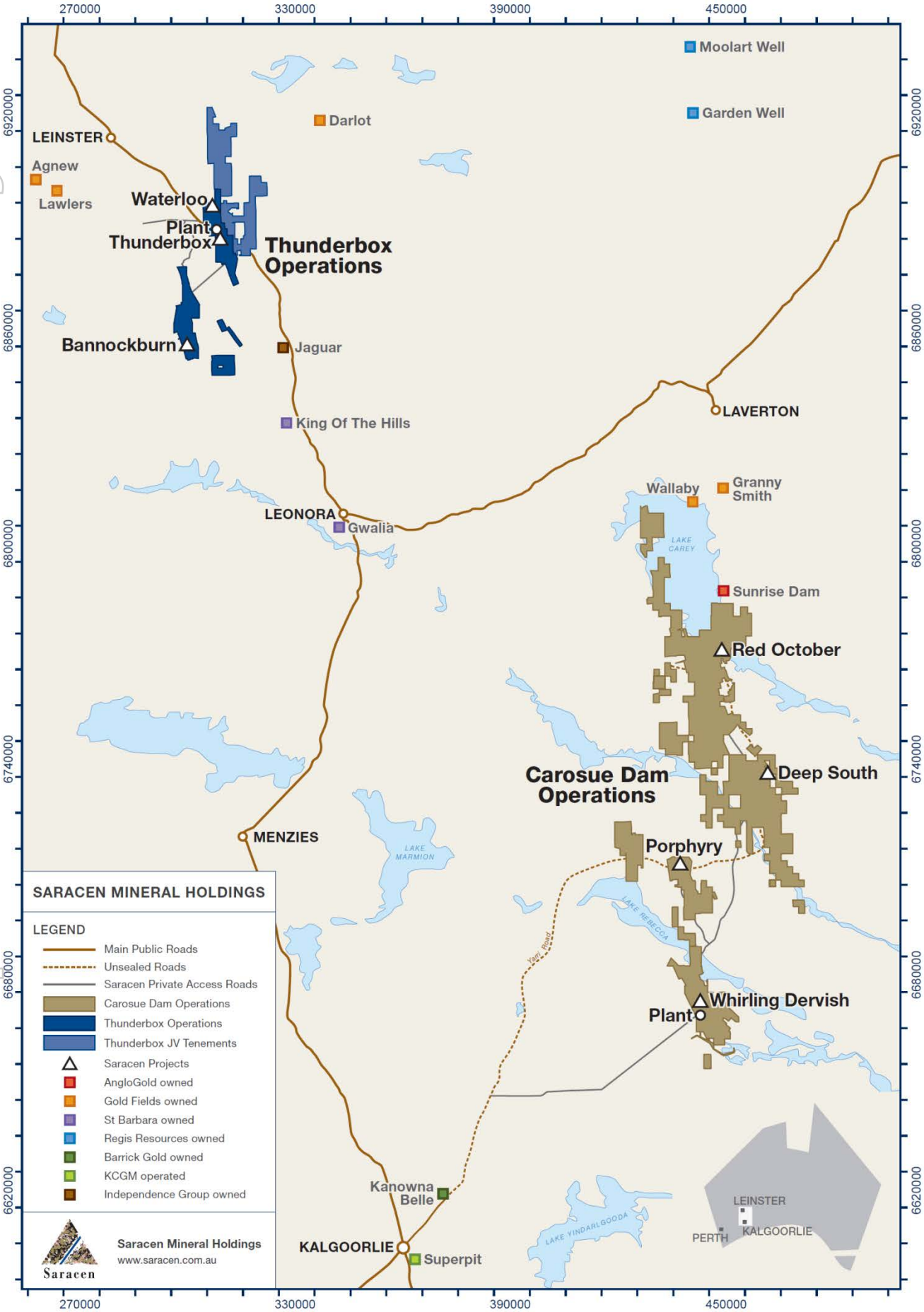

Figure 1: Saracen's Thunderbox & Carosue Dam Operations

History of Thunderbox

The **Thunderbox Deposit** was discovered in 1999 and ranks as one of the more significant gold deposits discovered in Australia over the past 20 years. Gold production totalled 805,000 ounces when processing operations ended in September 2007. Thunderbox produced at an average cash cost of US$290/oz over its life with a cash cost in the final year of operation of US$481/oz.

Thunderbox Production	2002	2003	2004	2005	2006	2007	Total
Ore Milled (t)	242,117	2,515,587	2,363,933	2,176,627	2,182,031	1,447,727	**10,928,022**
Grade (g/t)	2.4	2.7	2.2	2.2	2.3	2.6	**2.4**
Mill Recovery (%)	95.9%	96.6%	93.4%	93.9%	95.3%	95.6%	**95.1%**
Gold Production (oz)	17,790	212,459	156,916	145,413	155,203	118,073	**805,854**
Cash Cost per oz (US$/oz)	$95	$138	$265	$339	$352	$481	**$290**

Table 1: Thunderbox Gold Mine Historical Production

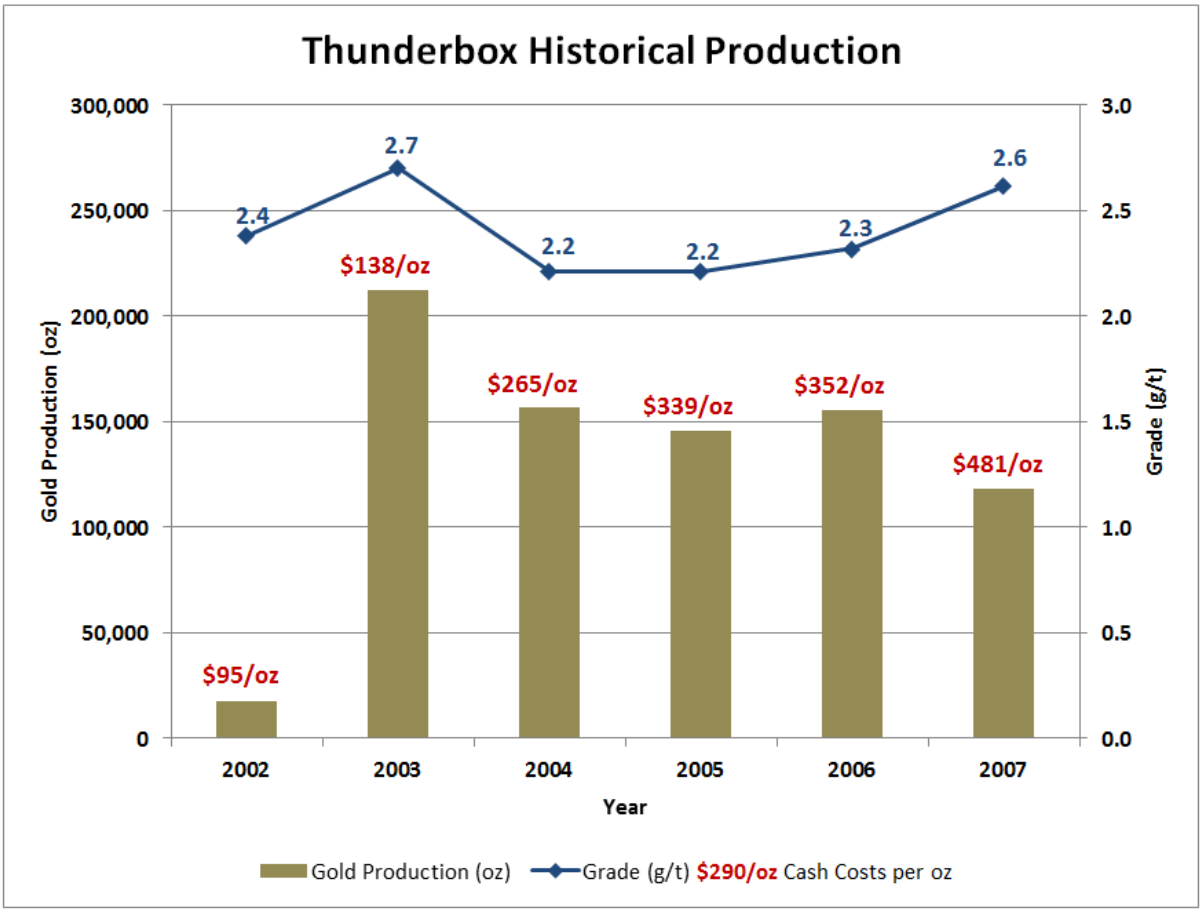

Figure 2: Thunderbox Gold Mine Historical Production

Significant near mine exploration potential exists at Thunderbox. Of immediate interest is identifying the relationship between the mineralised horizon and the post mineralisation Gap Fault (refer Figure 3). The Gap Fault offsets the mineralisation by up to 150m horizontally. A reconstruction of the original geology suggests that if the C Zone was continuous at depth it would have been dislocated by the Gap Fault and shifted 150m to the west and be positioned down dip from the A Zone. This opportunity remains untested and highlights the potential to discover the continuation of the C Zone south of the Gap Fault. The scale of the C Zone mineralisation provides significant upside with known mineralisation widths greater than 100m already observed.

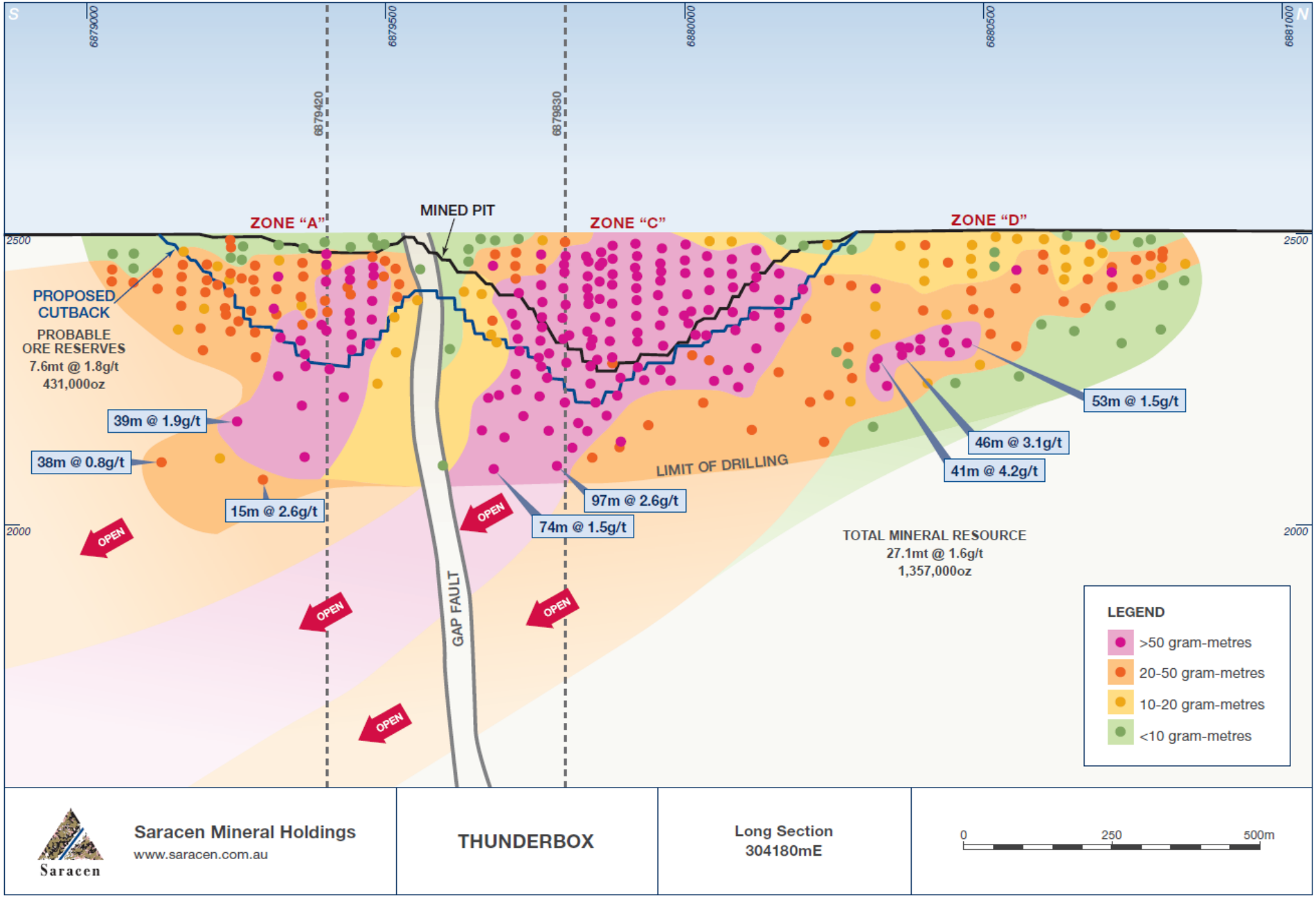

Figure 3: Long Section of the Thunderbox Open Pit

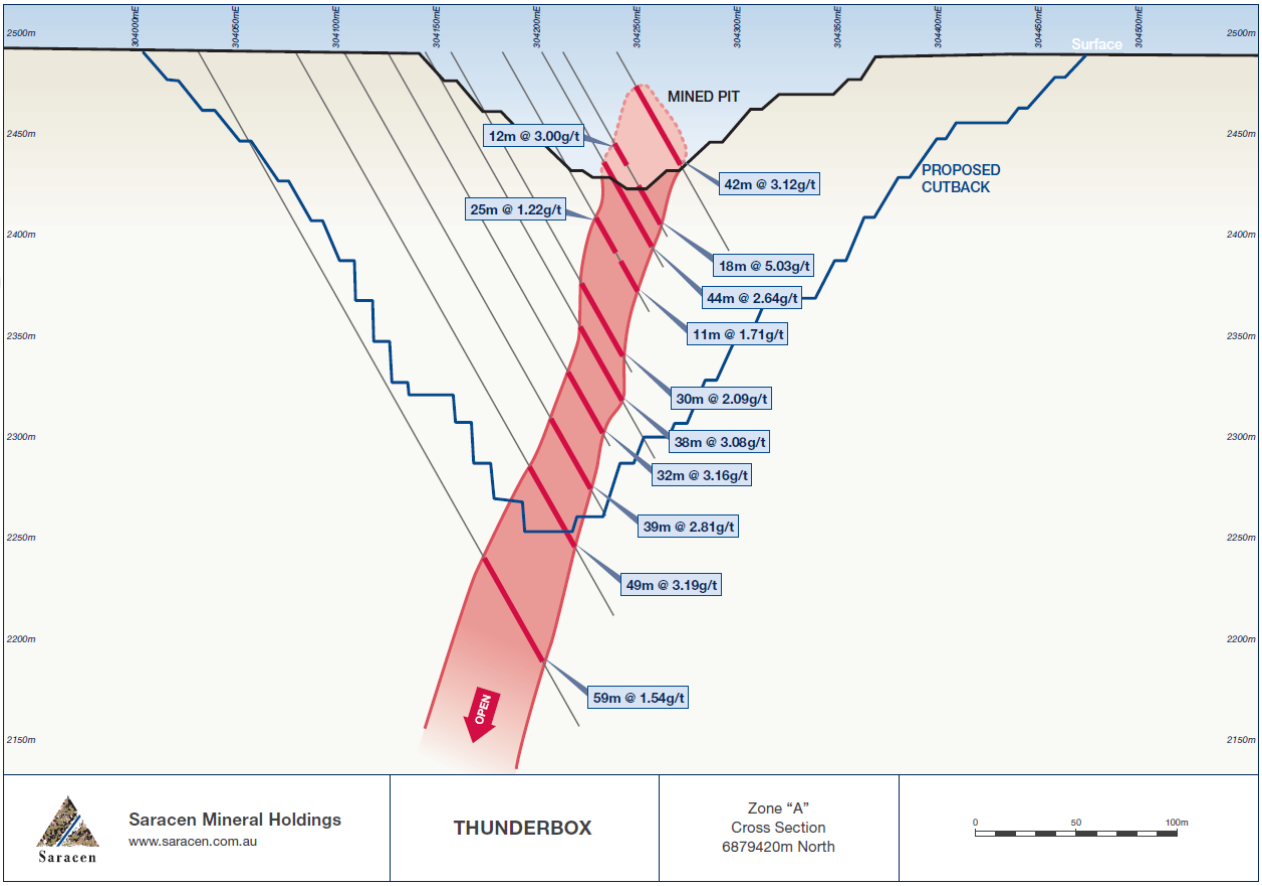

Figure 4: Cross Section of the Thunderbox Open Pit (Zone A)

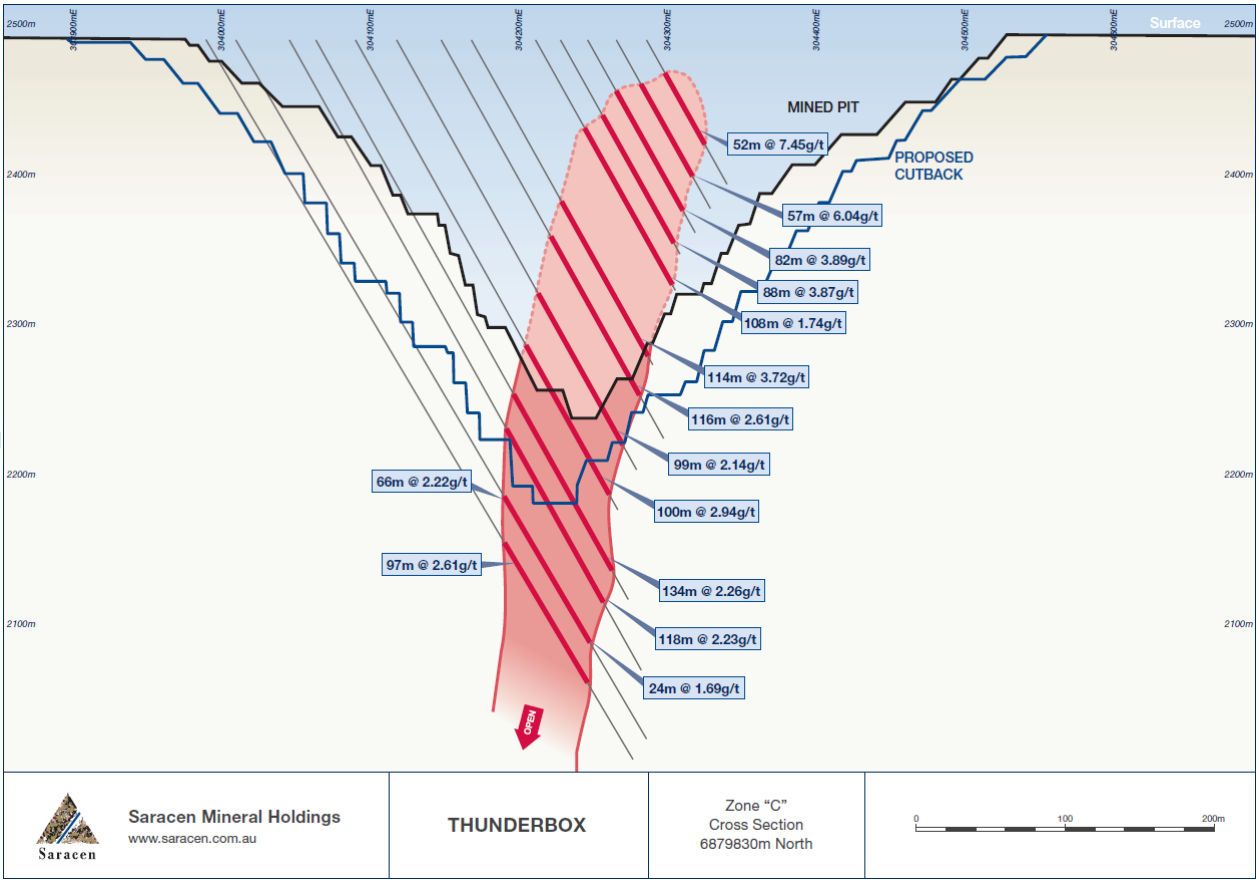

Figure 5: Cross Section of the Thunderbox Open Pit (Zone C)

The **Bannockburn Project** (located approx 30kms south-west of the Thunderbox plant) consists of a 149 km^2 tenement package. Mining consisted of 4.5mt of ore @ 2.57g/t for 352,000 ounces between 1991 and 1998. The Bannockburn gold deposit is bound to the west by the Bannockburn fault and at depth by the flat lying Central thrust fault.

Saracen believes there is a significant opportunity to increase resource inventory with several high potential exploration targets having been identified between Bannockburn and North Well (approximately 8kms north of Bannockburn). The potential for base metal mineralisation within the Bannockburn tenement package is considered high.

Development Plan

Following settlement of the acquisition, Saracen's first step will be to initiate a Definitive Feasibility Study ("DFS") and commence applications for key environmental approvals. Saracen will also conduct some further resource extension exploration activities to optimise the DFS and mine plan, targeting completion date of these activities in Q3 FY2015.

At that point, based upon the results of the DFS, the gold price, funding sources and project economics at the time, Saracen will make a final development decision. First production could be achieved as early as Q2 FY2016 following a 6 month period of mine development and plant refurbishment.

Based on the current open pit Ore Reserve of 728,000 ounces, Saracen estimates that the Thunderbox Operation could produce approximately 140,000 ounces per annum at an all-in sustaining cash cost of approximately A$1,100/oz (base case cost assumptions) over an initial mine life of 5 years. Saracen estimates that the total redevelopment capital expenditure required will be approximately A$45-55 million inclusive of all capital and pre-strip mining costs as outlined in Table 2 below.

Pre-feasibility level due diligence conducted on the Thunderbox Operations yielded the following open pit physical and cost parameters that will be the baseline for the DFS and future development plans:

Physicals & Costs	Thunderbox	Bannockburn	Total
Total Volume (Mbcm)	24.9	20.2	45.1
Strip Ratio (w:o)	6.8	10.6	8.1
Gold Production			
Ore Mined (Mt)	7.6	5.2	12.8
Ore Grade (g/t)	1.8	1.8	1.8
Contained Ounces (koz)	431	297	728
Mill Recovery (%)	93.9%	93.9%	93.9%
Recovered Ounces (koz)	405	279	684
Operating Costs			
Mining Cost ($/bcm)	$9.0 - $10.0	$10.0 - $11.0	$9.4 - $10.4
Processing ($/t)	$19.0 - $20.0	$17.0 - $18.0	$18.2 - $19.2
Ore Haulage ($/t)	$0.0	$4.0 - $5.0	$1.6 - $2.0
Administration ($/t)	$2.0 - $3.0	$2.0 - $3.0	$2.0 - $3.0
Royalties (%) ^	4%	4%	4%
Capital Costs			
Pre-production ($m)			$3.0 - $4.0
Haul Road ($m)			$1.5 - $2.5
Pre-strip ($m) *			$18.0 - $20.0
Plant Refurb ($m)			$15.0 - $18.0
First Fills ($m)			$1.5 - $2.5
Infrastructure ($m)			$2.0 - $3.0
Sustaining ($mpa)			$3.5 - $4.5

** Pre-strip cost of $18.0 - $20.0m is included in Mining Operating Costs*

^ Royalties of 4% includes 2.5% for WA State royalties + 1.5% payable to Norilsk (capped at A$17m)

Table 2: Pre-feasibility study results for the Thunderbox Operations

Saracen's plans to re-develop the Thunderbox Operations will take into consideration the following:-

- The intention to drill below the Thunderbox deposit targeting potential extensions to the high grade shoots which included 97m @ 2.61g/t (refer Figure 5) that would be amenable to underground mining.
- Saracen's existing Carosue Dam Operations are forecast to deliver strong free cashflows in FY2015 and FY2016 from the Whirling Dervish open pit courtesy of a falling all-in cost profile and significantly in-the-money hedgebook.
- Synergies with the Carosue Dam Operations with respect to operating personnel and open pit mining equipment (given both operations are planned to utilise similar sized mining equipment).
- Potential to evaluate low capex start-up options, including mining satellite pits and/or immediate extraction of high grade ore beneath the existing Thunderbox open pit via an underground portal.

Development Funding

Saracen has estimated an amount of A$3-4 million will be required to fund activities through to completion of the DFS and a potential redevelopment decision in Q3 FY2015. This will be funded from existing cash reserves. At current Australian dollar gold prices, all current and future debt drawn (including the Thunderbox Operations acquisition costs) is expected to be repaid from free cashflow generated from the Carosue Dam Operations.

Assuming a positive development decision is made in Q3 FY2015, the Company expects to fund the required capital expenditure of A$45–55 million from a combination of cash on hand, cash flow from existing operations and a new project finance facility. MBL, as Saracen's banker, has been actively involved during the acquisition due diligence process.

Saracen has a proven management team capable of re-commissioning a brownfields open pit gold project in Western Australia. The development team that successfully brought the Carosue Dam Operations back into production in 2010 is largely intact.

Completion of the acquisition of the Thunderbox Operations will be subject to certain conditions precedent. Completion is anticipated to occur within 120 days, unless extended by the mutual agreement of the parties.

Macquarie Capital (Australia) Limited is acting as financial adviser to Saracen in respect of the acquisition.

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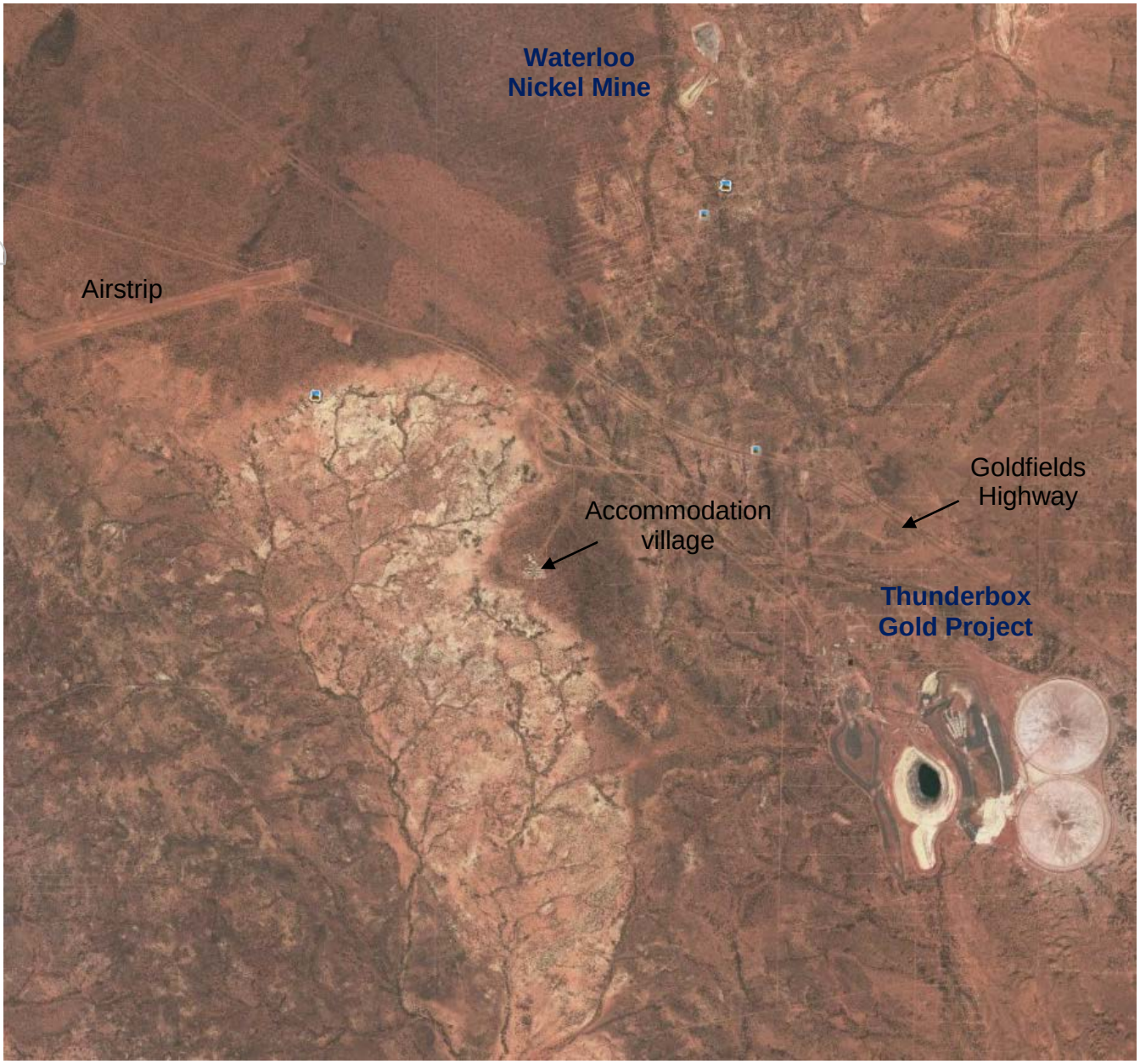

Figure 6: Aerial View of Thunderbox Gold Mine

Figure 7: Thunderbox CIL Gold Treatment Plant

Figure 8: Thunderbox SAG & Ball mills with the dual fuel powerstation in the background

Figure 9: Thunderbox Open Pit

Figure 10: Bannockburn Open Pit

Mineral Resources & Ore Reserves Statement (JORC Code 2012)

AS AT DECEMBER 2013

GOLD - MINERAL RESOURCES													
District	Deposit	Measured			Indicated			Inferred			Total		
		tonnes	g/t	oz	tonnes	g/t	oz	tonnes	g/t	oz	tonnes	g/t	oz
Thunderbox	Thunderbox				21,471,000	1.6	1,104,000	5,656,000	1.4	253,000	27,127,000	1.6	1,357,000
	Thunderbox Sub-Total	***0***	***0.0***	***0***	***21,471,000***	***1.6***	***1,104,000***	***5,656,000***	***1.4***	***253,000***	***27,127,000***	***1.6***	***1,357,000***
Bannockburn	Bannockburn				10,859,000	1.8	621,000	2,448,000	1.4	110,000	13,307,000	1.7	731,000
	Bannockburn Sub-Total	***0***	***0.0***	***0***	***10,859,000***	***1.8***	***621,000***	***2,448,000***	***1.4***	***110,000***	***13,307,000***	***1.7***	***731,000***
All	Ore Stockpiles												
	Sub-grade stockpiles												
	Total Mineral Resources	*0*	*0.0*	*0*	*32,330,000*	*1.7*	*1,725,000*	*8,104,000*	*1.4*	*363,000*	*40,434,000*	*1.6*	*2,088,000*

Table 3: Gold Mineral Resources Statement by District

GOLD - ORE RESERVES												
District	Deposit	Mine Type	Proved Reserves			Probable Reserves			Total Ore Reserves		
			tonnes	g/t	oz	tonnes	g/t	oz	tonnes	g/t	oz
Thunderbox	Thunderbox	OP				7,594,000	1.8	431,000	7,594,000	1.8	431,000
	Thunderbox Sub-Total		***0***	***0.0***	***0***	***7,594,000***	***1.8***	***431,000***	***7,594,000***	***1.8***	***431,000***
Bannockburn	Bannockburn	OP				5,180,000	1.8	297,000	5,180,000	1.8	297,000
	Bannockburn Sub-Total		***0***	***0.0***	***0***	***5,180,000***	***1.8***	***297,000***	***5,180,000***	***1.8***	***297,000***
ALL	Stockpiles										
	Total Ore Reserves		*0*	*0.0*	*0*	*12,774,000*	*1.8*	*728,000*	*12,774,000*	*1.8*	*728,000*

Table 4: Gold Ore Reserves Statement by District.

Notes to accompany Gold Resource and Reserve Statements including JORC 2012 Disclosure

Summary notes relating to Mineral Resource Estimate Table 1 – Thunderbox

- Thunderbox is a mesothermal lode gold deposit located at the southern end of the Yandal greenstone belt in an area where several major shear zones converge and join with the Perseverance Fault.
- The shear zone dips at 30° to 60° WSW, with the exception in the vicinity of the mineralisation, where the shear is vertical to steeply dipping. Mineralisation is hosted by strongly deformed, silicified and carbonate altered albite-quartz porphyry in the hangingwall of the shear zone.
- Sampling methods undertaken at Thunderbox by previous owners have included rotary air blast (RAB), reverse circulation (RC), diamond drillholes (DD) and RC drilling and blast hole sampling within the pit. Saracen has not carried out any sampling activities at the Thunderbox deposit due to only recently acquiring the deposit.
- The deposit was initially sampled by 470 RAB holes. Further drilling included 306 RC holes (assumed standard 5 ¼ ''bit size), 216 HQ, NQ and PQ diamond drillholes.
- Methods for exploration RC, RAB and DD drilling included fire assay with AAS finish and BAAS. Some samples in the dataset have unknown methods as this data was not captured or supplied.
- Block estimation has been completed in both Surpac and Datamine software for comparison purposes. All wireframes have been constructed in Surpac. The estimation method was Ordinary Kriging. The geological interpretation strongly correlates with the mineralised domains. This is the case where the mineralised domain corresponds with the felsic to intermediate porphyry intrusion. Where well known the geological unit is described in the block model. All wireframe boundaries including those where lithology and mineralisation correspond, hard boundaries are enforced.
- The mineral resource has been classified into Indicated and Inferred categories based on drill hole spacing, geological confidence, and grade continuity and estimation quality. Indicated material is defined by drill spacing better than 80m x 80m, and Inferred is defined by greater than 80m x 80m.
- Based on Saracen's current economic operations at Carosue Dam, and the natural grade distinction above background, a grade of 0.5g/t has been chosen.
- The Thunderbox deposit is amenable to mining by both open pit and underground methods. The Thunderbox mill employs a conventional crushing, grinding and CIL leaching process to extract the gold. The mill operated successfully between 2002 and 2007, processing in excess of 9Mt of ore. The conventional plant displayed excellent performance with gold recoveries between 93.4 to 96.6 % over the life of the mine.

Summary notes relating to Ore Reserve Estimate Table 1 – Thunderbox

- The Ore Reserve Estimate classification for Thunderbox has been in accordance with the JORC code 2012. All of the Ore Reserve Estimate was classified as being Probable with all of the Ore Reserve Estimate being derived from that portion of the Mineral Resource classified as indicated. There is no measured component to the Thunderbox Mineral Resource Estimate.
- The mining method to be employed will be by conventional hydraulic excavator and dump truck fleet. The class of excavator employed (120t and 260t) matches those used in previous pit stages at Thunderbox as well as those currently working at Saracen's Carosue Dam Operations, providing good comparative cost data and performance rates for financial modelling purposes. Wall parameters assumed for the pit are based upon recommendations from an independent geotechnical consultancy. Mining dilution has been set at 10% with mining recoveries set at 98%, and a minimum mining width of 30m has been adopted for the study.
- The ore reserve will be treated at the established Thunderbox Process Plant which is a CIL cyanide leach plant incorporating a gravity circuit. An average plant processing recovery of 93.9% has been assumed in the Ore Reserve Estimate which was derived from metallurgical test work. Arsenopyrite is present in the ore, with the arsenic levels being reduced to acceptable levels by the addition of ferric sulphate to precipitate the arsenic as ferric arsenate thereby locking the arsenic in the plant tailings for storage.

- For the purpose of Ore Reserve Estimate a marginal cut-off of 0.5g/t was calculated based upon an assumed gold price of AUD$1350/oz and applicable processing, haulage and administration costs. A top cut has already been applied to the Mineral Resource Estimate eliminating the necessity for any further adjustment to the Ore Reserve estimate.
- Capital costs for the mill refurbishment have been based upon estimates provided by industry consultants following site visits and follow up investigations. Costs for haul road construction and village refurbishment are based upon recent contracts for similar work undertaken at Saracen's Carosue Dam Operations. Operating costs for open pit mining and ore haulage have been derived from a combination of actual costs from Saracen's Carosue Dam Operations and costs supplied by an independent industry consultant. Operating costs for ore processing have been derived from known parameters at Thunderbox, with additional costs such as labour sourced from current operational data at Saracen's Carosue Dam Operations.
- Thunderbox mine is currently on 'care and maintenance'. No applications for mining or processing related activities have been submitted at this time as the assets have only just recently been acquired.
- The existing Thunderbox mine, the intended cutback, the Thunderbox processing facility, and the accommodation village all lay on granted mining leases. The gas spur pipeline, the bore field and the airstrip are all on granted miscellaneous licences.
- Before operations at Thunderbox open pit and processing facility can recommence, the following will be required for statutory approval:
    - Flora surveys for new areas of clearing, waste rock characterisation studies, and tailings storage facility documentation detailing geotechnical requirements for future lifts. A works approval, clearing permit, project management plan and mining proposal will require preparing and submitting. Groundwater licences will also need reviewing and a strategy formulated and submitted.
- Existing infrastructure includes:
    - A CIL ore processing facility with a name plate capacity of 2.5mtpa situated adjacent to the Thunderbox pit. A modern accommodation camp is sited within a few kilometres of the pit, and a well maintained gravel airstrip services the camp. The mine site is 2km from the sealed highway linking it to Leinster, 40km to the North. The mine site is connected to the Goldfields Gas Transmission Line.

Summary notes relating to Mineral Resource Estimate Table 1 – Bannockburn

- The Bannockburn deposit is located along the western margin within the central portion of the Norseman-Wiluna greenstone belt. The gross geometry of the deposit is controlled by the Bannockburn fault, a steeply dipping NNW trending fault that is continuous over at least 2.3km on the western margin of the orebody. The fault separates an ultramafic unit in the west from the Bannockburn host sequence in the east. It dips steeply east, rolling to vertical and steep west dipping in the northern part of the orebody. The Bannockburn fault is effectively the western boundary to the orebody with very little mineralisation penetrating the western side of the fault. The Central fault which hosts the Central orebody has a shallow northerly plunge and is the orebody on which the majority of the underground workings have focused on.
- Saracen has not carried out any sampling activities at the Bannockburn deposit due to only recently acquiring the deposit. Limited historical data has been provided by previous owners. Sampling methods undertaken at Bannockburn by previous owners have included rotary air blast (RAB), reverse circulation (RC) and diamond drillholes (DD). RC drilling carried out in the 1990s includes spear sampled composites and riffle split 1m samples. RAB drilling was spear sampled. More recent RC drilling has been riffle split or spear sampled. Some sampling methods remain unknown. The sampling method for most drill core is unknown. Some historic core was half core sampled.
- Drilling activities at Bannockburn have included 684 RAB holes, 1694 RC holes (some with diamond tails) and 78 DD holes (HQ, NQ, and unknown diameter). Some historic HQ core was oriented by unknown methods. A 50 gram fire assay with AAS finish was used to determine the gold concentration for 1990s RC drilling. This method is considered suitable for determining gold concentrations in rock and is a total digest method. Limited historic samples were assayed using a leachwell digest and AAS finish in the onsite laboratory. More recent RC drilling has been assayed

using a 50g aqua regia or 40g fire assay with AAS finish. Other assay methods for exploration RC, RAB and DD drilling included fire assay with AAS finish, aqua regia with AAS finish and unknown methods.

- Block estimation has been completed in Micromine software. All wireframes have been constructed in Surpac. All estimation uses these wireframes as hard boundaries. Inverse Distance cubed has been chosen as the estimation method.
- The mineral resource has been classified into Indicated and Inferred categories based on drill hole spacing, geological confidence, and grade continuity and estimation quality. Indicated material is defined by drill spacing better than 25m x 25m, and Inferred is defined by greater than 25m x 25m.
- Based on Saracen's current economic operations at Carosue Dam, and the natural grade distinction above background, a grade of 0.5g/t has been chosen.
- It is expected that any future mining of the Bannockburn deposit will be processed at the Thunderbox processing facility which is currently on care and maintenance. The Thunderbox mill employs a conventional crushing, grinding and CIL leaching process to extract the gold. The mill operated successfully between 2002 and 2007, processing in excess of 9Mt of ore. The conventional plant displayed excellent performance with gold recoveries between 93.4 to 96.6 % over the life of the mine.

Summary notes relating to Ore Reserve Estimate Table 1 – Bannockburn

- The Ore Reserve Estimate classification for Bannockburn has been in accordance with the JORC code 2012. All of the Ore Reserve Estimate was classified as being Probable with all of the Ore Reserve Estimate being derived from that portion of the Mineral Resource classified as indicated. There is no measured component to the Bannockburn Mineral Resource Estimate
- The mining method to be employed will be by conventional hydraulic excavator and dump truck fleet. The class of excavator employed (120t and 260t) matches those currently working at SGM's Carosue Dam Operations, providing good comparative cost data and performance rates for financial modelling purposes. An assumed overall wall angle was adopted for the purposes of pit optimisation, based upon the existing walls of the mined out pit. Mining dilution has been set at 20% with mining recoveries set at 93%, and a minimum mining width of 30m has been adopted for the study.
- The ore reserve will be treated at the established Thunderbox Process Plant which is a CIL cyanide leach plant incorporating a gravity circuit. An average plant processing recovery of 93.9% has been assumed in the Ore Reserve Estimate which was derived from metallurgical test work.
- For the purpose of Ore Reserve Estimate a marginal cut-off of 0.7g/t was calculated based upon an assumed gold price of AUD$1350/oz and applicable processing, haulage and administration costs. A top cut has already been applied to the Mineral Resource Estimate eliminating the necessity for any further adjustment to the Ore Reserve estimate.
- Capital costs for the mill refurbishment have been based upon estimates provided by industry consultants following site visits and follow up investigations. Costs for haul road construction and village refurbishment are based upon recent contracts for similar work undertaken at SGM's Carosue Dam Operations. Operating costs for open pit mining and ore haulage have been derived from a combination of actual costs from SGM's Carosue Dam Operations and costs supplied by an independent industry consultant. Operating costs for ore processing have been derived from known parameters at Thunderbox, with additional costs such as labour sourced from current operational data at SGM's Carosue Dam Operations
- Bannockburn mine is currently on 'care and maintenance'. No applications for mining or processing related activities have been submitted at this time as the assets have only just recently been acquired.
- The existing Bannockburn mine, the intended northern cutback, the Thunderbox processing facility, and the accommodation village all lay on granted mining leases. The proposed haul road linking Bannockburn to the Thunderbox processing facility, the gas spur pipeline, the bore field and the airstrip are all on granted miscellaneous licences.
- Before operations at Bannockburn open pit and processing facility can recommence, the following will be required for statutory approval:

- Flora surveys for new areas of clearing, waste rock characterisation studies, groundwater and surface water studies, and tailings storage facility documentation detailing geotechnical requirements for future lifts. A works approval, clearing permit, groundwater licence, project management plan and mining proposal will require preparing and submitting. Groundwater licences will also need reviewing and a strategy formulated and submitted.

- Existing infrastructure includes:
  - A CIL ore processing facility with a name plate capacity of 2.5mtpa is situated approximately 30km from the Bannockburn pit. A modern accommodation camp is sited within a few kilometres of the processing plant, and a well maintained gravel airstrip services the camp. The processing plant is 2km from the sealed highway linking it to Leinster, 40km to the North. The site is connected to the Goldfields Gas Transmission Line.

Competent Persons Statements

The information in the report to which this statement is attached that relates to Exploration Results and Mineral Resources is based upon information compiled by Mr Daniel Howe, a Competent Person who is a member of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Daniel Howe is a full-time employee of the company. Daniel Howe has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore reserves'. Daniel Howe consents to the inclusion in the report of matters based on his information in the form and context in which it appears.

The information in the report to which this statement is attached that relates to Ore Reserves is based upon information compiled by Chris Burton, a Competent Person who is a member of The Australasian Institute of Mining and Metallurgy. Chris Burton is a full-time employee of the company. Chris Burton has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore reserves'. Chris Burton consents to the inclusion in the report of matters based on his information in the form and context in which it appears.

Thunderbox

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
Sampling Techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*	Sampling methods undertaken at Thunderbox by previous owners have included rotary air blast (RAB), reverse circulation (RC), diamond drillholes (DD) and RC drilling and blast hole sampling within the pit. Limited historical data has been provided by previous owners. Saracen has not carried out any sampling activities at the Thunderbox deposit as the acquisition of the project has not yet been finalised.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	RC, RAB, and DD core drilling is assumed to have been completed by previous holders to industry standard at that time (1999- 2007).
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. *Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information*	All RAB, RC and DD and sampling is assumed to have been carried out to industry standard at that time. RC grade control drilling was used to obtain 1m samples or 2m composite samples from which 3 kg was pulverised to create a 50g charge for fire assay, while blast hole samples were composited into 2.5m before a 3kg sample was obtained for pulverising to a final 50g charge for fire assay.
Drilling Techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	The deposit was initially sampled by 470 RAB holes. Further drilling included 306 RC holes (assumed standard 5 ¼ ''bit size) , 216 HQ, NQ and PQ diamond drillholes , approximately 15,400 blast holes and 2,400 RC grade control holes. Some diamond drilling carried out for geotechnical studies was oriented (the method is unknown), it is unknown if other core was oriented.
Drill Sample Recovery	*Method of recording and assessing core and chip sample recoveries and results assessed*	Recoveries for some grade control drilling and blast hole sampling have been recorded based on a visual weight estimate. No other recoveries have been provided, it is unknown if they were recorded
	Measures taken to maximise sample recovery and ensure representative nature of the samples	It is unknown what, if any, measures were taken to ensure sample recovery and representivity.
	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.	Any historical relationship is not known.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature.* *Core (or costean, channel, etc) photography.*	Logging of diamond drill core, RAB, RC and blast hole chips record lithology, mineralogy, texture, mineralisation, weathering, alteration and veining. Some diamond drilling has been photographed and geotechnically logged to provide data for geotechnical studies. it is unknown if all diamond core was photographed.
	The total length and percentage of the relevant intersections logged	All drillholes appear to have been logged in full.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	The sampling method for drill core is unknown.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	The sampling method for exploration RAB and RC drilling is unknown. Grade control RC drilling has been cone split while blast hole sampling has been riffle split. Wet drilling was rarely encountered, and extra care was taken to clean the splitter after encountering wet samples. Drillholes in puggy, wet clays were abandoned and redrilled once dewatering of the pit had commenced. Care was taken to adjust the splitter orifice for grade control drilling to ensure the sample weight did not exceed 3kg, meaning no subsampling was needed at the preparation stage.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sampling techniques for exploration RAB, RC and DD drilling are unknown, best practice is assumed. The sample preparation of RC grade control drilling and blast hole sampling involved oven drying, coarse crushing and total grinding in an LM5.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Best practice is assumed at the time of historic RAB, DD and RC sampling. Procedures adopted to ensure sample representivity for RC grade control and blast hole sampling included weight analysis to determine split ratio (at least 2 holes per program) and sizing analysis of every 25th sample, with an expected return of 90% passing 75um.
	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.	It is unknown if duplicate sampling was performed on exploration RAB, RC and DD drilling. Field duplicates were carried out on RC grade control drilling at a rate of one per hole, collected from the second sample port on the cone splitter. Duplicates were carried out at a rate of 1 in 20 for blast hole sampling.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Analysis of data determined sample sizes were considered to be 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.*	A 50 gram fire assay with AAS finish was used to determine the gold concentration for all grade control samples. This method is considered suitable for determining gold concentrations in rock and is a total digest method. Methods for exploration RC, RAB and DD drilling included fire assay with AAS finish, BAAS and unknown methods.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model,	The clay mineralogy of the deposit was investigated using PIMA (Portable Infra-red Microscopic Analyser) analysis to assist with geological interpretation. This data was not used in the estimation process.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	reading times, calibrations factors applied and their derivation, etc.	
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Historic RAB, DD and RC drilling is assumed to have been carried out to industry standard regarding QAQC procedures. A comprehensive QAQC protocol was established for Grade control RC and blast hole sampling. Standards (certified reference materials of known grade supplied by Geostats), Blanks and field duplicates were carried out at a rate of 1 in 20 samples. Approximately 10% of analyses were repeated by the laboratory based on grade of original assays. The laboratory also carried out an internal QAQC program utilising its own blanks and standards. Approximately 5% of pulps from RC drilling were retrieved and submitted to an external laboratory as a further check. Analysis of QAQC data determined acceptable levels of accuracy with no bias existing in the dataset.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	It is unknown if historic intercepts were verified by alternative company personnel.
	The use of twinned holes.	A number of exploration RC holes were drilled to twin original RAB holes and verify results.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols	Limited documentation of this nature has been provided. Logging of RC grade control drilling was completed on computer before validation and loading into the database. Limited drilling data has been supplied in an Access database. RC grade control holes were chip trayed for future reference
	Discuss any adjustment to assay data.	It appears no adjustment was made to assay data.
Location of data points	*Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	Spectrum Surveys were contracted to survey in a base line through the central area of the deposit after initial discovery. Holes were then located using DGPS. The accuracy of the instrument used is unknown Drilling within the pit was surveyed by company personnel using a Geodimeter 600 robotic total station with an accuracy of +/- 10 mm. Downhole surveys for exploration RC and DD drilling were carried out using an Eastman single shot camera at regular intervals, while approximately 10% of grade control RC drillholes were surveyed using an Eastman single shot camera.
	Specification of the grid system used.	AMG84 Zone 51 grid coordinate system is used
	Quality and adequacy of topographic control.	Kevron Geomatic Services flew and processed aerial photography and provided orthoimages at 1:5000 scale over the Thunderbox deposit and environs.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	No exploration results reported in this release
	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 drilling is distributed and spaced such that geological and grade continuity can be established to estimate the mineral resource and ore reserve appropriately. The mineralisation is continuous over a 2km strike length, therefore the 80m x 80m exploration drill spacing effectively defines the continuity.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
Orientation of data in relation to geological structure	*Whether sample compositing has been applied.*	Historic RAB drilling was sampled with 4m composite samples. Grade control RC drilling was carried out on 2m composite samples, while blast hole sampling was carried out on 2.5m composites.
	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The bulk of the drilling has been oriented to the east in order to provide the best intersection angles possible for the steeply west dipping orebody.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	All drilling from surface has been drilled as close to perpendicular as possible. This has reduced the risk of introducing a sampling bias as far as possible.
Sample security	*The measures taken to ensure sample security.*	Information on sample security measures has not been provided
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No evidence of external reviews has been supplied. QAQC procedures appear to have been regularly internally reviewed and updated.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	M36/504, M36/512 and M36/542 form part of the Thunderbox project currently being acquired by Saracen, and are in good standing. There are no native title claims over the Thunderbox deposit. A number of heritage surveys have been undertaken with Aboriginal groups with no sites of significance identified. In addition a detailed archaeological survey has been conducted with no sites of significance identified
	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.	The tenements are in good standing and the license to operate already exists.
Exploration done by other parties	A*cknowledgment and appraisal of exploration by other parties.*	Extensive nickel exploration was undertaken in the area during the 1960s and 1970s. Grassroots gold and PGE exploration was undertaken during and since the 1980s by BHP, Dominion, Dalrymple Resources and Forrestania Gold. Thunderbox was discovered in 1999.
Geology	*Deposit type, geological setting and style of mineralisation.*	Thunderbox is a mesothermal lode gold deposit located at the southern end of the Yandal greenstone belt in an area where several major shear zones converge and join with the Perseverance Fault. The shear zone dips at 30° to 60° WSW, with the exception in the vicinity of the mineralisation, where the shear is vertical to steeply dipping. Mineralisation is hosted by strongly deformed, silicified and carbonate altered albite-quartz porphyry in the hangingwall of the shear zone. The shear juxtaposes foliated basalts and intrusive porphyries in the hangingwall against sedimentary rocks in the footwall. The zone of

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
		shearing is over 200m wide. An ultramafic unit occurs within the shear, in the footwall of the deposit and is attenuated along the shear. The main gold related hydrothermal alteration assemblage comprises quartz-ankerite-arsenopyrite-pyrrhotite-galena and gold. This assemblage has been overprinted by a retrograde chlorite-epidote-white mica-biotite-quartz and pyrite assemblage. Syn-mineralisation veins have a continuum of vein textures ranging from laminated to pseudo-breccias.
Drillhole information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* *□easting and northing of the drill hole collar* *□elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* *□dip and azimuth of the hole* *□down hole length and interception depth* *□hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	A total of 412 holes have been used in the mineral resource and are deemed to be material. It is not practical to summarise all of the holes here in this release. Future drill hole data will be periodically released or when a results materially change the economic value of the project. Exclusion of the drilling information will not detract from the reader's view of the report.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*	No exploration results are reported in this release.
	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.	No exploration results are reported in this release.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	There are no metal equivalents reported in this release.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*	Saracen has not previously reported exploration results nor are any included in this release. The geometry of the mineralisation is well known and true thickness can be calculated. Drilling intersects the mineralisation perpendicular and at an average intersection angle of 45 degrees.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
	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').	
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.*	Included in this release is an appropriately orientated longsection of the mineralisation, illustrating the centroids of the intercept point projected to a plane. Included also in this release are cross section views of the mineralisation which provides the visual perspective of the typical drilling angle.
Balanced Reporting	*Where comprehensive reporting of all Exploration Results are not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Saracen has not previously reported exploration results nor are any included in this release.
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.*	Historic activities have included drilling to obtain samples for metallurgical test work, bulk density analyses and geotechnical analyses. A number of geophysical surveys including dipole-dipole IP, Gradient array IP and TEM were carried out over known mineralisation to determine effectiveness in delineating mineralisation/alteration. None were deemed effective. An environmental survey investigated the erosional characteristics of the soil, surface hydrology and groundwater and identified no issues. A partial leach soil sampling program carried out over the deposit was deemed effective in identifying anomalous gold values associated with the deposit.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive*	Saracen is currently working on establishing exploration opportunities which will extend the known mineralisation at depth. This will primarily focus on understanding the key geological relationships and critical continuity directions to target depth extensions.

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Code Explanation**	**Commentary**
Database Integrity	*Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	The database provide to Saracen was an extract from an acquire SQL database. The primary database is regulated by a locked framework called the acquire data model which fixes the relationships between tables. The data model minimises the potential for data collection and data usage errors through pre-determined look up tables, storage and export functions. User defined permissions also regulate the ability to add, edit or extract data. It is unknown at this stage how the process used to record the primary data. Typical methods are manual translation of logging and data capture from written logs, direct import of csv tables through a data import scheme where data is validated upon import or direct data entry options into the database using predefined look up values.
	Data validation procedures used.	The rigid structure of the acquire data model is such that predefined rules and look up tables are applied to all data entry. Data that does not meet the criteria are highlighted and moved to a buffer area until the data is rectified to meet the passing rules. It is unknown at this stage how the database was managed and who was responsible for its maintenance. It is also unknown if there was any built in functionality around pass/fail checks on assay importing.
Site Visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	No site visits have taken place at this point in time by the competent person. However, a team of 12 people including Saracen technical representatives as well as industry consultants did conduct site visits. Historical drill core was inspected during the visits.
	If no site visits have been undertaken indicate why this is the case.	Given that there was no activity (drilling, mining etc.), it was deemed that a site visit during the process would not provide significant value and not materially affect the outcome of any resource estimate.
Geological Interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	The interpretation has been based on the detailed geological work completed by a series of previous owners of the project. This knowledge is based on extensive geological logging of drill core, RC chips, detailed open pit mapping and assay data. The gross architecture of the deposit is very simple and the interpretation is robust.
	Nature of the data used and any assumptions made.	The interpretations have been constructed using all available geological logging descriptions including but not limited to, stratigraphy, lithology, texture, and alteration. Interpreted cross cutting faults have been observed and have been use to guide disruptions in the position of the key mineralised domains. Open pit mapping had been included in the interpretation, however only affects the location of the domain boundaries inside the previously mined open pit. Cross sectional interpretations of the mineralisation have been created and from the basic framework through which the 3D wireframe solid is built.
	The affect, if any, of alternative interpretations on Mineral Resource estimation.	Due to the simplistic nature of the mineralisation no alternative interpretations have been considered. Over the life of the project several different sources have interpreted the mineralisation and all agree on the same basic interpretation.
	The use of geology in guiding and controlling the Mineral Resource estimation.	The geology has heavily influenced the domains controlling the mineral resource estimation. The main mineralised shear has been domained such that the internal geological characteristics have been

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Code Explanation**	**Commentary**
		honoured. This includes discriminating between the primary felsic to intermediate host and areas of highly sheared "hybrid" host rocks where primary lithology is unclear.
	The factors affecting continuity both of grade and geology.	At the deposit scale the gold distribution is uniform throughout the orebody. The mineralisation terminates abruptly at the contacts of either the felsic to intermediate porphyry or the "hybrid" zones. The distribution is the result of the pervasive brittle fracturing of the porphyry and subsequent pervasive alteration. Infrequent higher grade zones are associated with either narrow laminated quartz veins or irregular zones of intense brecciation at the contacts of the porphyry host. Gold mineralisation appears to be related to the type and abundance of sulphides and carbonate alteration. Grades are generally higher in arsenopyrite and ankerite rich zones and lower in pyrite and dolomite rich zones. Pyrite is generally coarse, euhedral and late. The presence of pre-, syn-, and post deformational sulphides suggests multi-phase episodes of deformation and mineralisation.
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.*	Thunderbox mineralisation extends from 6879000mN to 6881000mN, 304000mE to 304400mE and 500 meters below surface. The Thunderbox shear generally strike NNW and dips 60° towards the WSW. In the vicinity of the strongest gold mineralisation the shear is vertical to steeply west dipping. The shear and mineralisation is offset across a series of dextral, NE trending faults.
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.*	Block estimation has been completed in both Surpac and Datamine software for comparison purposes. All wireframes have been constructed in Surpac. All estimation uses these wireframes as hard boundaries. Estimation of parent blocks are interpolated, and assigned to sub-cells. The maximum distance of extrapolation is less than 50m. Univariate statistical analysis of length weighted, (1m), domain coded downhole composites have been completed for all domains and top-cuts applied where applicable. Extreme grades are not common in the data set and all domains have been analysed individually to determine specific top-cut values. Due to the lack of extreme grades the top-cut process affects only 1-2% of the data. Variogram modelling was completed with GeoAccess Professional software. This defined the special continuity with in the domains. The parameters determined from this analysis were used in the interpolation process.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The ordinary kriged resource estimate has been cross checked with an inverse distance squared estimate. The variance between the two estimates was less than 2%. Historical mine production and mill reconciliation records suggest that the estimation method and parameters used result in a highly accurate estimate of the resource. Over the 6 year life, the resource reconciled at 98.5%. There is no evidence in the geology to suggest this trend would not continue.
	The assumptions made regarding recovery of by-products.	No assumptions have been made with respect to the recovery of by-products.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulfur for acid mine drainage characterisation).	There has been no estimate at this point of deleterious elements. Saracen is unaware if any elements other than gold have been assayed. Arsenic may have been assayed; however this data has not been made available.

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Code Explanation**	**Commentary**
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The parent block sizes for the resource model are X (10m) by Y (20m) by Z (5m). These are deemed appropriate for the majority of the resource, where drill spacing is in the order of 40m x 40m. Parent blocks have been sub-celled to X (0.5m) by Y (0.5m) by Z (0.5m) to ensure that the wireframe boundaries are honoured and preserve the location and shape of the mineralisation. Search ranges have been informed by variogram modelling and knowledge of the drill spacing and the known mineralisation geometry including direction of maximum continuity. Three search estimation runs are used with the aim to satisfy the minimum sample criteria in the first search range where possible.
	Any assumptions behind modelling of selective mining units.	No selective mining units have been assumed.
	Any assumptions about correlation between variables.	No assumptions have been made regarding correlation between variables.
	Description of how the geological interpretation was used to control the resource estimates.	The geological interpretation strongly correlates with the mineralised domains. Specifically where the mineralised domain corresponds with the felsic to intermediate porphyry intrusion. Where well known the geological unit is described in the block model. All wireframe boundaries including those where lithology and mineralisation correspond, hard boundaries are enforced.
	Discussion of basis for using or not using grade cutting or capping.	Statistical analysis of all domains highlight that there are very few grades in the domain populations that require top-cutting. Top-cut have been employed to eliminate the risk of overestimating in the local areas where a few high grade sample exist. A sensitivity analysis was carried out on the effect of estimating the model with and without the high values being cut. The result with the samples left in un-cut was an increase in grade by 0.1g/t. This highlights the low effect of the higher end grades in the population.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Several key model validation steps have been taken to validate the resource estimate. The mineral resource model has been stepped through visually in sectional and plan view to appreciate the composite grades used in the estimate and the resultant block grades. This has also been carried out in 3D with the composite grades and a point cloud of the model grades. Easting, Northing and Elevation swathe plots have been constructed to evaluate the composited assay means verses the mean block estimates. The mineral resource model has been constructed to include kriging efficiency and the slope of regression values. These values are used to measure the quality of the estimate. Natural deterioration of the quality is observed at the perimeter of the modelled areas where data density is lower. The estimate was checked against previously reconciled production records received during the due diligence process. These match very closely.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	All tonnages are estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	Based on Saracen's current economic operations at Carosue Dam, and the natural grade distinction above background, a grade of 0.5g/t has been chosen.

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Code Explanation**	**Commentary**
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.*	The Thunderbox deposit is amenable to mining by both open pit and underground methods. The deposit has successfully been mined by open pit in the past between 2002 and 2007. There are reasonable grounds to assume that in the future this deposit will again be mined by conventional open pit load and haul operations. Beneath the previously mined pit is a portion of the mineral resource that has potential to be extracted by a bulk underground approach. It has been discussed that in the thicker potions of the resource that an underground caving approach may be an efficient means of economic extraction. With supplementary traditional longhole stoping in areas with narrower widths.
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 process 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 Thunderbox gold deposit consists of free milling gold which occurs as inclusions within, and at the rims of arsenopyrite crystals, and as free gold clusters within quartz-carbonate veins. It is expected that any future mining of the Thunderbox deposit will be processed at the onsite processing facility which is currently on care and maintenance. The Thunderbox mill employs a conventional crushing, grinding and CIL leaching process to extract the gold. The mill operated successfully between 2002 and 2007, processing in excess of 9Mt of ore. The conventional plant displayed excellent performance with gold recoveries between 93.4 to 96.6 % over the life of the mine. Importantly it should be noted that no reduction in recoveries were observed when the ore changed from oxide-transitional into fresh rock.
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	As arsenic is present in the mineralogy of the deposit, the processing plant has been designed to ensure effective management of potentially harmful arsenic contamination. A 20m diameter high rate thickener is used to thicken the tails to maximise water and cyanide recovery. Process water is added to the thickener feed to create one wash stage prior to detoxification. Arsenic precipitation is effected in a stirred closed tank with air sparging. Ferric sulphate solution is metered into the reactor on the basis of dissolved arsenic concentration. The fumes from the precipitation tank are passed through a packed bed caustic scrubber before venting to the atmosphere. The precipitation tank overflow is then passed to the tails hopper.
Bulk Density	*Whether assumed or determined. If assumed, the*	Previous owners have taken routine density measurements when drilling diamond core. The method of

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Code Explanation**	**Commentary**
	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.	calculation is the water displacement technique. Measurements have been recorded in the acquire database and extraction schemes pair this data with the major lithology code for statistical analysis. At this point Saracen does not have the available data to comment on the frequency and distribution of the density measurements. The size and nature of the samples is also unknown to Saracen at this time.
	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.	As stated above the frequency and distribution is unknown at this point in time. It has assumed from the very good reconciliation performance from mine to mill that the determined density assignments from the mine are accurate.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	An average mean of densities collected for each lithological type has been uniformly applied to the modelled geological units. This includes the primary fresh lithologies as well as the weathered oxide and transitional zones.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.*	The mineral resource has been classified into Measured, Indicated and Inferred categories based on drill hole spacing, geological confidence, and grade continuity and estimation quality. The combination of these factors together guide the digitising of a “cookie cutter” string in long section view which selects and codes the appropriate blocks with the nominated resource classification category.
	Whether appropriate account has been taken of all the 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).	All care has been taken to account for relevant factors influencing the mineral resource estimate. Confidence in the predicted tonnes and grade estimated in the model is high and previous mining performance suggests that the input data and geological continuity are such that an excellent resource estimate can achieved.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The geological model and the mineral resource estimate reflect the competent person’s view of the deposit.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	Saracen has adopted a process for geological modelling, estimation and reporting of mineral resources that meets high industry standards. Due to the short time frame for the due diligence review, no external audits have been conducted.
Discussion of relative accuracy/confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	The mineral resource has been reported in accordance with the guidelines established in the 2012 edition of the JORC code. Saracen was only afforded data that was deemed essential for the due diligence and acquisition process, by the previous owner. This has resulted in some data cross checks that would normally occur during the construction of a detailed mineral resource estimate. The previous sections of this table identify the areas that have not appropriately been assessed. It is unlikely that these minor checks would have any material effect on the results of mineral resource.
	The statement should specify whether it relates to global or local estimates, and, if local, state the	The statements relate to a global estimate of tonnes and grade.

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Code Explanation**	**Commentary**
	relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Previous mining operation reports suggest that the estimated tonnes were within 0.4% and grade within -2.3%. No substantial changes have influenced the remaining mineral resource.

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Code Explanation**	**Commentary**
Mineral Resource estimate for conversion to Ore Reserves	*Description of the Mineral resource Estimate used as a basis for the conversion to an Ore Reserve.*	The Mineral Resource estimate for the Thunderbox gold deposit used as a basis for conversion to the Ore Reserve estimate, was compiled by Saracen using data supplied by Norilsk Nickel Australia LTD PTY during the due diligence process. The data included drilling and assay data, limited geological mapping and historical mining records to validate the model against and solid interpretation wireframes of the geology. This information was used to construct a model estimated by ordinary kriging. The model was depleted with the last final pit survey completed in 2007.
	Clear statement as to whether the Mineral Resources are reported additional to. Or inclusive of, the Ore Reserves.	The Mineral Resource reported is inclusive of the Ore Reserve.
Site Visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	Chris Burton has conducted a site visit, accompanied by a consultant geotechnical engineer and technical representatives as part of the due diligence process in Saracen's proposed purchase of the Thunderbox assets. The main focus of the visit was a physical inspection of the existing Thunderbox Pit. Observations were carried out of the existing pit wall conditions, overall stability, and inflow of groundwater. Six years have passed since the pit was last operational. Stability conditions in the mined pit were classified as good in the geotechnical report.
	If no site visits have been undertaken indicate why this is the case.	N/A
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves*	The Thunderbox Gold Mine operated as an open pit mine and processing facility for a period of five years from 2002-2007. All operating parameters have been well documented and understood. As part of the purchase of these assets by Saracen a pre-feasibility standard study has been undertaken with mining and processing parameters updated to reflect current conditions.
	The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to	Modifying factors have been applied to the study to ensure the rigor of the financial analysis. All of the parameters assumed and adopted, as well as the financial analysis completed, have been the subject to

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Code Explanation**	**Commentary**
	convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	peer review.
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied*	For the purpose of Ore Reserve Estimate a marginal cut-off of 0.5g/t was calculated based upon an assumed gold price of AUD$1350/oz and applicable processing, haulage and administration costs. A top cut has already been applied to the Mineral Resource Estimate eliminating the necessity for any further adjustment to the Ore Reserve estimate.
Mining factors or assumptions	*The method and assumptions used as reported in the Pre-feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*	The resource model used in the Mineral Resource Estimation was the basis for the generation of a range of Whittle 4X pit optimisation shells. The generation of these shells was reliant upon costs and inputs derived from current operational data and independent consultant recommendations. An appropriate shell was then selected as the basis for a preliminary pit design for the Thunderbox cutback
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Mining method to be employed will be conventional hydraulic excavator and dump truck fleet, with 120t and 260t class excavators assumed. The class of excavator employed matches those used in previous stages at Thunderbox as well as those currently working at SGM's Carosue Dam Operations, providing good comparative cost data for financial modelling purposes, as well as a reliable database of excavation and performance rates. The pit will be mined in a series of cutbacks, extending the pit to the South.
	The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control, and pre-production drilling.	Geotechnical recommendations were made by Peter O'Bryan and Associates following a site visit and a review of the monthly geotechnical operational site visit reports as well as a review of several wall parameter recommendation reports during the site's previous operational period. Once the lower section of the pit is dewatered there may be some need for additional geotechnical input. Given that this zone was below the weathering horizon it is not anticipated that the condition of the walls will have deteriorated. The Grade control method to be employed at Thunderbox will utilise blast hole sampling methods due to the well-defined mineralised extents, and the proven success of this method in earlier mined stages of the pit.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	Planned mining dilution & mining recoveries are factored into the model used in the Mineral Resource Estimation assuming the use of 120t and 260t class hydraulic excavators and based on previous and current mining experience.
	The mining dilution factors used.	Unplanned mining dilution has been assumed at 10%, based on wide mineralised zones and the class of excavator to be used.
	The mining recovery factors used.	Unplanned mining recovery has been assumed at 98%, based on wide mineralised zones and the class of excavator to be used.

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Code Explanation**	**Commentary**
	Any minimum mining widths used	A minimum mining width of 30m has been adopted for the main excavation fleet. Where 'pinch-points' occur along the interface with the existing pit it has been assumed that a smaller more versatile excavator will be employed, with appropriate costings for these areas applied.
	The manner in which inferred Mineral resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	A sensitivity analysis was carried out to determine whether the pit economics were responsive to the inclusion of inferred mineral resources. The inclusion of inferred resources only added 0.5% to the contained metal in the pit and did not materially affect the pit viability. Pit optimisation and mining studies excluded these inferred mineral resources.
	The infrastructure requirements of the selected mining methods.	The selected mining method for the pit is conventional for this style of mineralisation and no specialised infrastructure is required to accommodate this method of mining
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralisation*	The ore reserve will be treated at the established Thunderbox processing facility. The Thunderbox Process Plant is a CIL cyanide leach plant incorporating a gravity circuit which is appropriate for the extraction of gold from free milling gold ores. An average plant processing recovery of 93.9% has been assumed in the Ore Reserve Estimate which was derived from metallurgical test work in particular Ammtec Report A10519 January 2007 and are consistent with historical plant recoveries which varied from 93.4% to 95.4%.
	Whether the metallurgical process is well-tested technology or novel in nature.	The method of ore processing and extraction proposed utilises well tried and proven technology dating back to the 1960's and practiced extensively around the world.
	The nature, amount and representiveness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Metallurgical test work was carried out as part of the original feasibility study conducted by Lionore, prior to the construction of the processing facility in 2002. Five years of continuous processing of the Thunderbox ore through this plant have resulted in a solid understanding of the metallurgical parameters of the ore. Oxide, transitional, and fresh ore have all been processed through this plant during the previous operational period.
	Any assumptions or allowances made for deleterious elements.	Arsenopyrite is present in the ore and high levels of arsenic are solubilised in the plant solutions. The arsenic levels are reduced to acceptable levels by the addition of ferric sulphate to precipitate the arsenic as ferric arsenate thereby locking the arsenic in the plant tailings for storage.
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the ore body as a whole.	8.2 Million tonnes of the Thunderbox ore were processed from January 2004 to September 2007 representing the best bulk sample/pilot test possible.
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications.	N/A
Environmental factors or	*The status of studies of potential environmental*	Thunderbox mine is currently on 'care and maintenance'. No applications for mining or processing related

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Code Explanation**	**Commentary**
assumptions	*impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	activities have been submitted at this time as the acquisition of the project assets is still being finalised. The existing Thunderbox mine, the intended cutback, the Thunderbox processing facility, and the accommodation village all lay on granted mining leases. The gas spur pipeline, the bore field and the airstrip are all on granted miscellaneous licences. Before operations at Thunderbox open pit and processing facility can recommence, the following will be required for statutory approval: Flora surveys for new areas of clearing, waste rock characterisation studies, and tailings storage facility documentation detailing geotechnical requirements for future lifts. A works approval, clearing permit, and mining proposal will require preparing and submitting. Groundwater licences will also need reviewing and a strategy formulated and submitted.
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	The site is well established from previous mining activities between 2002 and 2007. There exists a CIL ore processing facility that is on care and maintenance and has a name plate capacity of 2.5mtpa situated adjacent to the Thunderbox pit. A modern accommodation camp is sited within a few kilometres of the pit, and a well maintained gravel airstrip services the camp. The mine site is 2km from the sealed highway linking it to Leinster, 40km to the North. The mine site is connected to the Goldfields Gas Transmission Line, although diesel usage has been assumed in all financial analyses, due to uncertainties over securing on-going gas supplies.
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.*	Capital costs relate to project acquisition, mill refurbishment, first fills, haul road construction, and village refurbishment. Costs for the mill have been based upon estimates provided by industry consultants following site visits and follow up investigations. Costs for haul road construction and village refurbishment are based upon recent contracts for similar work undertaken at SGM's Carosue Dam Operations.
	The methodology used to estimate operating costs.	Operating costs for open pit mining have been derived from a combination of actual costs from SGM's Carosue Dam Operations and costs supplied by an independent industry consultant. Operating costs for ore processing have been derived from known parameters at Thunderbox, with additional costs such as labour sourced from current operational data at SGM's Carosue Dam Operations
	Allowances made for the content of deleterious elements	Previous operational experience at Thunderbox did not reveal any deleterious elements within the ore or waste that required any additional cost allowances.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products	An assumed gold price of AUD$1,350/oz has been adopted for financial modelling
	The source of exchange rates used in study	All revenue and cost calculations have been made in AUD, so no exchange rate usage or assumptions have been necessary

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Code Explanation**	**Commentary**
	Derivation of transportation charges	Costs associated with bullion transportation have been derived from existing contractual arrangements at Carouse Dam
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Costs associated with refining have been derived from existing contractual arrangements at Carouse Dam
	The allowances made for royalties payable, both Government and private.	Royalty costs are the WA state government 2.5% royalty, and a 1.5% royalty payable to Norilsk Nickel (capped at A$17m for Thunderbox and Bannockburn projects combined).
Revenue Factors	*The derivation of, or assumptions made, regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.*	It has been assumed that there will be no forward sales contracts in place and that all gold will be sold at spot price to the Perth Mint
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products	An assumed gold price of AUD$1,350/oz has been adopted for financial modelling
Market Assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.*	There is a transparent quoted market for the sale of gold
	A customer and competitor analysis along with the identification of likely market windows for the product.	There is a transparent quoted market for the sale of gold
	Price and volume forecasts and the basis for these forecasts.	There is a transparent quoted market for the sale of gold
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	N/A
Economic	*The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*	An optimal pit shell based upon an AUD$1,350/oz gold price was the basis for the pit design adopted in the Ore Reserve Estimate. A discount rate of 8% was assumed in all NPV calculations.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	A full financial model was developed with sensitivities applied to all key inputs and assumptions (+/- 15%), which is appropriate to the level of study undertaken (Pre-feasibility). Undiscounted cash flows remained positive for all of the key sensitivities conducted.
Social	*The status of agreements with key stakeholders and*	When previously in operation, Thunderbox mine operators had a good relationship with neighbouring

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Code Explanation**	**Commentary**
	matters leading to social licence to operate	stakeholders, including engagement with the local pastoralists and the traditional owners. The mine is located on leasehold pastoral land with compensation agreements in place with the local pastoralist. Granted mining leases cover all of the proposed mining and processing assets and there are no Native title claims pending.
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:*	
	Any identified material naturally occurring risks	Water inrush is the only naturally occurring risk identified, and will be addressed by the construction of appropriate water diversion bunding as part of normal mining operations. The costs associated with the construction of the bund have been factored into waste mining haulage.
	The status of material legal agreements and marketing arrangements	A royalty of 1.5% of production is payable to Norilsk Nickel (capped at A$17m for Thunderbox and Bannockburn projects combined).
	The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	Gold produced from Thunderbox Mine will be sold on the spot market. A royalty of 2.5% is payable to the W.A. State government, with a royalty of 1.5% of production payable to Norilsk Nickel (capped at A$17m for Thunderbox and Bannockburn projects combined). Government approvals will need to be sought relating to this Ore Reserve Estimate, namely for mining, waste dumping, diversion of surface run-off, commencement of ore processing and tailings deposition, re-commissioning of the accommodation village and associated infrastructure, water extraction from pits and bores and the associated discharge. All of the approvals being sought have previously been in place for the previous owners of the mine, and the best opinion available suggests that this will be a likely outcome once again
Classification	*The basis for the classification of the Ore Reserve into varying confidence categories*	The Ore Reserve Estimate classification for Thunderbox has been in accordance with the JORC code 2012. All of the Ore Reserve Estimate was classified as being Probable with all of the Ore Reserve Estimate being derived from that portion of the Mineral Resource classified as indicated. There is no measured component to the Thunderbox Mineral Resource Estimate
	Whether the result appropriately reflects the Competent Person's view of the deposit.	Strong historical reconciliation data exists between mine production and milling for the period 2002-2007. During this time the resource reconciled at 98.5%. There is no evidence in the geology to suggest this trend would not continue. Cost assumptions and inputs applied to the pit optimisation and pit design were derived from a combination of historical site data, current operational data relating to Carouse Dam Operations, and expert recommendations from industry consultants. Results of these optimisations and the resultant design and analysis reflect the views of Chris Burton regarding the Thunderbox deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any)	There were no Measured Mineral Resources
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates*	All of the parameters assumed and adopted, as well as the financial analysis completed, have been the subject to peer review.

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Code Explanation**	**Commentary**
Discussion of relative accuracy/confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geo-statistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* *The statement should specify whether it relates to global or local estimates, and if local, state the relevant tonnages which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *Accuracy and confidence discussions should extend to specific discussions of any applied modifying factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty ay the current study stage.* *It is recognised that this may not be possible or appropriate in all circumstances. These statements or relative accuracy and confidence of the estimate should be compared with production data, where available.*	The ore reserve estimate was derived from the mineral resource estimate which in turn was reliant upon a resource block model whose estimation was derived from drill-hole data of sufficient continuity and spacing to satisfy the requirements for an indicated resource. The interpretation and estimation process integrated an allowance for a selective mining unit, effectively building in planned dilution to the Mineral resource estimate. This had the impact of eliminating some narrow zones of mineralisation through the addition of waste and a resultant grade below cut-off. Other areas of narrow mineralisation experienced a lowering of grade and increase in tonnage The Thunderbox deposit comprises of a wide, sub-vertical zone of mineralisation, typically 30-80m in width. The assumed unplanned dilution rate of 10% would equate to between 1.5m and 4.0m dilution on the margins of the ore zone. Given the size of excavator proposed for mining, this rate of dilution is conservative. The adoption of an ore recovery rate of 98% is justified by the wide mineralised zone and assumed over-mining of the margins, leaving little scope for ore loss. Strong continuity of the ore both along strike and down dip lend support to this assumption Strong mine to mill reconciliations of oxide, transitional, and fresh Thunderbox ore during previous pit stages were around 98.5% for the resource. The proposed mining plan has the same mineralised zone being mined with similarly sized and configured excavators, utilising the same grade control methods and model creation, and being processed through the same facility. Assuming that similar QA/QC standards are practiced then it is reasonable to expect to experience similar levels of reconciliation. All of the parameters assumed and adopted, as well as the financial analysis completed, have been the subject to peer review.

BANNOCKBURN:

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
Sampling Techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*	Sampling methods undertaken at Bannockburn by previous owners have included rotary air blast (RAB), reverse circulation (RC) and diamond drillholes (DD). Limited historical data has been provided by previous owners. Saracen has not carried out any sampling activities at the Bannockburn deposit due to only recently acquiring the deposit.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	RC, RAB, and DD core drilling is assumed to have been completed by previous holders to industry standard at that time (1990- 2008).
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. *Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information*	Initial RC drilling in the early 1990s included single stage mix and grind sample preparation to create a 300g pulp from which a 50g charge was used for assay determination. More recent RC drilling involved total preparation of a 4m composite sample to provide a 40g charge for fire assay. No other information has been found or supplied so it is assumed all RAB, RC and DD and sampling was carried out to industry standard at that time.
Drilling Techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Drilling activities at Bannockburn have included 684 RAB holes, 1694 RC holes (some with diamond tails) and 78 DD holes (HQ, NQ, and unknown diameter). Some historic HQ core was oriented by unknown methods.
Drill Sample Recovery	*Method of recording and assessing core and chip sample recoveries and results assessed*	Recoveries for some more recent RC drilling have been recorded based on a visual weight estimate. No other recoveries have been provided, it is unknown if they were recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	It is unknown what, if any, measures were taken to ensure sample recovery and representivity.
	Whether a relationship exists between sample recovery and grade and whether sample bias may	Any historical relationship is not known.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	have occurred due to preferential loss/gain of fine/coarse material.	
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature.* *Core (or costean, channel, etc) photography.*	Logging of diamond drill core, RAB, RC and blast hole chips record lithology, mineralogy, texture, mineralisation, weathering, alteration and veining. Some historic diamond drilling has been photographed and geotechnically logged. it is unknown if all diamond core was photographed.
	The total length and percentage of the relevant intersections logged	All drillholes appear to have been logged in full.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	The sampling method for most drill core is unknown. Some historic core was half core sampled.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	RC drilling carried out in the 1990s includes spear sampled composites and riffle split 1m samples. RAB drilling was spear sampled. More recent RC drilling has been riffle split or spear sampled. Some sampling methods remain unknown.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of 1990s RC drilling involved a single stage mix and grind method, more recent RC drilling involved a total preparation method. The sampling techniques for much of the remaining historic RAB, RC and DD drilling are unknown, best practice is assumed.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Best practice is assumed at the time of historic RAB, DD and RC sampling.
	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.	It is unknown if duplicate sampling was performed on exploration RAB, RC and DD drilling. Limited field duplicates were carried out on some more recent RC grade control drilling at a rate of one per hole.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	It is assumed sample sizes were appropriate for the grain size of material being sampled.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	A 50 gram fire assay with AAS finish was used to determine the gold concentration for 1990s RC drilling. This method is considered suitable for determining gold concentrations in rock and is a total digest method. Limited historic samples were assayed using a leachwell digest and AAS finish in the onsite laboratory. More recent RC drilling has been assayed using a 50g aqua regia or 40g fire assay with AAS finish. Other assay methods for exploration RC, RAB and DD drilling included fire assay with AAS finish, aqua regia with AAS finish and unknown methods.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining	It is unknown if any instruments of this nature have been used at Bannockburn. Saracen has not had full access to all the data during the acquisition process.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	QAQC information from the Bannockburn sampling data is limited therefore all drilling is assumed to have been carried out to industry standard. Some internal laboratory checks (1 in 10 resample of pulps and 1 in 20 resplit of rejects) were carried out during early 1990s RC drilling. Limited duplicate sampling was carried out in more RC recent drilling along with the insertion of certified standards and blanks. Analysis of limited repeat data displays acceptable precision with average HARD (half absolute relative difference) values below 20%.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	It is unknown if historic intercepts were verified by alternative company personnel.
	The use of twinned holes.	Specific drilling programs consisting of twinned holes is not apparent. However, grade control from both open pit and underground operations have confirmed the width and grade of previous exploration drilling.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols	Limited documentation of this nature has been provided. Data has been stored in an acQuire database with limited drilling data for review supplied in an Access database.
	Discuss any adjustment to assay data.	No adjustment to assay data appears to have been made
Location of data points	*Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	Collar locations for early 1990s RC, RAB and DD drilling were surveyed using an EDM theodolite. The precision of this equipment in unknown. Downhole surveys were carried out using a CHAMP downhole electronic multishot system. More recent drilling has collar locations surveyed by unknown GPS and DGPS equipment, while downhole surveys have been carried out at regular intervals by unknown methods.
	Specification of the grid system used.	AMG84 Zone 51 grid coordinate system is used. Some historic data drilled on local grid systems has been converted to this grid system
	Quality and adequacy of topographic control.	No detail of topographic control was supplied or found.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	No exploration results reported in this release
	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 drilling is distributed and spaced such that geological and grade continuity can be established to estimate the mineral resource and ore reserve appropriately. The mineralisation is continuous over a 2km strike length, therefore the 25m x 25m exploration drill spacing effectively defines the continuity. The tight drill spacing at the exploration and mineral resource definition stage highlight the complex nature of some areas of the resource.
Orientation of data in relation to geological structure	*Whether sample compositing has been applied.*	Historic 1990s RC drilling was sampled on 6m composites due to the depth of overburden, with significant gold results being resampled in 1m intervals. Historic RAB drilling was generally 4m composite sampled with anomalous zones resampled to 1m intervals. Some more recent RC drilling was composited into 3m or 4m samples with areas of interest resampled to 1m.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Due to the variability in the dip direction of the various lodes at Bannockburn, drilling has been orientated in multiple directions to ensure all mineralisation has been tested effectively. This ensures that minimal bias is introduced when sampling.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	All drilling from surface has been drilled as close to perpendicular as possible. This has reduced the risk of introducing a sampling bias as far as possible. Multiple drill orientations have been used to test the variably orientated mineralisation.
Sample security	*The measures taken to ensure sample security.*	Information on sample security measures has not been provided
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No evidence of external reviews has been supplied. Saracen has not had access to this information during the acquisition process.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	M37/339, M37/340 and M37/361 form part of the Bannockburn project currently being acquired by Saracen and are in good standing. There are no native title claims over the Bannockburn deposit.
	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.	The tenements are in good standing and the license to operate already exists.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Gold was discovered at Bannockburn in the late 1800s with intermittent working of the deposit until the 1950s. Modern exploration began in the late 1970s with initial exploration targeting nickel sulphides before gold exploration began in 1979. Exploration activities by numerous companies including Freeport of Australia, Kulim Limited and Arboyne took place until Dominion purchased the project and commenced mining in 1991. The mine was placed on care and maintenance in 1995. The project changed hands numerous times after this with owners including Consolidated Gold Mines, Arrow Resources, Breakaway Resources, LionOre Australia and Norilsk Nickel Australia carrying out exploration activities leading to the discovery of numerous other deposits in the vicinity.
Geology	*Deposit type, geological setting and style of*	The Bannockburn deposit is located along the western margin within the central portion of the Norseman-

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
	mineralisation.	Wiluna greenstone belt. Locally the project area is dominated by an extensive sequence of tholeiitic, high-Mg and komatiitic basalts with intercalated sedimentary and intermediate volcaniclastic horizons. Dolerite and gabbro sills intrude the sequence. The deposit is complex with multiple controlling factors. The gross geometry of the deposit is controlled by the Bannockburn fault, a steeply dipping NNW trending fault that is continuous over at least 2.3km on the western margin of the orebody. The fault separates an ultramafic unit in the west from the Bannockburn host sequence in the east. It dips steeply east, rolling to vertical and steep west dipping in the northern part of the orebody. The Bannockburn fault is effectively the western boundary to the orebody with very little mineralisation penetrating the western side of the fault. The Central fault which hosts the Central orebody has a shallow northerly plunge and is the orebody on which the majority of the underground workings have focused on. There are a series of steeply east dipping lodes in the hangingwall of the central lode; these are interpreted as either tensional veins of reverse faults with shearing present along the veins. Black graphic shale units present within the stratigraphy have acted as a localised control on the mineralisation. The black shale units have taken up some of the deformation with stratigrapgy parallel shearing and mafic sequences between the shales have extended to form steep east dipping extension veins.
Drillhole information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* *easting and northing of the drill hole collar* *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* *dip and azimuth of the hole* *down hole length and interception depth* *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	A total of 17642 holes have been used in the mineral resource and are deemed to be material. It is not practical to summarise all of the holes here in this release. Future drill hole data will be periodically released or when a results materially change the economic value of the project. Exclusion of the drilling information will not detract from the reader's view of the report.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*	No exploration results are reported in this release.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
	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.	No exploration results are reported in this release.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No exploration results are reported in this release.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	Saracen has not previously reported exploration results nor are any included in this release. The geometry of the mineralisation is highly variable and the complex nature of the orebodies makes the definitive calculation of true thickness difficult. Drilling has been orientated to intersect the various orebodies at most optimum angle where possible. This has not always been achieved. Where holes have drilled parallel to or within a lode, additional holes have been drilled at a more suitable orientation to account for the poor angle.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	No diagrams are referenced in this release.
Balanced Reporting	*Where comprehensive reporting of all Exploration Results are not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Saracen has not previously reported exploration results nor are any included in this release.
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.*	Various geophysical surveys have been carried out over the Bannockburn deposit in an effort to delineate structure and mineralisation including magnetics, gravity, CSMAT (Controlled Source Audio Magneto Telluric), radiometrics and SAM (sub-audio magnetics). CSMAT was deemed ineffective due to penetration issues while other methods returned varying results.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible*	Saracen is currently working on establishing an exploration program which will identify areas of opportunity to extend or enhance the Bannockburn mineral resource.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
	extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive	

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC 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.*	The database provide to Saracen was an extract from an acquire SQL database. The primary database is regulated by a locked framework called the acquire data model which fixes the relationships between tables. The data model minimises the potential for data collection and data usage errors through pre-determined look up tables, storage and export functions. User defined permissions also regulate the ability to add, edit or extract data. It is unknown at this stage how the process used to record the primary data. Typical methods are manual translation of logging and data capture from written logs, direct import of csv tables through a data import scheme where data is validated upon import or direct data entry options into the database using predefined look up values.
	Data validation procedures used.	The rigid structure of the acquire data model is such that predefined rules and look up tables are applied to all data entry. Data that does not meet the criteria are highlighted and moved to a buffer area until the data is rectified to meet the passing rules. It is unknown at this stage how the database was managed and who was responsible for its maintenance. It is also unknown if there was any built in functionality around pass/fail checks on assay importing.
Site Visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	No site visits have taken place at this point in time by the competent person. However, a team of 12 people including Saracen technical representatives as well as industry consultants did conduct site visits. Historical drill core was inspected during the visits.
	If no site visits have been undertaken indicate why this is the case.	Given that there was no activity (drilling, mining etc.), it was deemed that a site visit during the process would not provide significant value and not materially affect the outcome of any resource estimate.
Geological Interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	The interpretation has been based on the detailed geological work completed by a series of previous owners of the project. This knowledge is based on extensive geological logging of drill core, RC chips, detailed open pit mapping, underground mapping and assay data. The gross architecture of the deposit is well known however the local scale structural controls are complex. Confidence can be taken from the fact that the deposit has been mined previously by open pit and underground methods.
	Nature of the data used and any assumptions made.	The interpretations have been constructed using all available geological logging descriptions including but not limited to, stratigraphy, lithology, texture, and alteration. Open pit and underground observations have been included in the interpretation, however only affects the

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Explanation**	**Commentary**
		location of the domain boundaries around the previously mined sections of the resource. Cross sectional interpretations of the mineralisation have been created and from the basic framework through which the 3D wireframe solid is built.
	The affect, if any, of alternative interpretations on Mineral Resource estimation.	No other interpretations have been tested at this point. The tightness of the drilling restricts the possible options of the interpretations. The main Bannockburn fault and Central thrust are highly continuous and predictable. The shorter scale extensional lodes in the hanging wall of the central thrust are more variable, however can still be interpreted between sections.
	The use of geology in guiding and controlling the Mineral Resource estimation.	The geology has been used to assist controlling the mineral resource estimation. The main mineralised shear zones have been domained such that the geological characteristics have been honoured. This includes discriminating between the main shear zones and the extensional vein arrays splaying off the shear zones and mineralisation associated with black shale zones.
	The factors affecting continuity both of grade and geology.	At the deposit scale laminated quartz veins have higher grades than bucky and coarsely brecciated quartz veins. Highly silicified mafic schist is the main locus for mineralisation. The stronger the silicic and biotite alteration the high the grade. It is estimated that 75% of the gold is located in the alteration halos and 25% in the veins themselves. Additionally it has been noted that mineralisation is strong where increased percentages of arsenopyrite are present. A small amount of remobilised mineralisation can be found on the margins of porphyry and lamprophric intrusives.
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.*	Bannockburn mineralisation extends from 6849500mN to 6852000mN, 292600mE to 294100mE and 150 meters below surface. The Bannockburn gold deposit has a strike of 340° (NNW) and has a shallow plunge 5-10° to the NNW.
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.*	Block estimation has been completed in Micromine software. All wireframes have been constructed in Surpac. All estimation uses these wireframes as hard boundaries. Inverse Distance cubed has been chosen as the estimation method. Estimation of parent blocks are interpolated, and assigned to sub-cells. The maximum distance of extrapolation is less than 50m. Univariate statistical analysis of length weighted, (1m), domain coded down hole composites have been completed for all domains and top-cuts applied where applicable. Extreme grades have been appraised in each domain and have been analysed to determine specific top-cut values. Log-probability plots were used supplementary to the histogram analysis.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The inverse distance cubed resource estimate has been cross referenced with historical mine production figures. Both the historical open pit and the underground production figures have been compared individually. The open pit comparison was within 3% and the underground comparison resulted in a 1% variance. This highlights the accuracy of the resource model compared to historical production.
	The assumptions made regarding recovery of by-products.	No assumptions have been made with respect to the recovery of by-products.

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Explanation**	**Commentary**
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulfur for acid mine drainage characterisation).	There has been no estimate at this point of deleterious elements. Saracen is unaware if any elements other than gold have been assayed. Arsenic may have been assayed; however this data has not been made available.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The parent block sizes for the resource model are X (5m) by Y (5m) by Z (5m). These are deemed appropriate for the majority of the resource, where drill spacing is in the order of 40m x 40m. Parent blocks have been sub-celled to X (0.5m) by Y (0.5m) by Z (0.5m) to ensure that the wireframe boundaries are honoured and preserve the location and shape of the mineralisation. Search ranges have been informed by knowledge of the drill spacing and the known mineralisation geometry including direction of maximum continuity. Two search estimation runs are used with the aim to satisfy the minimum sample criteria in the first search range where possible.
	Any assumptions behind modelling of selective mining units.	No selective mining units have been assumed.
	Any assumptions about correlation between variables.	No assumptions have been made regarding correlation between variables.
	Description of how the geological interpretation was used to control the resource estimates.	The geological interpretation correlates with the mineralised domains. Specifically where the mineralised domain corresponds with the key mineralised fault zones. All wireframe boundaries including those where lithology and mineralisation correspond, hard boundaries are enforced.
	Discussion of basis for using or not using grade cutting or capping.	Statistical analysis of all domains highlight that there are very few grades in the domain populations that require top-cutting. Top-cut have been employed to eliminate the risk of overestimating in the local areas where high grade samples exist.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Several key model validation steps have been taken to validate the resource estimate. The mineral resource model has been stepped through visually in sectional and plan view to appreciate the composite grades used in the estimate and the resultant block grades. This has also been carried out in 3D with the composite grades and a point cloud of the model grades. The estimate was checked against previously reconciled production records received during the due diligence process. These match very closely.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	All tonnages are estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	Based on Saracen's current economic operations at Carosue Dam, and the natural grade distinction above background, a grade of 0.5g/t has been chosen.
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*	The Bannockburn deposit is amenable to mining by both open pit and underground methods. The deposit has been mined by open pit and underground methods historically. There are reasonable grounds to assume that in the future this deposit will again be mined by conventional open pit load and haul operations. It is unlikely that the mineralisation would be accessed by underground methods. Any open pit operations

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Explanation**	**Commentary**
	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.	that may interact with historical underground workings would need to assume a higher ore loss factor around the margins of effected areas. This is particularly the case if underground voids have not been filled.
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 process 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.*	It is expected that any future mining of the Bannockburn deposit will be processed at the Thunderbox processing facility which is currently on care and maintenance. The Thunderbox mill employs a conventional crushing, grinding and CIL leaching process to extract the gold. The mill operated successfully between 2002 and 2007, processing in excess of 9Mt of ore. The conventional plant displayed excellent performance with gold recoveries between 93.4 to 96.6 % over the life of the mine. Test work by Ammtec completed historically suggests Bannockburn mineralisation should achieve similar recoveries to the mineralisation previously processed at Thunderbox.
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	As arsenic is present in the mineralogy of the deposit, the processing plant has been designed to ensure effective management of potentially harmful arsenic contamination. A 20m diameter high rate thickener is used to thicken the tails to maximise water and cyanide recovery. Process water is added to the thickener feed to create one wash stage prior to detoxification. Arsenic precipitation is effected in a stirred closed tank with air sparging. Ferric sulphate solution is metered into the reactor on the basis of dissolved arsenic concentration. The fumes from the precipitation tank are passed through a packed bed caustic scrubber before venting to the atmosphere. The precipitation tank overflow is then passed to the tails hopper.
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.*	Previous owners have taken routine density measurements when drilling diamond core. The method of calculation is the water displacement technique. Measurements have been recorded in the acquire database and extraction schemes pair this data with the major lithology code for statistical analysis. At this point Saracen does not have the available data to comment on the frequency and distribution of the density measurements. The size and nature of the samples is also unknown to Saracen at this time.
	Whether the data spacing and distribution is	As stated above the frequency and distribution is unknown at this point in time. It has assumed from the

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Explanation**	**Commentary**
	sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	very good reconciliation performance from mine to mill that the determined density assignments from the mine are accurate.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	An average mean of densities collected for each lithological type has been uniformly applied to the modelled geological units. This includes the primary fresh lithologies as well as the weathered oxide and transitional zones.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.*	The mineral resource has been classified into Measured, Indicated and Inferred categories based on drill hole spacing, geological confidence, and grade continuity and estimation quality. The combination of these factors together guide the digitising of a "cookie cutter" string in long section view which selects and codes the appropriate blocks with the nominated resource classification category.
	Whether appropriate account has been taken of all the 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).	All care has been taken to account for relevant factors influencing the mineral resource estimate. Confidence in the predicted tonnes and grade estimated in the model is high and previous mining performance suggests that the input data and geological continuity are such that a reasonable resource estimate can achieved.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The geological model and the mineral resource estimate reflect the competent person's view of the deposit.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	Saracen has adopted a process for geological modelling, estimation and reporting of mineral resources that meets high industry standards. Due to the short time frame for the due diligence review, no external audits have been conducted.
Discussion of relative accuracy/confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	The mineral resource has been reported in accordance with the guidelines established in the 2012 edition of the JORC code. Saracen was only afforded data that was deemed essential for the due diligence and acquisition process, by the previous owner. This has resulted in some data cross checks that would normally occur during the construction of a detailed mineral resource estimate. The previous sections of this table identify the areas that have not appropriately been assessed. It is unlikely that these minor checks would have any material effect on the results of mineral resource.
	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 statements relate to a global estimate of tonnes and grade.
	These statements of relative accuracy and confidence	Previous mining operation reports suggest that the estimated metal is within 1-3%. No substantial

Section 3: Estimation and Reporting of Mineral Resources		
Criteria	**JORC Explanation**	**Commentary**
	of the estimate should be compared with production data, where available.	changes have influenced the remaining mineral resource.

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Explanation**	**Commentary**
Mineral Resource estimate for conversion to Ore Reserves	*Description of the Mineral resource Estimate used as a basis for the conversion to an Ore Reserve.*	The Mineral Resource estimate for the Bannockburn gold deposit used as a basis for conversion to the Ore Reserve estimate, was compiled by SGM in consultation with Widenbar and Associates using data supplied by Norilsk Nickel Australia LTD PTY during the due diligence process. The data included drilling and assay data, historical mining records to validate the model against and solid interpretation wireframes of the geology. This information was used to construct a model estimated by inverse distance cubed. The model was depleted with the last final pit survey and extended version of the underground void survey. The underground void survey was increased to capture some areas that were likely to have already been mined. The basis of this assumption was validated by the very close correlation between the actual underground mined production and the mineral resource estimate within the expanded void survey.
	Clear statement as to whether the Mineral Resources are reported additional to. Or inclusive of, the Ore Reserves.	The Mineral Resource reported is inclusive of the Ore Reserve.
Site Visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	A site visit was conducted by Chris Burton to Bannockburn Pit, accompanied by a consultant geotechnical engineer and technical representatives as part of the due diligence process in the proposed purchase of the Bannockburn assets. The main focus of the visit was a physical inspection of the existing Bannockburn Pit, to assess pit slope stability, groundwater inflows, and validate final pit surveys Fifteen years have passed since the pit was last operational. Stability conditions in the mined pit were generally classified as fair in the geotechnical report.
	If no site visits have been undertaken indicate why this is the case.	N/A
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves*	The Bannockburn Gold Project operated as both an open pit and underground mine and processing facility for a period of eight years from 1991-1998. As part of the proposed purchase of these assets by Saracen a pre-feasibility standard study has been undertaken with mining and processing parameters updated to reflect current cost parameters. Modifying factors have been applied to the study to ensure the rigor of the financial analysis.
	The Code requires that a study to at least Pre-	Modifying factors have been applied to the study to ensure the rigor of the financial analysis. All of the

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Explanation**	**Commentary**
	Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	parameters assumed and adopted, as well as the financial analysis completed, have been the subject to peer review.
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied*	For the purpose of Ore Reserve Estimate a marginal cut-off of 0.7g/t was calculated based upon an assumed gold price of AUD$1350/oz and applicable processing, haulage and administration costs. A top cut has already been applied to the Mineral Resource Estimate eliminating the necessity for any further adjustment to the Ore Reserve estimate.
Mining factors or assumptions	*The method and assumptions used as reported in the Pre-feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*	The resource model used in the Mineral Resource Estimation was the basis for the generation of a range of Whittle 4X pit optimisation shells. The generation of these shells was reliant upon costs and inputs derived from current operational data and independent consultant recommendations.
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Mining method to be employed will be conventional hydraulic excavator and dump truck fleet, with 120t and 260t class excavators assumed. The class of excavator employed matches those currently working at SGM's Carosue Dam Operations, providing good comparative cost data for financial modelling purposes, as well as a reliable database of excavation and performance rates. The pit will be mined in a series of cutbacks, extending the pit to the North.
	The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control, and pre-production drilling.	The absence of reliable historical geotechnical data or technical reports for the existing open pit resulted in an assumed overall wall angle being adopted for the purposes of pit optimisation, based upon the mined out pit walls. Prior to mining commencing, further geotechnical study will be required to confirm these assumptions and define an appropriate batter and berm configuration. Grade control of the deposit will be carried out utilising conventional RC grade control methods typically on a 10m x 5m spacing.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	Planned mining dilution & mining recoveries are factored into the resource models assuming the use of 120t and 260t class hydraulic excavators and based on previous and current mining experience.
	The mining dilution factors used.	Unplanned mining dilution has been assumed at 20%
	The mining recovery factors used.	Unplanned mining recovery has been assumed at 93%
	Any minimum mining widths used	A minimum mining width of 30m has been adopted for the main excavation fleet. Where 'pinch-points' occur along the interface with the existing pit it has been assumed that a smaller more versatile excavator

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Explanation**	**Commentary**
		will be employed, with appropriate costing for these areas applied.
	The manner in which inferred Mineral resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	The entire Ore Reserve Estimate is classified as probable, with all of this reserve having been converted from indicated mineral resources. Pit optimisation and mining studies excluded inferred mineral resources.
	The infrastructure requirements of the selected mining methods.	The selected mining method for the pit is conventional for this style of mineralisation and no specialised infrastructure is required to accommodate this method of mining
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralisation*	The ore reserve will be treated at the established Thunderbox processing facility. The Thunderbox Process Plant is a CIL cyanide leach plant incorporating a gravity circuit which is appropriate for the extraction of gold from free milling gold ores. A review of Ammtec metallurgical reports for the operational period under Dominion Mining's tenure highlighted metallurgical recoveries between 94-98%. For the purpose of this Ore Reserve Estimate the more conservative recoveries from Thunderbox have been assumed (93.9%)
	Whether the metallurgical process is well-tested technology or novel in nature.	The method of ore processing and extraction proposed utilises well tried and proven technology dating back to the 1960's and practiced extensively around the world.
	The nature, amount and representiveness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	A review of Ammtec metallurgical reports for the operational period under Dominion Mining's tenure highlighted metallurgical recoveries between 94-98%. For the purpose of this Ore Reserve Estimate the more conservative recoveries from Thunderbox have been assumed (93.9%)
	Any assumptions or allowances made for deleterious elements.	There are no known deleterious elements present in Bannockburn ore.
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the ore body as a whole.	Previously Bannockburn ore sourced from both open pit and underground mining was processed by Dominion Mining between 1991 and 1998 through a CIP plant on site at Bannockburn, which has since been dismantled and removed. This period of operation represents the best bulk sample/pilot test possible.
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications.	N/A
Environmental factors or assumptions	*The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the*	The mine is currently on 'care and maintenance'. No applications for mining or processing related activities have been submitted with any relevant authorities at this time as the acquisition of the project assets is still being finalised.

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Explanation**	**Commentary**
	consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	The existing Bannockburn mine, the intended northern cutback, the Thunderbox processing facility, and the accommodation village all lay on granted mining leases. The proposed haul road linking Bannockburn to the Thunderbox processing facility, the gas spur pipeline, the bore field and the airstrip are all on granted miscellaneous licences. Before operations at Bannockburn open pit and the Thunderbox processing facility can recommence, the following will be required for statutory approval: Flora surveys for new areas of clearing, waste rock characterisation studies, groundwater and surface water studies, and tailings storage facility documentation detailing geotechnical requirements for future lifts. A works approval, clearing permit, groundwater licence, and mining proposal will require preparing and submitting. Groundwater licences will also need reviewing and a strategy formulated and submitted.
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	The site infrastructure relating to the processing facility, camp, and airstrip is well established from previous mining activities at Thunderbox between 2000 and 2007. There exists a CIL ore processing facility at Thunderbox that is on care and maintenance and has a name plate capacity of 2.5mtpa situated approximately 30km from the Bannockburn pit. A modern accommodation camp is situated within a few kilometres of the processing plant, and a well maintained gravel airstrip services the camp. The operations are connected to the Goldfields Gas Transmission Line, although diesel usage has been assumed in all financial analyses. A haul road will need to be built at a cost of $1.95m at the commencement of production to facilitate the haulage of ore to the Thunderbox processing facility. A miscellaneous licence has already been granted covering the proposed route of the haul road.
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.*	Capital costs included in the financial analysis relate to project acquisition, mill refurbishment, first fills, haul road construction, and village refurbishment. Costs for the mill have been based upon estimates provided by industry consultants following site visits and follow up investigations. Costs for haul road construction and village refurbishment are based upon recent contracts for similar work undertaken at SGM's Carosue Dam Operations.
	The methodology used to estimate operating costs.	Operating costs for open pit mining have been derived from a combination of actual costs from the Carosue Dam Operations and costs supplied by an independent industry consultant. Operating costs for ore processing have been derived from known operating costs at Thunderbox , with additional costs such as labour sourced from current operational data at SGM's Carosue Dam Operations
	Allowances made for the content of deleterious elements	Previous operational experience at Bannockburn did not reveal any deleterious elements within the ore or waste that required any additional cost allowances.
	The derivation of assumptions made of metal or	An assumed gold price of AUD$1,350/oz has been adopted for financial modelling

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Explanation**	**Commentary**
	commodity price(s), for the principal minerals and co-products	
	The source of exchange rates used in study	All revenue and cost calculations have been made in AUD, so no exchange rate usage or assumptions have been necessary
	Derivation of transportation charges	Costs associated with bullion transportation have been derived from existing contractual arrangements at Carouse Dam
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Costs associated with refining have been derived from existing contractual arrangements at Carouse Dam
	The allowances made for royalties payable, both Government and private.	Royalty costs are the WA state government 2.5% royalty, an AUD$1/oz royalty with Dominion Mining, and a 1.5% royalty payable to Norilsk Nickel.
Revenue Factors	*The derivation of, or assumptions made, regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.*	It has been assumed that there will be no forward sales contracts in place and that all gold will be sold at spot price to the Perth Mint
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products	An assumed gold price of AUD$1,350/oz has been adopted for financial modelling
Market Assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.*	There is a transparent quoted market for the sale of gold
	A customer and competitor analysis along with the identification of likely market windows for the product.	There is a transparent quoted market for the sale of gold
	Price and volume forecasts and the basis for these forecasts.	There is a transparent quoted market for the sale of gold
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	N/A
Economic	*The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*	An optimal pit shell based upon an AUD$1,350/oz gold price was adopted in the Ore Reserve Estimate. A discount rate of 8% was assumed in all NPV calculations.

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Explanation**	**Commentary**
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	A full financial model was developed with sensitivities applied to all key inputs and assumptions (+/-15%), which is appropriate to the level of study undertaken (Pre-feasibility). Undiscounted cash flows remained positive for all of the key sensitivities conducted.
Social	*The status of agreements with key stakeholders and matters leading to social licence to operate*	When previously in operation, Bannockburn mine operators had a good relationship with neighbouring stakeholders, including engagement with the local pastoralists and the traditional owners. The mine is located on leasehold pastoral land with compensation agreements in place with the local pastoralist Granted mining leases cover all of the proposed mining and processing assets and there are no Native title claims pending.
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:*	
	Any identified material naturally occurring risks	Water inrush is the only naturally occurring risk identified, and will be addressed by the construction of appropriate water diversion bunding as part of normal mining operations. The costs associated with the construction of the bund have been factored into waste mining haulage.
	The status of material legal agreements and marketing arrangements	A royalty of 1.5% of production is payable to Norilsk Nickel (capped at A$17m for Thunderbox and Bannockburn projects combined).
	The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	Government approvals will need to be sought relating to this Ore Reserve Estimate, namely for mining, waste dumping, diversion of surface run-off, commencement of ore processing and tailings deposition, re-commissioning of the accommodation village and associated infrastructure, water extraction from pits and bores and the associated discharge. All of the approvals being sought have previously been in place for the previous owners of the mine, and the best opinion available suggests that this will be a likely outcome once again. Approval for the haul road construction will also need to be sought.
Classification	*The basis for the classification of the Ore Reserve into varying confidence categories*	The Ore Reserve Estimate classification for Bannockburn has been in accordance with the JORC code 2012. All of the Ore Reserve Estimate was classified as being Probable with all of the Ore Reserve Estimate being derived from that portion of the Mineral Resource classified as indicated. There is no measured component to the Bannockburn Mineral Resource Estimate
	Whether the result appropriately reflects the Competent Person's view of the deposit.	Cost assumptions and inputs applied to the pit optimisation were derived from current operational data relating to Carouse Dam Operations, and expert recommendations from industry consultants. Results of these optimisations and the resultant analysis reflect the views of Chris Burton regarding the Bannockburn deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if	There were no Measured Mineral Resources

Section 4: Estimation and Reporting of Ore Reserves		
Criteria	**JORC Explanation**	**Commentary**
	any)	
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates*	All of the parameters assumed and adopted, as well as the financial analysis completed, have been the subject to peer review.
Discussion of relative accuracy/confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geo-statistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* *The statement should specify whether it relates to global or local estimates, and if local, state the relevant tonnages which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *Accuracy and confidence discussions should extend to specific discussions of any applied modifying factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty ay the current study stage.* *It is recognised that this may not be possible or appropriate in all circumstances. These statements or relative accuracy and confidence of the estimate should be compared with production data, where available.*	The ore reserve estimate was derived from the mineral resource estimate which in turn was reliant upon a resource block model whose estimation was derived from drill-hole data of sufficient continuity and spacing to satisfy the requirements for an indicated resource. The interpretation and estimation process integrated an allowance for a selective mining unit, effectively building in planned dilution to the Mineral resource estimate. This had the impact of eliminating some narrow zones of mineralisation through the addition of waste and a resultant grade below cut-off. Other areas of narrow mineralisation experienced a lowering of grade and increase in tonnage. The Resource model was depleted for previous underground mining utilising the latest survey void model. Further depletion was effected by removing all of the ore blocks between the room and pillar development drives that the void model did not already encompass. This additional depletion resulted in a close reconciliation between the extended void and the reported production from the underground operations. The proposed acquisition of the Bannockburn assets by Saracen is still being completed. The amount of historical data made available to Saracen as part of the sale process had been limited, with a reliance on previous reputable industry consultants reports. However, Saracen has made certain assumptions regarding mining and processing costs, mining dilution and recoveries, geotechnical parameters, and metallurgical recoveries. All of these have been documented and are based upon known parameters either at Bannockburn whilst previously in operation, or in existence at Saracen's other operations, or have been recommended by reputable industry consultants. All of the parameters assumed and adopted, as well as the financial analysis completed, have been the subject to peer review.

About Saracen

Saracen Mineral Holdings Limited (ASX:SAR) owns 100% of the Carosue Dam operations, 120 km NE east of Kalgoorlie, in the South Laverton region of WA, home to many other gold mines and deposits including Sunrise Dam, Granny Smith, and Wallaby.

Carosue Dam's 2.4 million tonne per annum processing plant produced 136,168 ounces of gold in FY2013 and is forecast to produce approximately 120-130,000oz in FY2014 and 125-135,000ozs in FY2015.

As at 30 June 2013, Carosue Dam Operations Mineral Resources stood at 3.9 million ounces of gold, while Ore Reserves stood at 0.9 million ounces of gold.

Gold production is from the Whirling Dervish (currently under development) open pit mine, supplemented by high grade underground operations at the Red October mine.

In January 2014, Saracen agreed to acquire 100% of the Thunderbox Operations, located approx 45 kms south of Leinster in WA. The Thunderbox Operations are on care and maintenance and include the Thunderbox and Bannockburn gold mines as well as the Waterloo nickel mine. There is also a 2.5 million tonne per annum CIL processing plant and associated infrastructure.

The Thunderbox Deposit was discovered in 1999. Gold production totalled 805,000 ounces when processing operations ended in September 2007. Thunderbox produced at an average cash cost of US$290/oz with a cash cost in the final year of operation of US$481/oz.

As at January 2014, the Thunderbox Operations Mineral Resources stand at 2.0 million ounces of gold, while Ore Reserves stand at 0.7 million ounces of gold.

Total Mineral Resources stand at 6.0 million ounces of gold and 1.6 million ounces of Ore Reserves.