Saracen Mineral Holdings Limited

More strong drilling results set up Saracen for significant increase in production and mine life

Organic growth strategy gaining momentum on back of record FY19 investment in exploration and development

30th July 2019

HIGHLIGHTS

Carosue Dam

- At **Karari - Dervish**, thick high-grade drill results included:
  - **Karari:**
    - **69m @ 3.3g/t** (including **21m @ 8.4g/t**)
    - **46m @ 6.3g/t**
    - **36m @ 8.0g/t**
    - **30m @ 6.5g/t**
    - **20m @ 6.6g/t**
  - **Dervish:**
    - **19m @ 4.4g/t (300m north of Reserves)**
    - **37m @ 4.0g/t**
    - **24m @ 4.2g/t**
    - **17m @ 3.8g/t**
    - **32m @ 3.5g/t**
- At the **Atbara discovery (just 4km from the Carosue Dam mill),** drill results included (aggregated):
  - **174m @ 1.5g/t** (including 10m @ 13.5g/t, 56m @ 0.7g/t and 108m @ 0.8g/t)
  - **112m @ 0.9g/t** (including 18m @ 1.4g/t, 10m @ 1.3g/t, 53m @ 0.7g/t and 31m @ 0.8g/t)
  - **52m @ 2.0g/t** (including 39m @ 2.2g/t, and 14m @ 1.3g/t)
  - **66m @ 1.1g/t** (including 9m @ 2.0g/t, 23m @ 1.2g/t and 34m @ 0.8g/t)
- At Atbara initial metallurgical test work delivered **recoveries up to 94%** with **up to 70% via gravity**
- At **Million Dollar**, shallow infill drill results included **13.0m @ 3.4g/t, 21.0m @ 1.7g/t** and **18.0m @ 1.8g/t**
- At **Deep South**, high-grade infill drill results included **9.4m @ 9.7g/t, 6.4m @ 4.9g/t** and **6.4m @ 4.9g/t**
- At the **Seismic Project**, 3D seismic survey completed with **results anticipated during the December quarter**
- At **Mt Celia regional - Multiple gold anomalies discovered** with **results up to 3320ppb**

Thunderbox

- At **Thunderbox A Zone underground**, infill drill results included **26m @ 2.1g/t** and **17m @ 2.0g/t**
- At **Thunderbox D Zone open pit**, infill drill results included **15m @ 3.6g/t** and **36m @ 1.9g/t**

Saracen Managing Director Raleigh Finlayson said the record $56 million investment in exploration during FY19 was more than paying off.

“We’ve long said that organic growth would be central to our strategy of growing production and mine life and these exceptional drilling results support this approach,” Mr Finlayson said.

“The results from resource extension drilling show we are continuing to grow our existing deposits, which is highly desirable from an economic perspective, while the results from Atbara demonstrate what a promising discovery it is, with a strike of 860m and mineralisation which remains open in every direction.

Investment in near-mine exploration is generating extremely strong returns for shareholders and will be supplemented by low risk bolt-on acquisitions, giving us two highly capital-efficient means of growing production, cash flow and mine life.”

Investment in exploration drives next chapter of growth

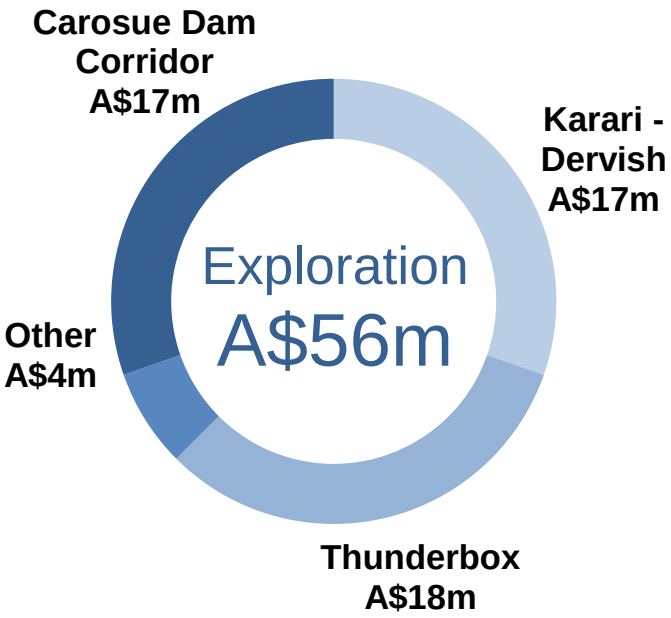
Saracen Mineral Holdings (ASX: SAR) is pleased to report another round of strong drilling results from in and around its gold operations in Western Australia.

Saracen considers the results to be particularly important because they provide more evidence that its investment in exploration, which hit a record $56 million in FY19, is generating outstanding returns for shareholders. During the year an astonishing 438,000m of drilling was completed, with over 92,000m of core being cut across the group.

The strong drilling results delivered consistently throughout FY19 will culminate in the Company’s Reserves and Resources update due for release in coming days.

The updated Reserves and Resources will in turn underpin Saracen’s seven-year outlook, which will be released at the same time.

Figure 1 – FY19 group exploration spend



At the end of June 2019 **A$56m** of the total has been invested with strong results across the portfolio.

Carosue Dam Operations - Drilling update

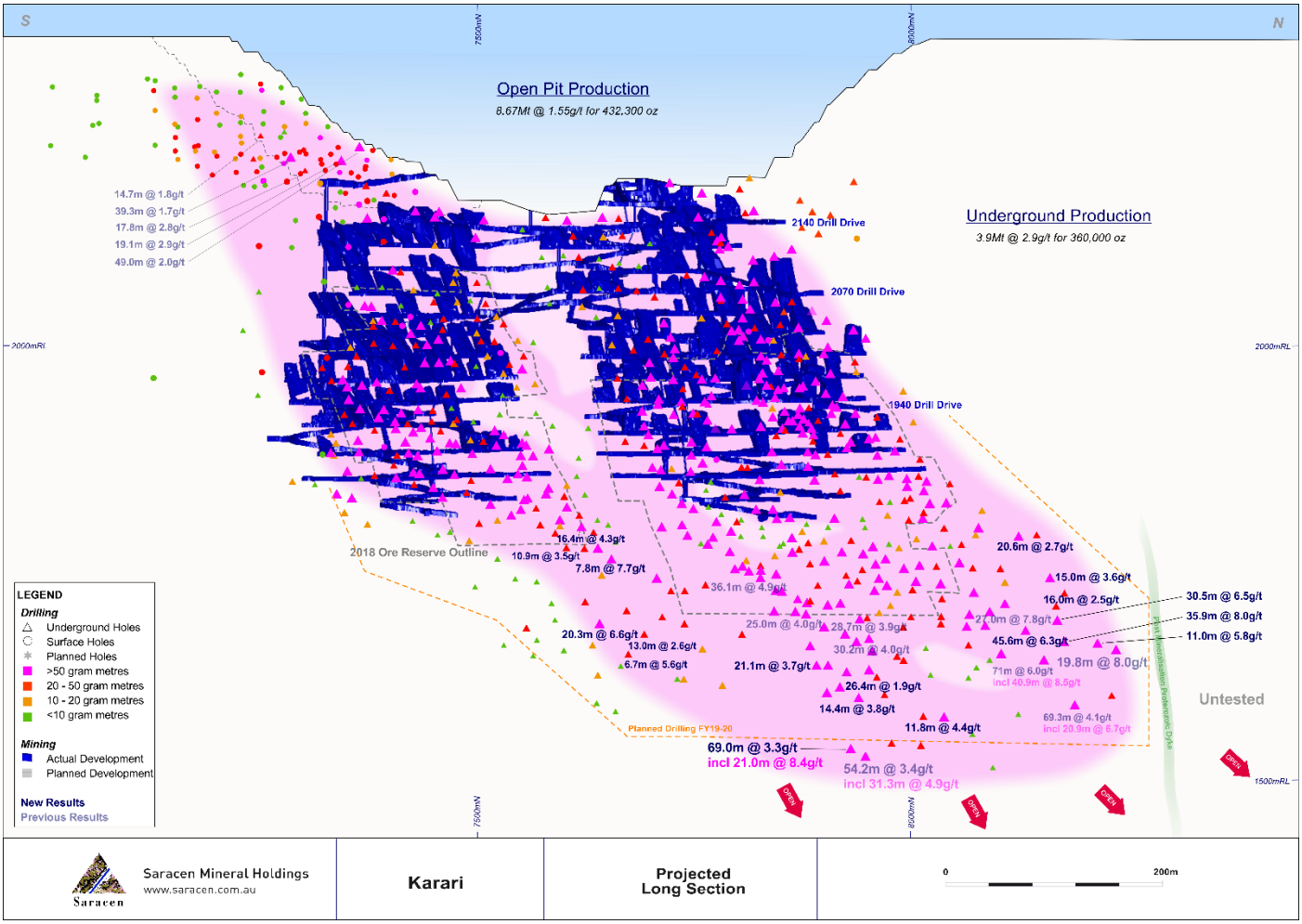
Karari – Dervish underground

Drilling at Karari has continued to focus on Resource definition below the current Reserve in the north and south of the mine.

Over recent months drilling has focused on building the resource confidence in the key high grade areas. The high grade shoots continue to deliver exceptional results in both the north and south. These results will be included in the imminent Mineral Resource and Ore Reserve update.

Significant results include **69m @ 3.3g/t**, **36m @ 8.0g/t** and **46m @ 6.3g/t**. The high grade shoots remain open at depth and will be tested further during FY20.

Figure 2 – Karari Long Section, New Drill Results (Karari-Dervish mine)



Drilling continues at Karari with two underground rigs now focused on close spaced infill, to improve confidence ahead of mining. A new drill platform lower in the mine will be completed in the June half 2020 to facilitate the next phase of Ore Reserve growth at the Karari mine.

Below is a table of significant Karari extensional intercepts:

Significant drill results include:	
KREX058	69.0m @ 3.3g/t
KRRD422	45.7m @ 6.3g/t
KRRD423	35.9m @ 8.0g/t
KRRD420	30.4m @ 6.5g/t
KRRD427	20.3m @ 6.6g/t
KRRD424	11.0m @ 5.8g/t

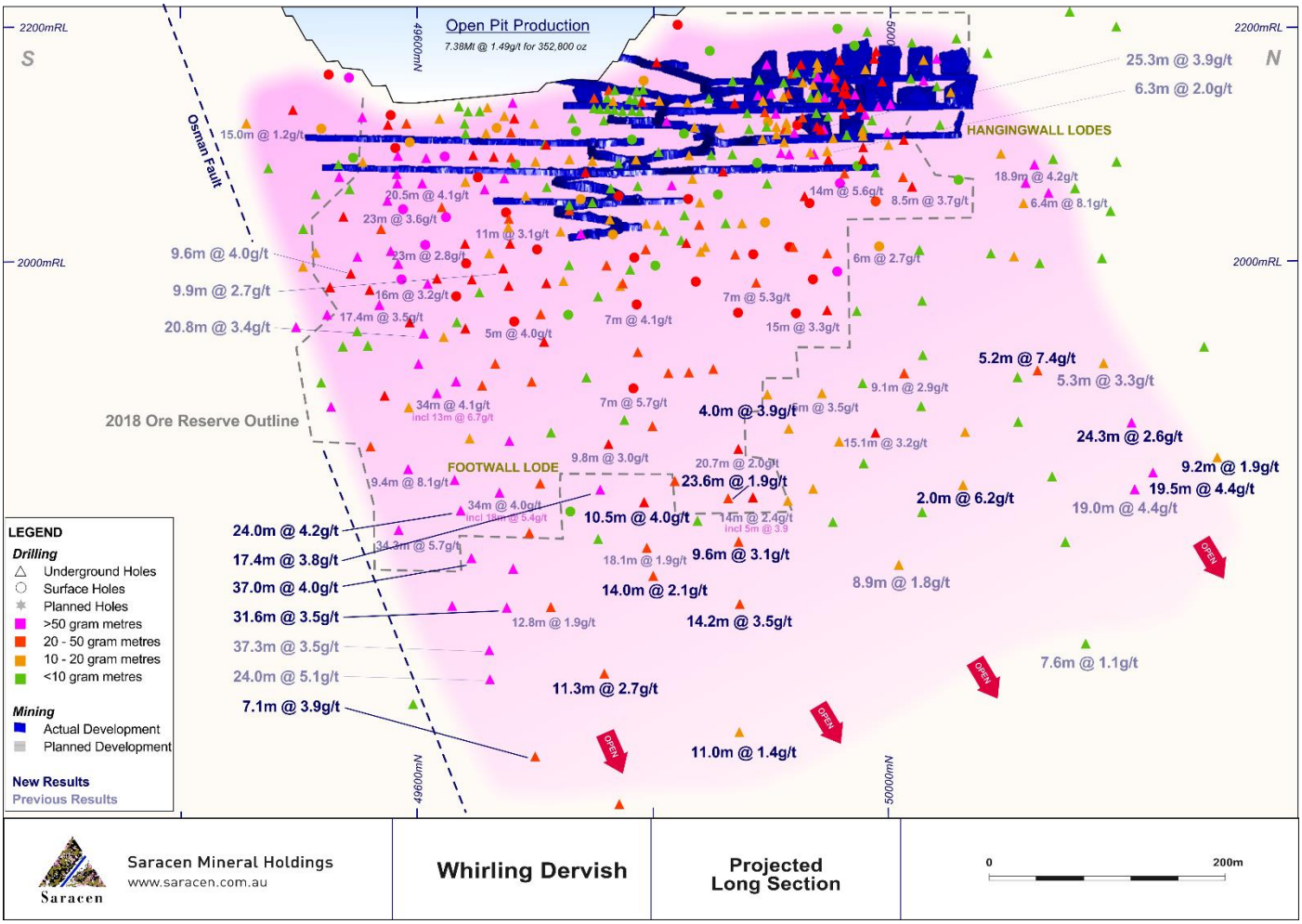
Two underground rigs have been operating at Dervish focused on drilling below the current Ore Reserve.

Resource drilling in the south has continued to define the thick high grade shoot controlled by the Osman Fault, with strong results including **37.0m @ 4.0g/t**, **24.0m @ 4.2g/t** and **17.4m @ 3.8g/t.**

Follow up extensional exploration drilling to the north has delivered strong results that support the excellent early result **300m north of the current Ore Reserve**. Significant new results include **19.5m @ 4.4g/t**, **24.3m @ 2.6g/t** and **5.2m @ 7.4 g/t**.

Recent drilling has also extended the high grade zone in the south proximal to the Osman Fault. Significant new results include **24.0m @ 4.2g/t**, **37.0m @ 4.0g/t** and **31.6m @ 3.5 g/t**.

Figure 3 - Dervish Long Section, New Drill Results (Karari-Dervish mine)



Drilling at Dervish will be scaled back to one rig as infill drilling continues. The current drill platform was established early in FY18 to accelerate knowledge ahead of mining. Extensional drilling from this platform is largely complete, with drill angles becoming sub-optimal. A new platform is planned for the June half 2020.

Below is a table of significant Dervish intercepts:

Significant drill results include:		
WDRD091	37.0m @ 4.0g/t	FW
WDRD119	24.0m @ 4.2g/t	FW
WDRD120	31.6m @ 3.5g/t	FW
WDRD105	17.4m @ 3.8g/t	FW
WDRD104	19.5m @ 4.4g/t	HW
WDRD104	24.3m @ 2.6g/t	HW

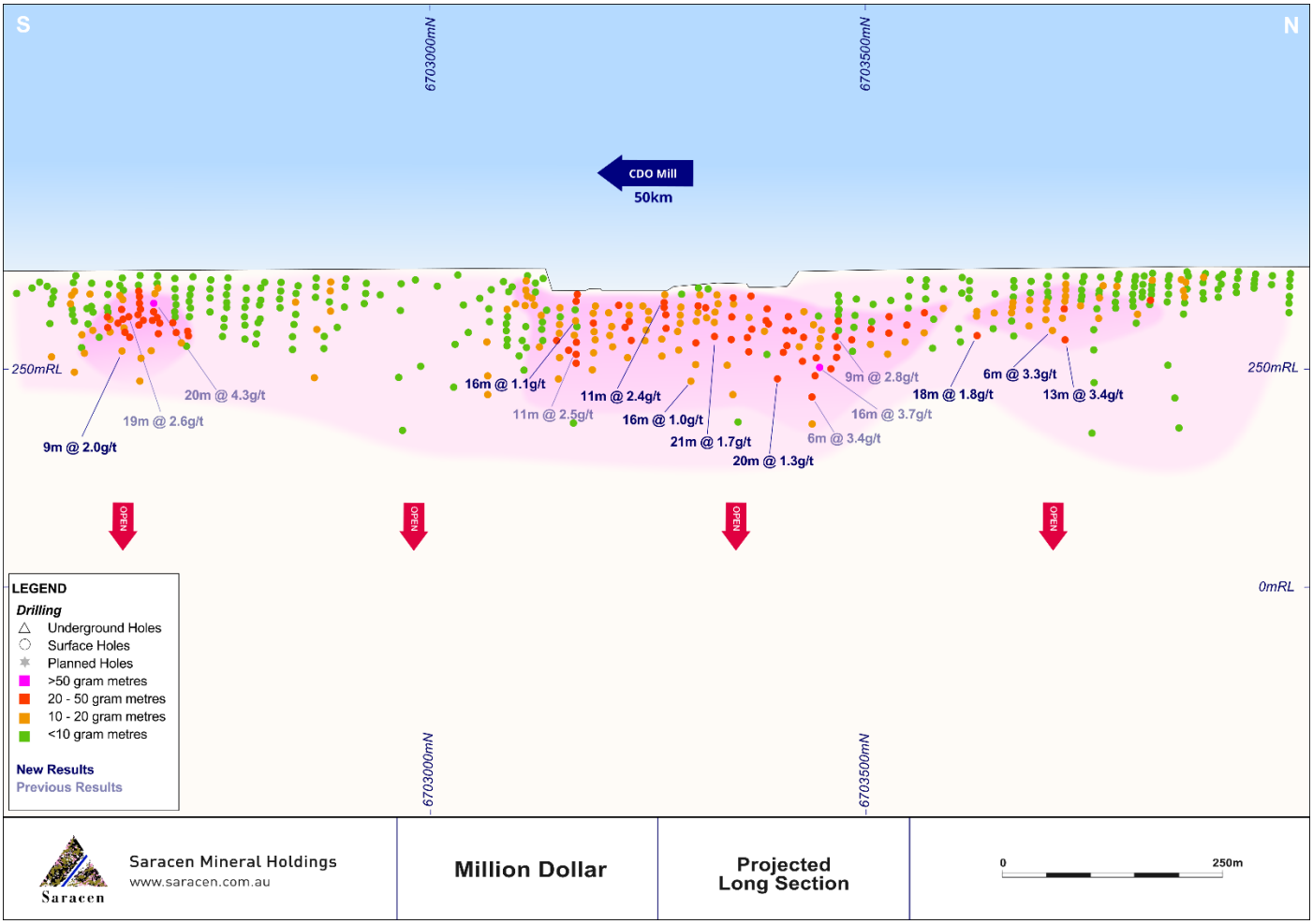
Million Dollar

The Million Dollar project is located 50km north of the Carosue Dam Plant. A small historic pit has been previously mined by prior operators. The project was last drilled by Saracen in 2011. Million Dollar has a current Reserve of **2.8Mt @ 1.1g/t for 100koz** (refer to the ASX announcement "Reserves grow by 20% to 2.5Moz" dated 1st August 2018).

The recent drill program completed at Million Dollar included a combination of both RC and diamond drilling. This program has improved the Resource confidence and drill spacing below the Reserve. Importantly, the geological interpretation has been improved with the diamond drilling providing valuable structural data. The new drilling results were in line with expectations.

Significant new results include **13m @ 3.4g/t**, **21m @ 1.7g/t** and **18m @ 1.8 g/t**.

Figure 4 – Million Dollar Long Section, New Drill Results



Additional drilling is planned during FY20 to further extend and infill the Million Dollar Resource. The recent drilling results have been included in an updated Resource which is currently being re-optimised.

Below is a table of significant Million Dollar intercepts:

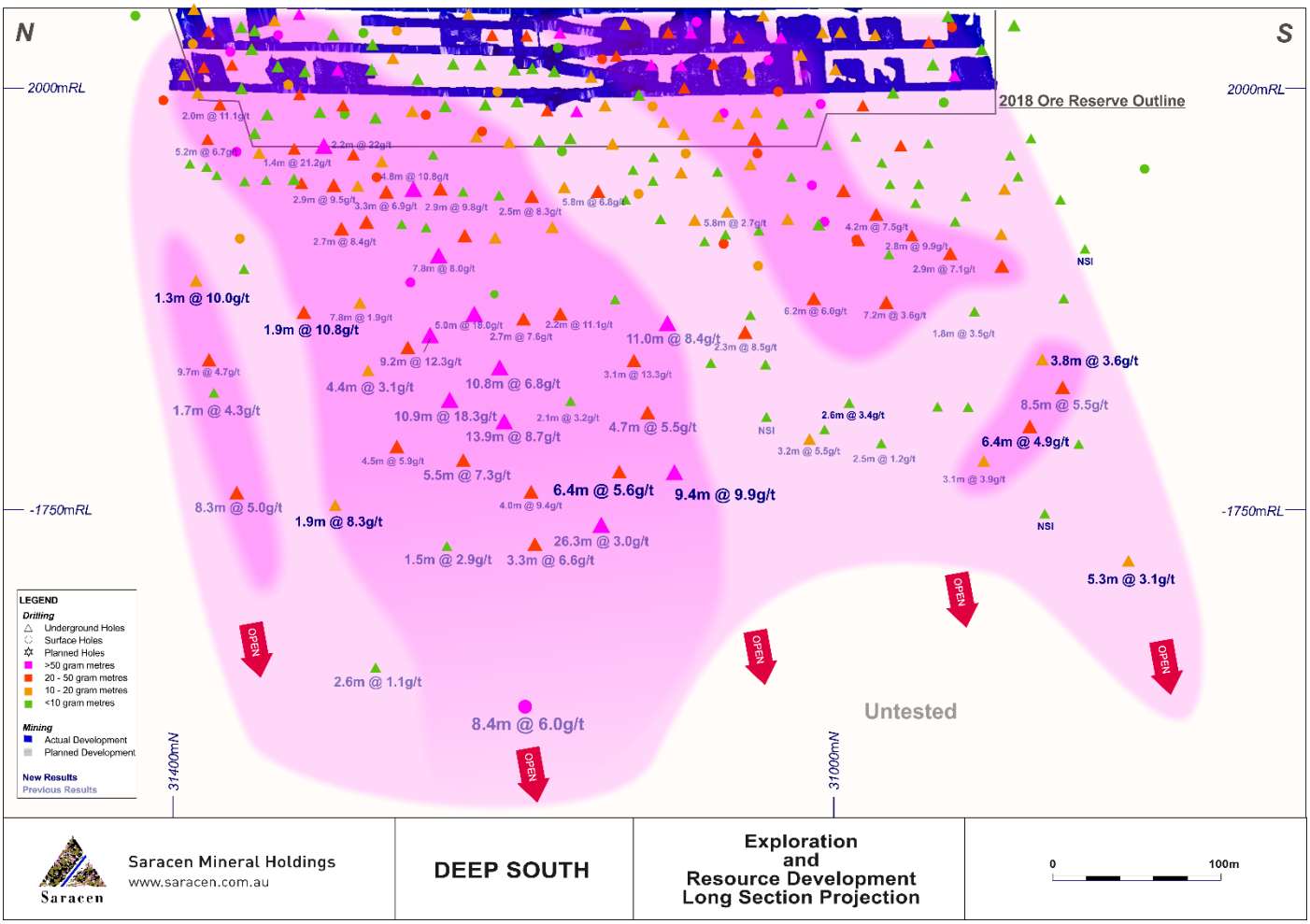
Significant drill results include:	
MDRD024	13.0m @ 3.4g/t
MDGC019	21.0m @ 1.7g/t
MDRD013	18.0m @ 1.8g/t
MDGC008	11.0m @ 2.4g/t
MDRD011	5.8m @ 3.3g/t

Deep South underground

In May an underground rig was mobilised across to Deep South to complete a small drill program. This program aimed to better define recent encouraging results and tighten the drill spacing down to the -1800RL.

This recent program successfully intersected strong mineralisation hosted in the key marble unit. Significant new results include **9.4m @ 9.9g/t**, **6.4m @ 5.6g/t** and **6.4m @ 4.9 g/t**.

Figure 5 - Deep South Long Section, New Drill Results



All new drilling has been included in an updated Resource which is currently undergoing economic evaluation. The Deep South mine is currently on care and maintenance. The current assessment will assist in determining the next steps for the project.

Below is a table of significant Deep South intercepts:

Significant drill results include:	
DSRD094	9.4m @ 9.9g/t
DSRD074	6.4m @ 5.6g/t
DSRD082	6.4m @ 4.9g/t
DSRD089	1.9m @ 10.8g/t
DSRD078	1.3m @ 10.0g/t

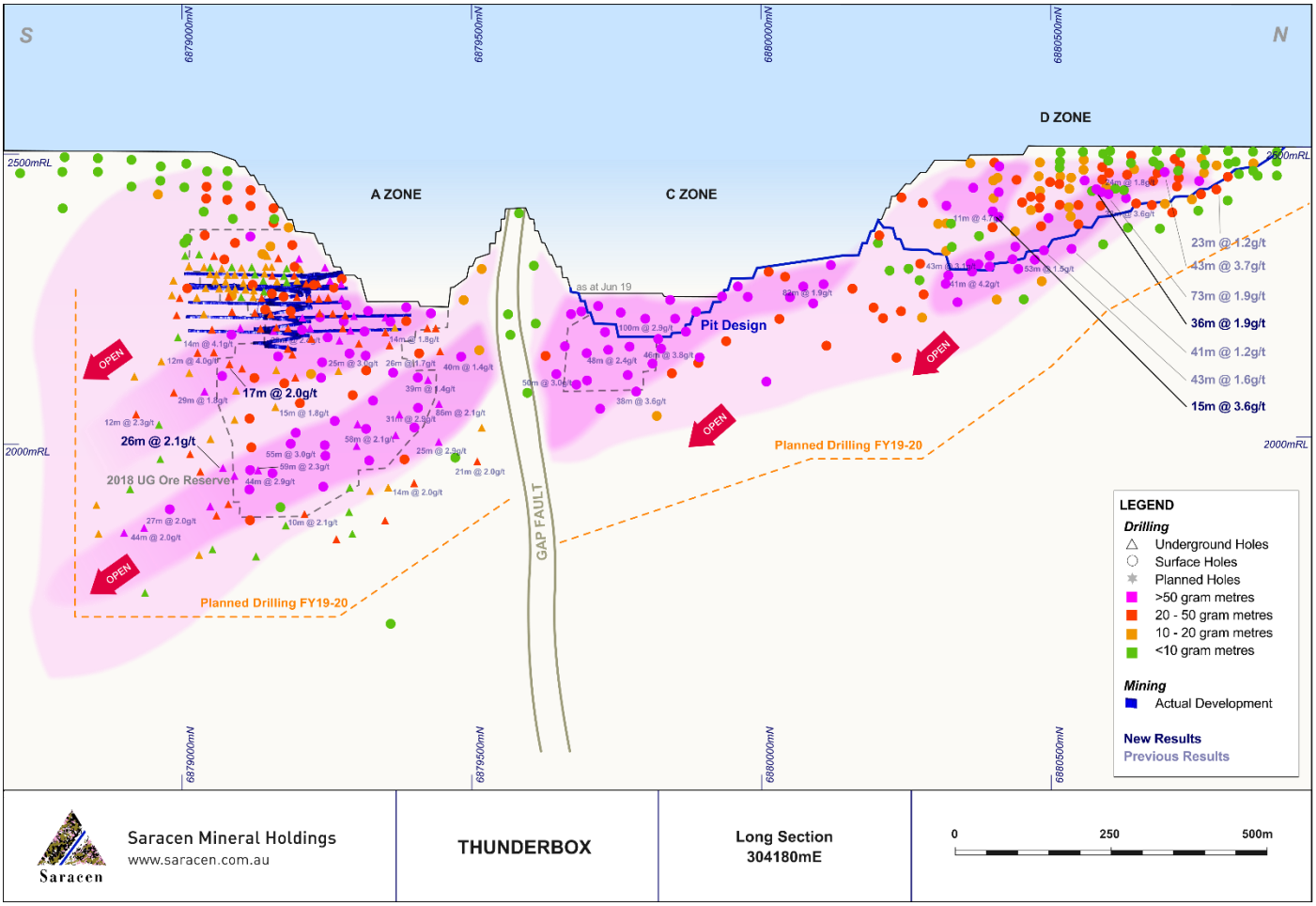
Thunderbox Operations - Drilling update

Thunderbox underground

Following the successful completion of over 40,000m of underground drilling early in the recent June quarter, the final assay results from this program have now been returned. The latest results have continued to demonstrate the **consistent and persistent** nature of the Thunderbox mineralisation.

Significant new A-Zone underground results include **26m @ 2.1g/t** and **17m @ 2.0 g/t**.

Figure 6 - Thunderbox Long Section, New Drill Results



Thunderbox D Zone

The remaining results from the previous surface program drilled in the D Zone have also been returned. This program has successfully delineated greater continuity of the higher grade shoots.

Significant new D Zone open pit results include **15m @ 3.6g/t** and **36m @ 1.9 g/t**.

Below is a table of significant Thunderbox intercepts:

Significant drill results include:		
THRD027	25.8m @ 2.1g/t	A Zone
THRD037	17.1m @ 2.1g/t	A Zone
TBRC071	15.0m @ 3.6g/t	D Zone
TBDD0141	36.5m @ 1.9g/t	D Zone

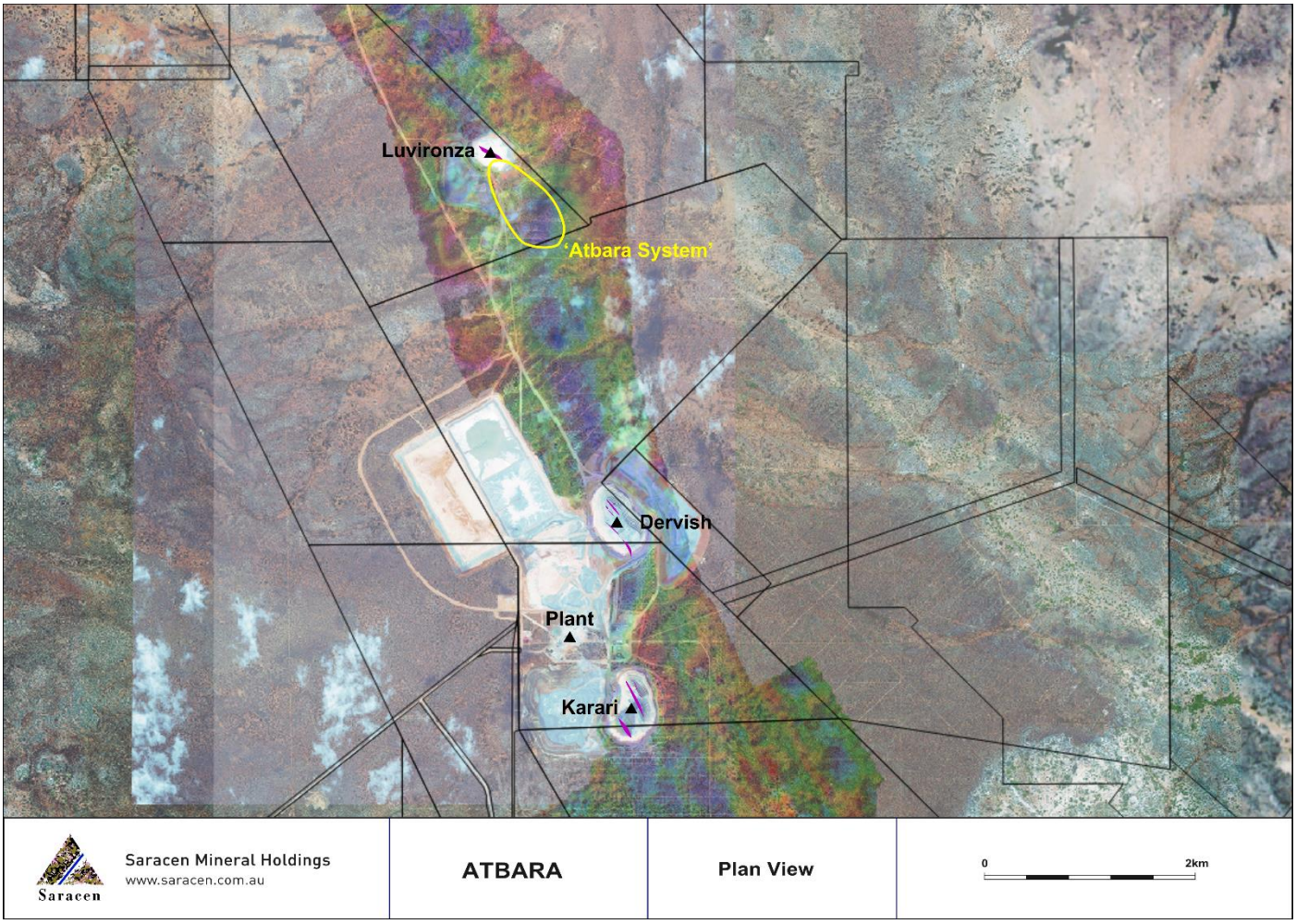
Regional Exploration - Update

Atbara Discovery (Carosue Dam Corridor)

Drilling along the highly prospective Carosue Dam Corridor has delivered early success, with a **significant discovery at Atbara** (announced in November 2018), only 4km north of the mill.

Drilling has been ongoing at the Atbara project with two diamond rigs. The broad phase 1 systematic 160m x 160m framework diamond drill program has progressed well and continues to identify **thick zones of mineralisation** between two regional east-west Proterozoic dykes.

Figure 7 - Location, Carosue Dam Corridor 'Atbara System'



The system has now been identified over **860m** of strike and **remains open in all directions**.

The Atbara mineralisation is **entirely hosted in a large monzonite system** bound to the east and west by a succession of intermediate volcanoclastic sediments, syenite and monzonite intrusives.

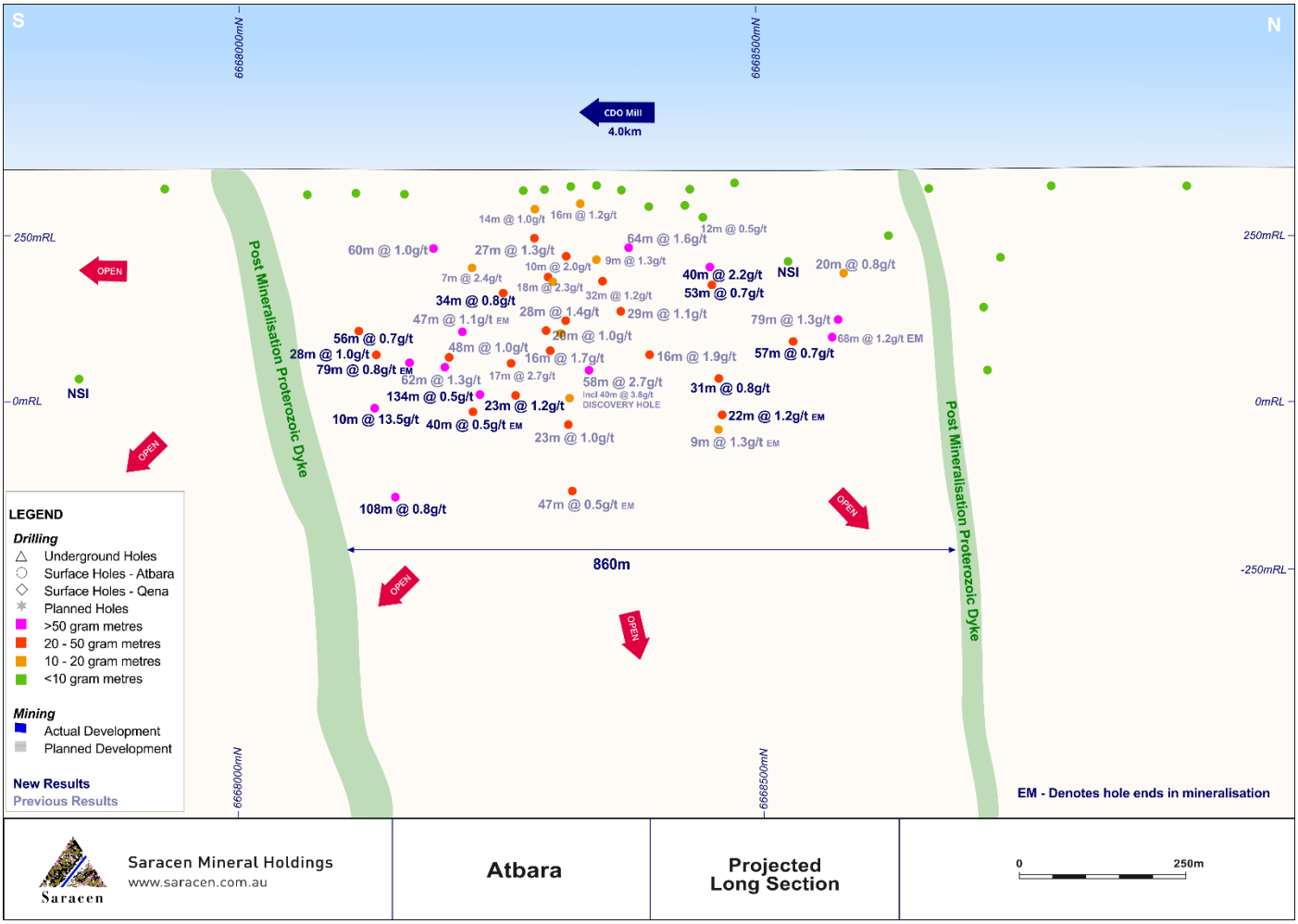
Based on broad drilling to date, the mineralised domains appear to be continuous in the northwest direction with a number of shorter domains that have a shallow dip to the east and west.

The mineralisation is characterised by narrow quartz-biotite-calcite-pyrite veins and quartz-sulphide (pyrite-molybdenite-chalcopyrite) veins of varying orientations.

Positive metallurgical results have been received from initial test work. A series of grind size optimisation gravity leach tests indicate that coarse gold is present with up to **70% gravity recovery**. When combined with cyanide leach, **overall recoveries were up to 93.9%**.

Significant non-aggregate or individual results include **40m @ 2.2g/t, 10m @ 13.5g/t** and **108m @ 0.8g/t**.

Figure 8 - Atbara Long Section, New Drill Results



Below is a table of significant Atbara exploration intercepts:

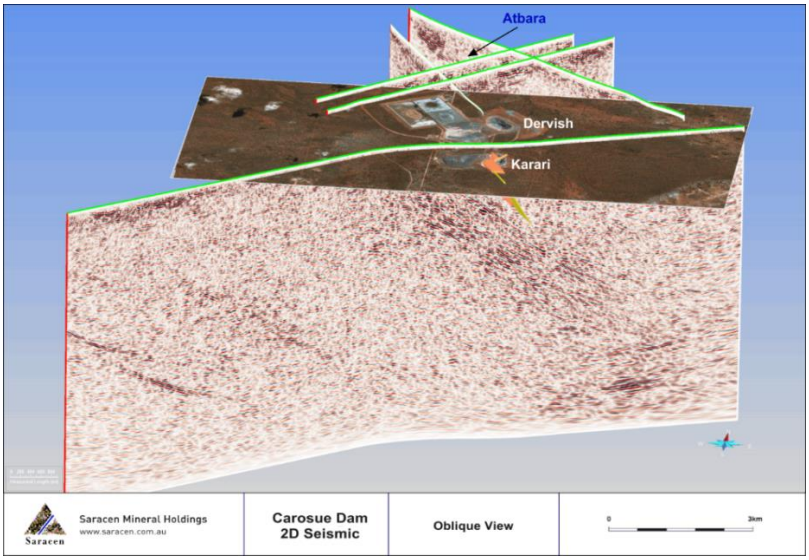
Significant drill results include:		
	Aggregated	Primary (or including)
ATEX028	**174.3m @ 1.5g/t**	10.1m @ 13.5g/t
		56.2m @ 0.7g/t
		108.0m @ 0.8g/t
ATEX019	**112.2m @ 0.9g/t**	18.0m @ 1.4g/t
		10.0m @ 1.33g/t
		53.2m @ 0.7g/t
		31.0m @ 0.8g/t
ATEX020	**52.5m @ 2.0g/t**	39.0m @ 2.2g/t
		13.5m @ 1.3g/t
ATEX029	**65.9m @ 1.1g/t**	8.9m @ 2.0g/t
		22.9m @ 1.2g/t
		34.1m @ 0.8g/t
ATEX030	**57.8m @ 0.9g/t**	12.0m @ 1.3g/t
		18.8m @ 1.0g/t
		27.0m @ 0.6g/t
QEEX018		79.7m @ 0.8g/t
ATEX026		28.2m @ 1.0g/t

Carosue Dam Seismic Project

The 3D seismic survey data collection is now complete. In June the last of the 3D arrays were recorded by the HiSeis team. This marked the end of three months of data collection **across an area of 50km²** that includes Karari, Dervish and Atbara.

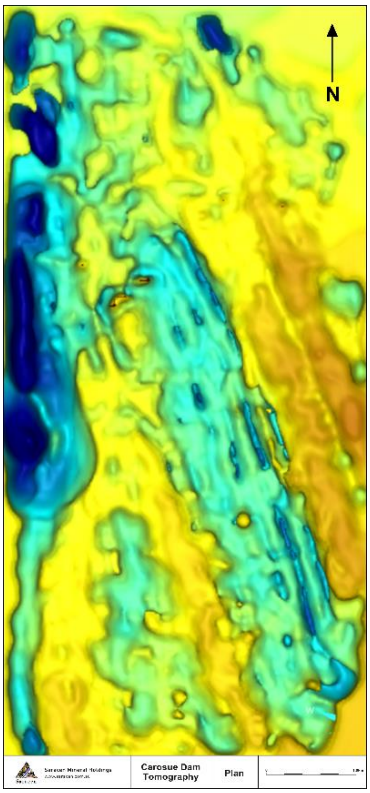
The high-resolution fully nodal acquisition, **recorded 263 million traces of seismic data** over the 50km². This is **the highest resolution hard rock survey in Australia** and the second largest by area to date. The majority of the survey has a 400-fold cover in a 7.5m x 7.5m bin size. Each depth slice of the final 3D cube will have about 1 million data points. Early indications suggest resolution of geological features in the 3D cube will be excellent.

Figure 9 - Carosue Dam, 2D Seismic data



Early data processing and first break picking is delivering immediate value. Detailed tomography (maps the top of fresh rock) across half of the survey has been made available and is already highlighting key geological features.

Figure 10 - Carosue Dam, 3D Seismic data, Tomography



Receipt of the 3D seismic cube data is anticipated **during the December quarter 2019**. This survey will provide an extremely valuable dataset for understanding the structural geology and future exploration targeting.

Mt Celia

The wide spaced regional air core program targeting the largely unknown geology west of the Pinjin Fault has continued during the June quarter 2019.

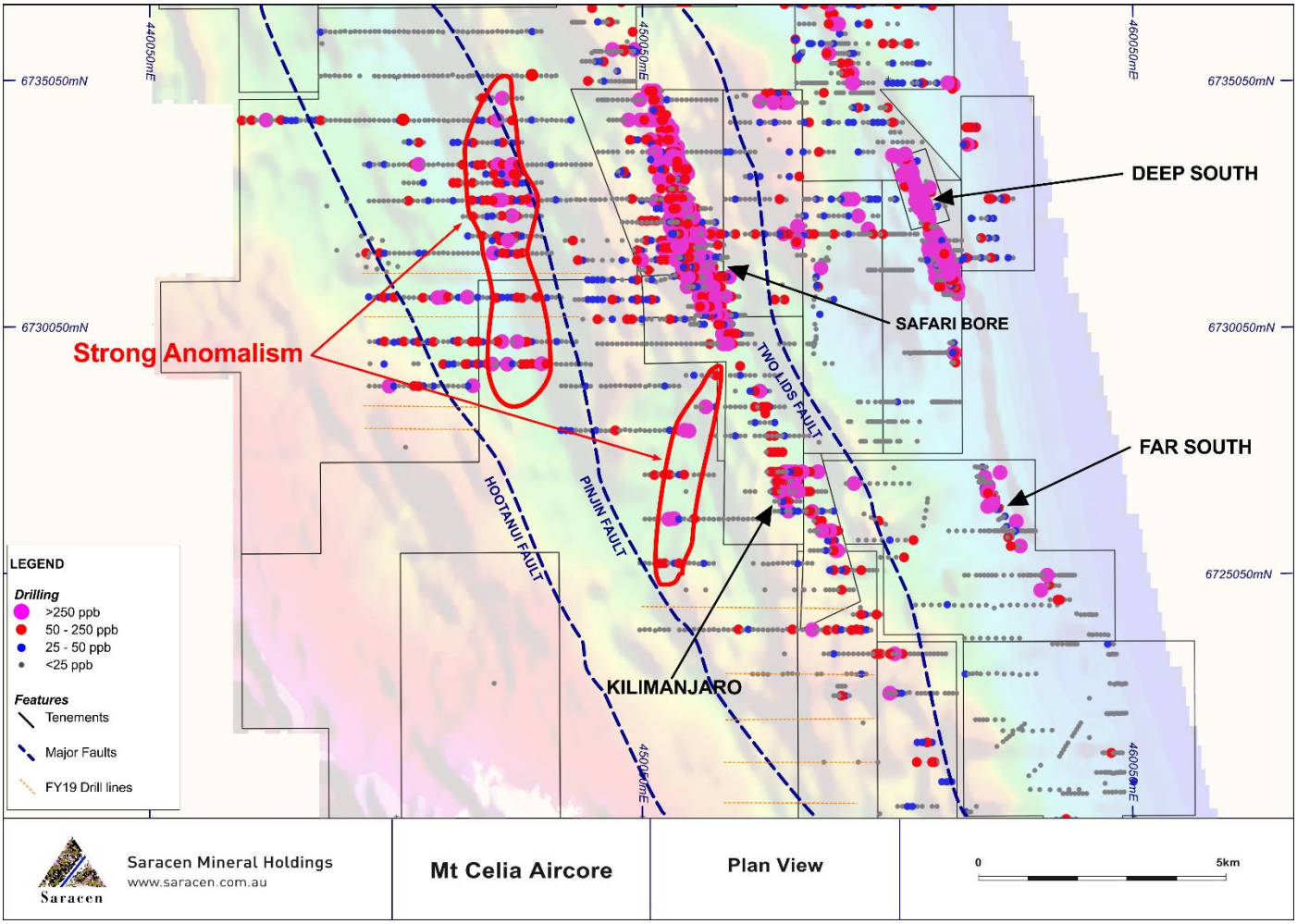
The broad pattern (800m x 100m) has **successfully identified a large anomaly** to the west of Safari Bore. This significant anomaly has increased in size and is **now defined over a strike length of 5.5km** and is **up to 1.2km wide**.

Infill air core drilling over the northern half of the anomaly has further defined the gold zone that sits in the favourable conceptual structural position defined by the magnetics and gravity datasets.

The area has a stripped regolith profile, highlighting the primary nature the anomalism. Fresh rock "bottom of hole" chips indicate the anomaly is associated with sheared volcanoclastics, variably intruded by syenites, with strong sericite alteration and sulphides.

The recent wide spaced air core drilling to the south has **defined a new anomaly** that strikes north-northwest between the Two Lids Fault and the Pinjin Fault. This new anomaly has been **defined over a strike length of 4km**.

Figure 10 - Mt Celia, Air core drilling results



Further air core drilling is planned during FY20, after a thorough review and detailed analysis of the bottom of hole geology (lithogeochemistry and alteration)

Corporate Structure:

Ordinary shares on issue:	831.4m
Unvested employee performance rights:	17.3m
Market Capitalisation:	A$3.4b (share price A$4.09)
Cash, bullion and investments (30 June):	A$154.5m
Debt:	Nil
Substantial Shareholders:	Van Eck Global 12.1% BlackRock Group 9.2%

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Competent Person Statements

The information in the report to which this statement is attached that relates to Exploration Results and Mineral Resources related to Gold 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.

Table 1 – Karari Drill Results

KARARI DRILLING JULY 2019								Downhole			
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
KREX052	3286.517	7933.443	-61.2492	432	136.16	-88.11		319.35	327	7.65	3.24
							and	347.75	350.6	2.85	5.15
KREX053A	3286.777	7933.212	-61.2406	289.66	80.04	-75.20		400.9	406.7	5.8	2.94
							and	412.3	413.2	0.9	13.92
							and	418.9	419.9	1	3.67
KREX054	3286.673	7933.378	-61.2584	472.7	94.34	-89.11		340.2	347	6.8	3.09
							and	359.8	360.15	0.35	3.72
KREX055	438647.5	6663720	-61.307	495	30.2	-74.54		407	407.72	0.72	7.05
							and	414.7	415	0.3	4.53
							and	416	417.25	1.25	2.51
							and	436	437	1	4.84
							and	439	440.5	1.5	2.56
KREX058	438656.4	6663702	-60.887	491	71.3	-74.84		**400.92**	**470**	**69**	**3.31**
							incl	**402**	**423**	**21**	**8.42**
							incl	430	435.47	0.4	4.30
							incl	464	465	1	2.81
							incl	467.8	469	1.2	5.36
KREX059	438656.6	6663702	-60.839	453	65	-76.92		330	352.95	22.95	4.22
KRGC608	3341.264	7557.011	-92.3067	204.03	293.49	-22.63	no significant results				
KRGC609	3341.264	7557.011	-92.3067	207	297.12	-28.78		163.9	165	1.1	3.00
KRGC610	3341.264	7557.011	-92.3067	222.1	301.11	-33.23		167.2	167.6	0.4	15.10
KRGC611	3341.264	7557.011	-92.3067	200.77	292.6	-50.22		121.94	123.2	1.26	3.37
							and	130.88	131.93	1.05	2.63
							and	134.72	135.07	0.35	3.35
							and	145.64	146	0.36	3.54
							and	**174.52**	**185.39**	**10.87**	**3.48**
KRGC612	3341.264	7557.011	-92.3067	207	300.79	-42.17		**165**	**181.35**	**16.35**	**4.34**
KRGC613	3341.264	7557.011	-92.3067	225	306.39	-38.52		177	178	1	7.16
KRGC614	438700.9	6663346	-93.6848	204	299.6	-54.41		135.2	139.6	4.4	9.29
							and	194.65	195	0.35	4.50
KRGC615	438701	6663345	-92.4127	222.15	307.2	-44.36		166	167.86	1.86	3.09
							and	174.5	179.45	4.95	7.59
							and	187.87	190	2.13	2.74
KRGC616	438701	6663345	-92.4127	234	312	-39.32	no significant results				
KRGC617	438520.1	6663653	-169.634	66	37.8	5.45		5	5.35	0.35	3.72
							and	26.55	27.25	0.7	2.69
							and	38	42.4	4.4	4.39
							and	46	46.8	0.8	3.39
							and	50.05	54.5	4.45	2.99
KRGC618	438702.4	6663347	-93.894	216	315.1	-65.57		157.1	158.85	1.75	7.95
KRGC619	438701.7	6663346	-93.782	258.1	323.2	-50.04		175	176	1	3.50
							and	**192.25**	**200**	**7.75**	**7.71**
							and	209	210.6	1.6	4.19
							and	219	220	1	3.14
KRGC620	438732.4	6663300	-93.1956	255	166.38	-30.56		180	181	1	4.03
							and	190	194.3	4.3	2.90
							and	236	237	1	3.70
KRGC621	438732.6	6663300	-93.2938	224.6	166.8	-38.17		176.4	177.15	0.75	7.29
							and	181	181.85	0.85	3.26
							and	187.55	187.9	0.35	6.18
KRGC622	438653.4	6663699	-60.4944	252	182.3	-56.62		208.2	209	0.8	13.90
							and	213.05	220.45	7.4	3.66
KRGC623	438653.4	6663699	-60.5946	243	190.2	-42.8		205.85	212.85	7	4.33
							and	219	225.9	6.9	4.27
KRGC624	438653.5	6663699	-60.5446	227	197.9	-57.66		157.7	158.2	0.5	4.74
							and	203.6	204.8	1.2	4.00

KARARI DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
KRGC625	438653.8	6663699	-60.6122	210	209.6	-42.82		137.05	137.9	0.85	4.03
							and	141.05	142.85	1.8	5.66
							and	171.25	172.15	0.9	4.76
							and	189.15	197	7.85	4.11
KRGC626	438653.7	6663699	-60.6723	207.2	213.4	-51.62		142	142.5	0.5	3.94
							and	175.35	177.95	2.6	3.89
							and	190.15	190.6	0.45	3.23
KRGC627	438653.6	6663699	-60.6801	207	228.8616	-57.6076		133.4	134	0.6	6.70
							and	141	146	5	4.32
							and	202	203	1	13.00
KRGC628	438621.8	6663775	-62.8828	288	290.1	-34.7		234	241.45	7.45	16.43
							and	249	250.3	1.3	3.45
							and	276.2	277	0.8	3.59
KRGC632	438621.5	6663775	-63.8198	123	299.4	-30.61	results pending				
KRGC633	438621.3	6663775	-63.082	365.41	301.4	-36.57		194.2	194.56	0.36	4.34
							and	303.7	304	0.3	3.37
							and	307	307.3	0.3	3.04
							and	311	311.78	0.78	4.55
							and	331.51	332	0.49	2.87
KRGC634	438621.7	6663775	-64.0198	315	300	-41.09	results pending				
KRGC635	438729.1	6663303	-93.7039	154.8	272.1757	-53.632	no significant results				
KRGC636	438729	6663304	-93.7036	180	238.4	-55.65		91	92	1	3.57
							and	101.65	103.35	1.7	2.88
							and	118.65	122	3.35	4.41
							and	127	128.1	1.1	16.87
KRGC637	438728.9	6663304	-93.7636	152.6	274.2	-52.4		105	106	1	5.31
							and	110	115	5	2.83
							and	120	127	7	3.43
							and	130.8	132	1.2	3.86
							and	137.6	140	2.4	2.83
KRGC638	438730.7	6663301	-93.6925	177.36	188.7	-41.12	results pending				
KRGC639	438730.9	6663301	-93.716	206.5	172.8	-35.94	results pending				
KRRD404	438656.4	6663702	-60.887	453.05	58.9	-78.32		**344.1**	**358.5**	**14.4**	**3.77**
							and	376.55	380	3.45	4.41
KRRD405	438656.4	6663702	-60.887	468	89.9	-76.8		308.6	309.1	0.5	4.06
							and	**337.4**	**364**	**26.4**	**1.90**
							and	421	422	1	6.40
KRRD406	3260.725	7987.956	-63.7069	333	301.63	-23.81	no significant results				
KRRD407	3260.321	7987.903	-63.4511	350.8	305.11	-32.05		**284.6**	**305.2**	**20.6**	**2.69**
							incl	297.95	302.75	4.8	4.02
							incl	303.95	305.2	1.25	6.41
KRRD408	3260.298	7987.811	-63.4223	317	305.4915	-28.84		303	308.55	5.55	4.88
KRRD409	3261.35	7987.46	-63.15	51	302.0072	-40.93		289	292	3	2.80
							and	316.65	317.5	0.85	3.38
KRRD410	3261.39	7987.46	-63.15	366	309.7	-35.47		**335**	**350**	**15**	**3.64**
KRRD412	3368.96	7524.07	-93.75	330	44.43	-82.75		290.45	291.4	0.95	2.86
KRRD413	3368.96	7524.07	-93.75	366.15	35.96	-75.27		327	327.45	0.45	4.43
KRRD415	3368.96	7524.07	-93.75	415	4.157125	-71.33	no significant results				
KRRD416	438732	6663304	-93.986	276	288.1	-87.78	no significant results				
KRRD417	438732	6663304	-93.986	234	273.4	-78.94		197	198	1	4.65
KRRD419	438621	6663775	-63.256	393	310.2	-37.4		**352.3**	**368.3**	**16**	**2.54**
KRRD420	438621	6663775	-63.256	405	312	-42.04		**352.35**	**382.8**	**30.45**	**6.55**
KRRD421	438621	6663775	-63.256	410.5	313.6	-38.56		348.65	350	1.35	6.92
							and	361.4	364.2	2.8	5.16
							and	369	370	1	2.72

KARARI DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
KRRD422	438621	6663775	-63.256	420.07	313	-49.94		**321.15**	**366.8**	**45.65**	**6.28**
							incl	355.5	357	1.5	3.20
							incl	360.4	367.47	7.07	3.99
KRRD423	438621	6663775	-63.256	426	316.5	-44.01		**366**	**401.9**	**35.9**	**7.96**
KRRD424	438620.7	6663776	-63.5124	479.7	317.5	-40.41		**403**	**414**	**11**	**5.81**
KRRD425	438701.8	6663347	-93.809	242.94	316.5	-43.2		198.32	198.8	0.48	3.74
KRRD426	438702.3	6663346	-93.905	257	327.4	-58.29		185.12	186.86	1.74	3.04
							and	193.95	196.21	2.26	4.17
							and	201.97	202.43	0.46	2.52
							and	209.09	210.36	1.27	3.75
KRRD427	438703.4	6663346	-93.803	267	339.8	-67.63		**230.7**	**251**	**20.3**	**6.59**
							and	236.24	248	11.76	10.48
							and	261	262	1	5.58
KRRD428	438703.1	6663347	-93.88	273.6	337.9	-58.03		225.2	225.5	0.3	4.26
							and	236.45	237.5	1.05	2.86
							and	258.2	259	0.8	10.50
KRRD429	438703.3	6663346	-93.769	306	349.6	-57.81		**268**	**281**	**13**	**2.59**
							and	290	291	1	7.02
							and	298.25	299.1	0.85	3.33
KRRD430	438703.6	6663348	-93.9934	357	10.2	-65.16		**285**	**291.7**	**6.7**	**5.63**
							and	306	307	1	3.00
							and	322	323	1	10.10
KRRD431	438703.6	6663348	-93.9934	474.93	359.9	-58.09		301.6	302.2	0.6	4.20
							and	324.55	325.7	1.15	2.57
							and	338.5	340.2	1.7	2.63
							and	350	351	1	3.21
KRRD432	438703.6	6663348	-93.9934	378.04	357.1	-51.41		320.75	323	2.25	8.80
KRRD433	438646.6	6663720	-61.2636	411	336.5	-61.49	no significant results				
KRRD434	438646.6	6663720	-61.2037	449.9	348	-67.88		382.2	383.4	1.2	2.86
KRRD434A	438646.3	6663720	-61.3535	386	341	-69.16		332	333.05	1.05	2.71
KRRD435	438646.4	6663720	-61.3395	426	351.9	-70.47		**378**	**389.8**	**11.8**	**4.38**
							and	403	409	6	2.89
KRRD436	438646.3	6663720	-61.3149	396	354.4	-76.12		302.12	303	0.88	5.63
							and	318.15	320	1.85	2.99
							and	336	337	1	3.35
							and	342	343.55	1.55	3.17
KRRD437	438647.6	6663720	-60.6512	422.57	10.1	-75.34		355.2	356	0.8	2.93
							and	370.45	371.55	1.1	5.67
							and	376.5	381.2	4.7	3.12
KRRD438	438621.4	6663776	-63.7172	405	316.1	-57.45		326	334	8	5.95
KRRD439	438621.5	6663776	-64.1014	216	355.4	-64.24	results pending				
KRRD441	438621.5	6663776	-63.6443	533.91	321.4	-46.13		446.5	453	6.5	4.81
							and	486.3	487	0.7	8.47
							and	492.97	499.85	6.88	6.06
KRRD442	438621.2	6663775	-62.3833	600	326.8	-49.71		427	428	1	5.64
							and	433.1	436	2.9	7.68
							and	447	449	2	5.51
							and	453	458	5	6.77
							and	467	471	4	2.51
KRRD443	438710.9	6663337	-93.9889	320.85	5.5	-71.56		254.6	255	0.4	4.93
							and	258	258.4	0.4	4.34
							and	280	281	1	3.58
							and	297.25	299	1.75	2.62
							and	301.35	303	1.65	2.93
KRRD444	438729.3	6663312	-93.8787	282	65.4	-83.05	results pending				
KRRD445	438710.9	6663337	-94.016	336.26	9.6	-65.94		281.5	282	0.5	3.29
							and	290.35	291	0.65	13.80
							and	301	302	1	3.03
KRRD446	438728.9	6663312	-93.8854	325.2	12.24	-71.62	no significant results				
KRRD447	438656.5	6663702	-60.8142	381.05	59.2	-80.51		311	324.2	13.2	4.50
							and	333.05	335.35	2.3	2.65
							and	340.9	342	1.1	3.78
							and	346	347	1	2.88
KRRD448	438656.5	6663702	-60.8134	399	93.6	-77.95		**303.4**	**324.5**	**21.1**	**3.70**
							and	331	332	1	2.81

Table 3 – Whirling Dervish Drill Results

WHIRLING DERVISH JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
WDEX049A	2979.109	9749.998	140.546	666	24.03	-86.78		259	261	2	3.126
							and	417.32	418.55	1.23	2.752
							and	426	427	1	10.1
							and	**542**	**553**	**11**	**1.41**
WDEX054A	2903.599	9840.334	142.5992	528	306.85	-34.67		233	239	6	2.17
							and	308	309	1	13.30
WDEX056	438263.7	6665628	142.5963	458.92	313.60	-51.28		194.35	196.88	2.53	4.30
WDEX057	438263.7	6665628	142.5963	507	322.40	-54.12		212.45	215	2.55	5.96
							and	220.73	221.03	0.3	9.05
							and	273	273.75	0.75	1.54
WDEX058	438263.8	6665628	141.5907	552	312.90	-36.38		256.8	266.45	9.65	3.69
							and	419	420	1	1.52
							and	452.4	456.8	4.4	2.32
							and	468	469	1	1.80
							and	**478.15**	**487.35**	**9.2**	**1.91**
							and	516.3	517	0.7	2.56
WDEX060	438377.9	6665514	141.1078	318.04	60.28	-82.39		245.3	247	1.7	3.33
WDEX062	438335.4	6665538	140.4642	620	349.40	-61.69		551.2	558.4	7.2	2.651
WDEX064A	438381.3	6665514	141.194	660	60.40	-81.82		238.1	239	0.9	1.66
							and	243	244	1	1.72
							and	251.25	253	1.75	3.66
							and	552	552.65	0.65	1.77
							and	**555.75**	**562.8**	**7.05**	**3.88**
WDGC217	2905.374	9835.188	142.1989	270.07	259.63	-59.78		225.85	244	18.15	3.93
WDGC218	2905.372	9835.132	142.1722	281.8	276.58	-54.32		240.2	241	0.8	1.65
							and	242.95	244	1.05	1.78
							and	258.25	259	0.75	3.00
WDGC219	2905.473	9835.073	142.152	305.9	289.90	-41.98		145	146	1	1.50
							and	254	255.65	1.65	3.53
WDGC220	438265.1	6665622	142.1121	290.86	230.10	-72.93		234.6	235.1	0.5	3.12
							and	237	237.5	0.5	2.57
							and	242.8	244.4	1.6	2.00
							and	258.8	259.17	0.37	4.00
							and	**266**	**270**	**4**	**3.89**
WDGC221	438263.9	6665621	143.8971	233.9	229.20	-26.05		77	78	1	2.44
							and	84.3	88	3.7	3.33
							and	128	141	13	3.44
WDGC222	438264	6665622	141.3507	234	249.70	-26.88		80	82	2	8.29
							and	92.1	95.7	3.6	3.21
							and	111	112	1	3.79
							and	127	128	1	2.55
							and	134	142.05	8.05	4.81
							and	151.95	156	4.05	3.03
							and	215.05	224.75	9.7	2.60
WDGC223	438262.4	6665623	142.0054	267	263.30	-16.07	results pending				
WDGC224	438262.5	6665623	141.6945	261	264.00	-24.15	results pending				
WDGC225	438262.4	6665623	142.6114	251.95	259.90	-25.57		100.55	114.65	14.1	1.99
							and	126.7	131	4.3	3.04
							and	147	147.65	0.65	5.33
							and	167	168	1	2.14
							and	217	225	8	1.81
							and	235.3	236.5	1.2	1.72
WDGC226	438262	6665623	142.4595	282	272.70	-21.89		125.9	145	19.1	2.42
							and	152	152.3	0.3	7.13
							and	249	249.6	0.6	2.09
							and	276	278.7	2.7	5.56
WDGC227	438262.4	6665623	142.5357	249	261.50	-32.23		85	86	1	1.72
							and	88.75	117	28.25	2.34
							and	137.3	138	0.7	2.20
							and	147	147.9	0.9	1.72
							and	156	157	1	1.81
							and	214.75	215.35	0.6	1.51
							and	233.2	234	0.8	1.53

WHIRLING DERVISH JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
WDGC228	438264.2	6665621	142.5108	237	251.40	-34.66		89.3	90	0.7	3.03
							and	93	95	2	3.88
							and	99	100	1	1.98
							and	129	134.7	5.7	1.66
							and	137	144.5	7.5	2.11
							and	210	211	1	4.31
							and	221.85	222.55	0.7	2.15
WDRD091	3020.729	9720.627	141.4937	445.55	169.43	-74.85		207.5	208.13	0.63	1.235
							and	212	213	1	0.85
							and	298.9	301	2.1	5.238
							and	**386**	**423**	**37**	**3.95**
WDRD096	3018.128	9726.739	141.2639	510	118.26	-84.89		224.3	225	0.7	8.56
							and	332.55	333	0.45	8.47
							and	420.4	421.15	0.75	3.50
							and	427.87	437.65	9.78	2.74
							and	449	454.7	5.7	1.67
							and	484.6	485.8	1.2	12.83
WDRD097	2979	9750	140	485	78.97	-85.06		196.6	201.37	4.77	4.17
							and	306.18	306.9	0.72	3.18
							and	366.47	366.86	0.39	8.21
							and	374.31	375.62	1.31	1.93
							and	382.1	383	0.9	1.79
							and	430	431	1	2.10
							and	468.85	470.02	1.17	1.70
WDRD098	2979.179	9749.819	140.583	540	97.80	-83.37		224	225.4	1.4	9.79
							and	432.24	433.5	1.26	3.96
							and	**481.71**	**493**	**11.29**	**2.71**
WDRD099	2903.025	9839.958	142.5938	357	304.23	-39.55		154.15	156.2	2.05	1.80
							and	158.4	159.8	1.4	2.03
							and	323.95	324.7	0.75	1.75
WDRD100	2902.966	9839.999	142.7893	338.6	296.23	-50.74		70	70.75	0.75	1.77
							and	312.35	312.7	0.35	1.94
							and	319	319.5	0.5	1.88
							and	323.72	324.7	0.98	1.64
WDRD101	438263.3	6665627	142.4407	392.94	304.40	-53.25		162	162.8	0.8	2.06
WDRD102	2903.1	9839.6	142	440.8	314.90	-74.67		183.47	186.05	2.58	2.37
							and	373.06	373.95	0.89	2.59
							and	418	419	1	1.92
							and	423.86	424.87	1.01	2.47
WDRD103	2903.1	9839.6	142	228	310.79	-62.45		170.1	171.3	1.2	3.56
							and	**364**	**366**	**2**	**6.22**
WDRD104	438263.9	6665627	142.1209	527.83	313.20	-44.81		219.7	221.25	1.55	6.69
							and	**438.2**	**457.7**	**19.5**	**4.38**
							and	463.95	464.3	0.35	2.02
							and	469	470	1	3.18
WDRD105	438335.4	6665534	140.3952	397.27	124.10	-86.86		178	179	1	2.16
							and	259.67	263.5	3.83	2.44
							and	278.35	285.55	7.2	1.69
							and	**322**	**339.36**	**17.36**	**3.81**
							and	324.8	339.36	14.56	3.00
WDRD106	438337.7	6665536	140.3859	465.07	10.20	-83.38		202	209.85	7.85	4.37
							and	305	306	1	5.11
							and	316.8	319	2.2	5.84
							and	347	348	1	1.64
							and	**397**	**411**	**14**	**2.14**
							and	447.65	449	1.35	4.75
WDRD107	438337.5	6665536	140.3119	435	320.00	-79.33		191	191.96	0.96	2.30
							and	307.14	309.8	2.66	2.90
							and	326	327	1	5.65
							and	337.5	337.9	0.4	2.01
							and	342	343	1	1.61
							and	355.86	362	6.14	4.03
							and	367.7	369	1.3	2.66

WHIRLING DERVISH JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
WDRD108	438335.2	6665535	140.3206	399	297.00	-81.7		171	172	1	2.25
							and	294	297	3	1.99
							and	312	313	1	1.58
							and	314.9	316	1.1	1.50
							and	322.75	332	9.25	1.61
							and	338.15	346.45	8.3	1.51
WDRD109	438271.5	6665621	141.9835	360	340.40	-83.5		177.43	178	0.57	4.09
							and	343.05	343.57	0.52	2.23
							and	357	357.3	0.3	2.87
WDRD109A	438271.6	6665621	141.9797	417	338.90	-84.06		197.27	198.76	1.49	8.15
							and	322.8	325.55	2.75	2.85
							and	337.3	337.7	0.4	5.77
							and	342.75	344	1.25	1.69
							and	366.75	367.25	0.5	2.42
							and	372.65	373.5	0.85	5.34
							and	382	383	1	3.71
							and	400.15	400.5	0.35	5.89
WDRD110	438263.6	6665627	142.1172	396.09	297.20	-82.57		162.05	165.4	3.35	3.84
							and	328	331	3	2.45
							and	334.5	335	0.5	1.56
							and	337	338	1	1.62
							and	351	352	1	3.71
WDRD112	438263.3	6665627	142.5963	398.96	305.90	-43.53		78	79	1	2.57
							and	**323**	**328.21**	**5.21**	**7.44**
							and	372.9	373.25	0.35	2.17
							and	374.65	375.75	1.1	5.17
WDRD113	438334.2	6665533	140.431	323.98	270.30	-76.7		107.95	108.35	0.4	2.03
							and	110.88	111.71	0.83	3.87
							and	115.8	117.8	2	2.03
							and	140.45	140.87	0.42	1.62
							and	204.5	204.9	0.4	1.84
							and	208	208.45	0.45	2.87
							and	218.8	220	1.2	2.68
							and	223.55	228.2	4.65	1.94
							and	257.35	278.07	20.72	2.74
							and	299	300	1	1.99
WDRD114	438334.9	6665534	140.2819	387	307.80	-87.3		178.23	178.62	0.39	2.48
							and	258	262.7	4.7	2.71
							and	291	291.44	0.44	7.44
							and	329.54	330	0.46	1.63
							and	**334**	**344.46**	**10.46**	**4.03**
WDRD115	438337.7	6665536	140.3378	372	309.50	-74.52		169.45	170.85	1.4	2.47
							and	255.83	257	1.17	2.94
							and	261.63	262	0.37	2.31
							and	301.43	305	3.57	1.86
							and	315.1	316	0.9	1.95
							and	324.9	325.23	0.33	1.74
							and	**333.7**	**357.34**	**23.64**	**1.85**
WDRD116A	438337.8	6665536	140.3684	483	338.80	-74.5		214.05	215.32	1.27	2.77
							and	313.7	315	1.3	6.71
							and	349	355	6	2.66
							and	379	379.35	0.35	2.99
							and	420.35	421	0.65	2.26
							and	**431.8**	**446**	**14.2**	**3.52**
							and	469.7	470	0.3	6.58

WHIRLING DERVISH JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
WDRD116B	438337.8	6665536	140.2878	444	323.40	-74.34		330.5	330.91	0.41	4.76
							and	348.27	350.21	1.94	2.26
							and	371.16	372.94	1.78	1.85
							and	373.6	374.07	0.47	1.97
							and	**380.23**	**389.86**	**9.63**	**3.10**
WDRD117	438263.9	6665628	142.5945	441	312.90	-39.73		226	229	3	1.95
							and	233.1	233.85	0.75	3.07
							and	242	243	1	2.14
							and	**397.3**	**421.6**	**24.3**	**2.56**
WDRD118	438264	6665628	142.4834	440.8	316.60	-45.58		**386.1**	**387**	**0.9**	**2.18**
							and	392.1	392.8	0.7	1.98
WDRD119	438377.4	6665510	141.2468	432	142.50	-74.11		196.9	197.8	0.9	2.01
							and	285.2	286.55	1.35	7.47
							and	333	333.9	0.9	1.58
							and	335.5	340.1	4.6	1.54
							and	**346.9**	**370.9**	**24**	**4.19**
							and	385.15	387.4	2.25	5.10
							and	409.7	410.3	0.6	5.87
WDRD120	438377.3	6665514	141.1904	531.46	112.40	-81.27		223	225	2	14.25
							and	318.5	330	11.5	2.55
							and	397.8	402	4.2	7.84
							and	409	410	1	2.03
							and	**419.1**	**450.65**	**31.55**	**3.49**
							and	467	468	1	1.63
WDRD121	438377.6	6665513	141.2865	414	144.90	-84.32		293.15	293.8	0.65	1.57
							and	332	332.85	0.85	1.63
							and	364.85	376.1	11.25	2.80

Table 3 – Deep South Drill Results

DEEP SOUTH DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
DSEX041	456104.3	6731143	85.93451	495.21	144.798	-61.23		**419**	**424.3**	**5.3**	**3.06**
							and	461	461.62	0.62	4.20
DSRD074	456056.4	6731379	42.434	339	143.608	-67.52		284.7	285.6	0.9	4.66
							and	**292.35**	**298.7**	**6.35**	**5.58**
							and	303.75	304.45	0.7	12.00
							and	309.45	309.8	0.35	3.32
DSRD075A	456125.9	6731328	-2.235	180	138.898	-66.14		133.13	133.54	0.41	5.06
DSRD076	456101.6	6731159	85.47	278	54.298	-71.13	no significant results				
DSRD078	456021.1	6731438	43.889	231	10.898	-57.36		**189.67**	**191**	**1.33**	**10.04**
							and	195.47	196	0.53	8.50
DSRD079	456104.6	6731144	85.91919	348.1	131.698	-39.8	no significant results				
DSRD080	456104.5	6731144	85.82517	365	132.798	-47.22		284.6	285.18	0.58	4.20
DSRD081	456104.7	6731144	85.85728	374.4	131.798	-55.02		**298.52**	**302.3**	**3.78**	**3.57**
							and	305.24	306.2	0.96	4.15
							and	331	331.43	0.43	2.64
DSRD082	456104.6	6731144	85.8295	399	134.798	-61.81		**324**	**330.4**	**6.4**	**4.86**
							and	333.5	334.08	0.58	3.22
							and	365.8	369	3.2	3.60
DSRD083	456104.7	6731144	85.84394	366	120.298	-68.08		275	275.6	0.6	3.45
							and	327	328	1	2.62
DSRD084	456104.4	6731144	85.79697	344.5	123.798	-62.75		261.8	262.48	0.68	2.83
							and	283.64	284.26	0.62	6.63
DSRD085	456104.8	6731144	85.71127	355.6	89.798	-74.15		260.6	261.36	0.76	21.70
							and	**283.85**	**286.4**	**2.55**	**3.41**

DEEP SOUTH DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
DSRD086	456104.8	6731145	85.72483	363	73.998	-77.71		297.75	298.4	0.65	3.30
DSRD087	456097.8	6731175	85.22871	319.9	50.898	-71.68	no significant results				
DSRD089	456022.2	6731437	43.88267	227.9	59.898	-64.9		174.32	175.2	0.88	3.19
							and	**192.45**	**194.3**	**1.85**	**10.76**
							and	197.4	198.2	0.8	6.10
DSRD090	456022.1	6731437	43.86316	119	59.798	-74.95	not sampled				
DSRD091	456022.3	6731436	43.84842	338.2	64.998	-82.5		278.97	279.43	0.46	2.67
							and	**295.7**	**297.6**	**1.9**	**8.26**
							and	325	326	1	3.86
DSRD092	456104.4	6731143	85.71162	468	137.798	-65.27		374.3	375	0.7	5.27
							and	429.62	429.95	0.33	5.81
							and	431.93	432.9	0.97	4.01
							and	444.5	445.4	0.9	3.53
							and	446.66	447.8	1.14	2.91
DSRD093	456104	6731144	86.06483	443.8	140.198	-58.32		398.5	398.8	0.3	2.77
DSRD094	456088.5	6731285	9.358091	290.7	126.298	-75.99		**240.55**	**249.9**	**9.35**	**9.92**
							and	256.2	256.8	0.6	2.74
							and	260.46	261.75	1.29	6.76

Table 4 – Million Dollar Drill Results

MILLION DOLLAR DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
MDEX001	430926.2	6702982	360.355	56	271.5	-65.13		2	3	1	1.36
							and	25	26	1	1.05
MDEX002	430985.9	6702942	360.944	76	268.12	-65.51		26	32	6	1.24
							and	35	36	1	1.09
MDEX003	430989.5	6703007	360.82	88	273.04	-65.3		1	2	1	1.72
							and	11	13	2	1.50
							and	18	19	1	1.39
							and	21	22	1	1.35
							and	40	41	1	2.14
							and	64	65	1	2.60
MDEX004	431149.3	6703022	362.003	194	274.31	-75.12		66	67	1	2.08
							and	116	117	1	1.25
							and	134	140	6	1.20
							and	174	175	1	2.60
MDEX005	431079.6	6702979	361.688	180	283.71	-69.84		146	147	1	2.12
MDGC001	431145.6	6703787	361.276	90	265.76	-70.63		5	6	1	3.93
							and	70	71	1	1.25
MDGC002	430912	6703128	360.813	51	286.77	-70.24		27	28	1	1.00
MDGC004	430909.4	6703083	360.021	40	285.03	-70.24		14	15	1	1.18
							and	24	25	1	3.53
							and	30	31	1	1.55
MDGC005	430927.4	6703093	360.12	35	278.73	-70.29		1	2	1	1.40
							and	14	19	5	1.37
MDGC007	430950.9	6703108	360.069	40	276.21	-70.33		6	11	5	1.15
							and	20	32	12	1.41
MDGC008	431037.4	6703267	360.95	80	273.16	-65.06		7	8	1	1.21
							and	13	14	1	1.02
							and	27	28	1	1.01
							and	**32**	**43**	**11**	**2.41**
							and	37	43	6	3.86
MDGC010	430969.7	6703106	360.121	50	294.29	-65.47		2	3	1	1.66
							and	25	34	9	1.37
							and	40	41	1	1.43
MDGC011	430949	6703089	360.244	50	269.88	-65.21		10	11	1	1.00
							and	27	28	1	1.27

MILLION DOLLAR DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
MDGC013	430985.1	6703098	360.562	58	269.91	-65.23		6	7	1	1.15
							and	17	18	1	1.03
							and	37	41	4	2.68
MDGC014	431047.4	6703166	360.836	80	269.42	-65.25		29	30	1	3.27
							and	36	37	1	2.87
							and	47	48	1	3.48
							and	**54**	**70**	**16**	**1.12**
							and	74	75	1	1.19
MDGC015	431044.7	6703204	360.752	75	267.12	-64.52		25	26	1	1.98
							and	49	55	6	2.82
							and	59	60	1	1.11
MDGC017	431118	6703245	361.158	146	268.5	-65.3		56	57	1	1.77
							and	76	77	1	2.84
							and	85	90	5	1.76
							and	94	95	1	2.35
							and	102	103	1	1.38
							and	129	130	1	3.04
MDGC018	431134.6	6703283	361.323	148	269.38	-65.77		91	100	9	1.75
							and	110	111	1	9.29
							and	121	122	1	2.46
MDGC019	431125.2	6703325	361.395	132	268.56	-65.62		3	4	1	5.35
							and	47	48	1	2.00
							and	71	72	1	1.46
							and	**77**	**89**	**21**	**1.74**
							and	103	104	1	1.00
MDGC021	431115.5	6703283	361.242	124	269.78	-60.02		63	64	1	1.32
							and	73	82	9	1.39
							and	92	93	1	2.53
							and	109	110	1	2.16
MDGC022	430975.9	6703057	360.603	64	271	-60.37		36	37	1	1.26
							and	43	44	1	5.51
							and	52	53	1	1.55
MDGC023	430928.2	6703054	360.17	40	272.88	-59.84	no significant results				
MDGC027	431099.1	6703905	360.888	65	176.03	-89.67		5	6	1	2.79
							and	34	35	1	3.12
MDGC028	431042.9	6702639	360.645	144.7	280.67	-65		66.56	68.16	1.6	2.98
							and	75.94	77.11	1.17	1.11
							and	**95.67**	**104.83**	**9.16**	**2.04**
							and	108.88	111.61	2.73	1.06
MDRD001	431185	6703339	361.471	180.87	272.27	-60.6		113.85	125.3	11.45	1.37
							and	129.2	133.45	4.25	1.12
							and	142	143	1	1.11
MDRD002	431187.9	6703294	361.432	183	275.08	-70.1		44	45	1	1.88
							and	**124**	**140**	**16**	**0.97**
							and	178	180	2	2.77
MDRD003	431180.4	6703607	362.053	130	271.97	-74.62		65	68	3	1.10
							and	79	80	1	1.21
							and	85	89	4	1.38
MDRD004	430979.8	6703629	359.933	41	311.99	-69.86		0	3	3	1.38
MDRD005	431125.2	6703721	361.09	80	281.44	-70.16		11	12	1	2.09
							and	43	44	1	1.44
							and	49	63	14	1.22
MDRD006	430982	6703456	360.622	80	107.56	-88.24		21	23	2	1.99
MDRD007	431016.8	6703600	360.311	65	332.63	-65.65		24	26	2	1.54
							and	31	32	1	1.08
							and	38	39	1	4.00

MILLION DOLLAR DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
MDRD008	431217.5	6703809	361.936	119	269.69	-70.85		65	66	1	1.13
							and	80	85	5	1.08
							and	116	117	1	4.15
MDRD009	431062	6703649	360.785	80	212.34	-60.78		10	11	1	1.19
							and	36	38	2	1.63
							and	49	62	13	1.04
MDRD010	431080.9	6703570	361.309	101	302.48	-75.66		12	13	1	1.14
							and	25	26	1	1.95
							and	40	46	6	1.67
							and	60	62	2	2.57
MDRD011	431161.2	6703711	361.572	99.7	273.87	-74.8		60.01	61.56	1.55	2.91
							and	**65.47**	**71.32**	**5.85**	**3.25**
							and	95	96	1	1.33
MDRD012	431164.1	6703667	361.733	106	272.57	-74.84		48	49	1	1.41
							and	76	79	3	1.27
MDRD013	431150.4	6703624	361.543	100	275.58	-75.75		40	41	1	1.09
							and	**68**	**86**	**18**	**1.82**
MDRD014	431190.6	6703578	362.153	115	264.69	-70.33		97	98	1	2.12
							and	102	103	1	2.75
MDRD015	431003.8	6702559	360.504	130	277.86	-70.41		41	42	1	1.26
							and	48	49	1	1.16
							and	63	68	5	1.96
							and	87	88	1	1.15
							and	100	106	6	1.59
MDRD016	431054.7	6702576	360.822	140	290.58	-70.83		119	125	6	1.32
MDRD017	431012.1	6702891	361.073	112	272.12	-64.92		53	55	2	1.29
							and	69	70	1	2.32
MDRD018	430904.2	6703031	360.396	35	285.26	-70.19		1	2	1	1.34
							and	16	17	1	1.26
MDRD019	431024.7	6703041	361.078	99	271.08	-60.55		62	64	2	1.47
							and	78	79	1	1.88
MDRD020	431088.4	6703026	361.337	149.8	270.37	-59.6		75.35	79.1	3.75	2.32
							and	97.25	101.7	4.45	2.00
MDRD021	430954.1	6703035	360.412	64	279.24	-65.18		11	12	1	1.86
							and	29	30	1	1.17
							and	52	53	1	1.43
MDRD022	431173	6703810	361.341	95	277.5	-79.71		46	51	5	2.39
							and	71	73	2	1.77
MDRD023	431212.8	6703861	361.481	85	277.03	-69.86		44	45	1	1.76
							and	50	52	2	2.02
MDRD024	431203.8	6703722	362.078	148	285.36	-75.18		**76**	**89**	**13**	**3.43**
							and	94	95	1	17.50
							and	138	139	1	1.41
MDRD025	431222.9	6703396	362.195	226	271.14	-65.37		**126**	**146**	**20**	**1.27**
							and	161	163	2	1.69
MDRD026	431165.2	6703305	361.54	160	269.54	-70.52		3	4	1	1.13
							and	113	119	6	2.74
MDRD027	431276.8	6703493	360	184	269.29	-65.38		14	16	2	1.75
							and	28	29	1	1.83
							and	92	94	2	1.08
							and	144	152	8	2.49
							and	178	179	1	2.15

Table 5 – Thunderbox Drill Results

THUNDERBOX DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
TBRC071	304142.3	6880551	498.6025	250	91.65	-55.74		82	83	1	1.46
							and	**154**	**169**	**15**	**3.62**
							and	222	223	1	1.79
TBRC076	304103.6	6880384	498.0705	310	96.82	-57.41		205	206	1	1.00
							and	246	247	1	1.54
							and	273	275	2	2.67
							and	287	288	1	2.45
TBRC077	304104.6	6880381	497.2735	310	104.1	-55.17		240	241	1	1.11
TBDD0141	304149.9	6880705	499.151	231.82	89.16	-59.6		**86.2**	**122.65**	**36.45**	**1.93**
THRD027	304231.2	6879256	253.4466	371.87	99.63	-69.69		**315.23**	**341**	**25.77**	**2.07**
THRD036	304239.2	6879182	253.6231	257.4	102.98	-33.28		130	131	1	5.91
							and	149	150	1	4.43
							and	229.74	235.1	5.36	2.38
THRD037	304239.2	6879182	253.6231	245.75	68.13	-37.05		116.02	121.33	5.31	2.67
							and	199.32	200.33	1.01	3.06
							and	**211**	**228.07**	**17.07**	**2.01**
THRD038	304205.1	6879312	251.13	260.87	88.89	-37.97		225.59	229	3.41	2.27
THRD039	304205.1	6879312	251.13	222.7686	78.06	-27.74		97.98	99.8	1.82	8.26
							and	104	105	1	2.37
							and	181.13	181.64	0.51	2.19
							and	206	211.72	5.72	2.22
							and	217	218	1	2.68
							and	219.71	221	1.29	2.20
THRD040	304205.1	6879312	251.13	256	74.2	-43.70		109.7	110.3	0.6	2.70
							and	215	219.85	4.85	2.71
THRD041	304204.9	6879311	251.47	235.4	59	-30.73		108	109	1	10.20
							and	198.8	200.4	1.6	3.02
							and	209.7	217.45	7.75	2.33
THRD042	304204.8	6879311	251.468	240	69	-36.34		190.91	195	4.09	4.38
							and	206	209.1	3.1	3.91

Table 6 – Atbara Drill Results

ATBARA DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
ATEX033	437027.7	6668629	348.043	403	235	-65		47.17	48.36	1.19	1.20
							and	101.28	103.6	2.32	2.45
							and	**141.49**	**177.28**	**35.79**	**0.33**
ATEX034	436942.6	6668507	348.834	430	235	-65		49	50	1	3.34
ATEX035	437293.1	6668568	345	853	235	-70	results pending				
ATEX036	437009.5	6668169	345	545.8	235	-60	results pending				
ATEX039	437146.6	6668046	349.288	430.5	245	-65		68.9	70	1.1	0.56
							and	75	76.04	1.04	0.61
							and	110	112	2	2.60
							and	262	263	1	0.55
ATEX042	437233	6668910	350	712	235	-65	results pending				
ATEX043	437300	6668698	350	480.8	235	-70	results pending				
ATEX044	437003	6668337	350	430	233	-70	results pending				
ATEX046	437715.8	6667744	350	573.5	235	-65	results pending				
ATEX047	437584.3	6667653	350	443.5	235	-65		122.92	124	1.08	0.53
							and	349	352	3	0.51
QEEX015	437683	6668444	345	178	249	-54		**482**	**522**	**40**	**0.48**
QEEX018	437645	6668333	345	418.2	246.76	-47.74		**336.85**	**416.5**	**79.65**	**0.81**

ATBARA DRILLING JULY 2019										Downhole	
Hole	**Easting**	**Northing**	**RL**	**Depth**	**Azimuth**	**Dip**		**From (m)**	**To (m)**	**Width (m)**	**Grade g/t**
ATEX019	437163	6668604	345.5	400	225	-60.00		74	75.05	1.05	1.55
							and	137.2	140	2.8	1.91
							and	148	149.1	1.1	3.98
							and	**156.78**	**210**	**53.22**	**0.70**
							and	220.5	225.35	4.85	0.98
							and	258	259	1	2.17
							and	268.5	269.55	1.05	0.94
							and	285.4	294.6	9.2	0.78
							and	303.5	305.5	2	1.21
							and	**315**	**346**	**31**	**0.76**
							and	**360**	**370**	**10**	**1.33**
							and	**393**	**411**	**18**	**1.39**
ATEX020	437124	6668559	347.591	402.9	223	-54.00		**170**	**209**	**39**	**2.21**
							and	**239**	**252.5**	**13.5**	**1.33**
ATEX024	437265	6668159	350	800	235	-64.00		86.75	97	10.25	0.55
							and	114.5	116	1.5	0.78
							and	123	124.2	1.2	0.84
							and	129.95	135	5.05	3.06
							and	251	255	4	0.84
							and	**291.4**	**330.5**	**39.1**	**0.57**
							and	342.42	343.5	1.08	0.53
							and	**360**	**425.5**	**65.5**	**0.52**
							and	444	445	1	1.52
							and	462.17	464.83	2.66	0.81
							and	722	726	4	0.86
							and	730.5	732.6	2.1	1.25
							and	741.56	743.5	1.94	0.52
							and	814	819	5	0.67
ATEX025	437366	6668084	350	378.9	235	-60	results pending				
ATEX026	437427.6	6668131	347.621	511	232.99	-62.87		128.45	132	3.55	0.64
							and	138	139	1	1.39
							and	192.5	195.92	3.42	1.09
							and	271	277.78	6.78	0.52
							and	282	284.5	2.5	1.10
							and	292	293	1	2.62
							and	**307.8**	**336**	**28.2**	**0.97**
ATEX028	437555.3	6668219	346.77	785.2	235	-60		58	59	1	0.66
							and	99.35	102.5	3.15	4.92
							and	**251**	**307.22**	**56.22**	**0.74**
							and	339	345	6	0.56
							and	351	357	6	1.19

ATBARA DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade g/t
ATEX028	continued						and	362	363	1	2.25
							and	376	377	1	1.67
							and	387	392	5	0.61
							and	**413.9**	**424**	**10.1**	**13.45**
							and	459	461	2	1.27
							and	**523**	**631**	**108**	**0.79**
							and	644	645.2	1.2	0.61
							and	655.88	666	10.12	0.76
							and	682	698.5	16.5	0.63
							and	704	705.9	1.9	2.57
							and	712	713	1	1.15
							and	719	720	1	0.71
							and	736.85	740.55	3.7	0.50
ATEX029	437250.5	6668247	347.857	520	233	-60		53	59.68	6.68	0.91
							and	69	70	1	0.52
							and	81	82	1	1.31
							and	93	95.54	2.54	1.01
							and	109	110	1	0.65
							and	**194**	**228.53**	**34.13**	**0.77**
							and	244	250	6	0.64
							and	254.5	257	2.5	1.15
							and	**268.65**	**277.5**	**8.85**	**1.96**
							and	291	292	1	10.50
							and	329	334	5	0.57
							and	342	343	1	1.06
							and	356	359	3	1.06
							and	377.5	378.8	1.3	0.71
							and	**386.06**	**409**	**22.94**	**1.17**
							and	420	421	1	0.58
							and	453	454	1	4.96
							and	489.1	493	3.9	0.70
							and	500.27	501.35	1.08	0.97
ATEX030	437203.5	6668295	348.197	424	237	-60		47.75	53.5	5.75	0.56
							and	76	83	7	1.01
							and	94.2	96	1.8	1.15
							and	**187**	**199**	**12**	**1.26**
							and	**269**	**296**	**27**	**0.57**
							and	349	350	1	0.50
							and	365.63	367	1.37	0.97
							and	**384.5**	**403.3**	**18.8**	**1.03**
ATEX031	437139.8	6668742	346.96	454.85	233	-65		185.4	187	1.6	0.61
							and	233.58	234.59	1.01	1.23
							and	**257.38**	**314.97**	**57.59**	**0.65**
							and	376.95	378.2	1.25	0.87

Table 7 – Mt Celia Drill Results

MT CELIA DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade ppb
MCAC0555	445401	6729699	353	120	0	-90		64	68	4	28.5
							and	72	76	4	21.5
MCAC0556	445503	6729700	353	124	0	-90		100	104	4	189.0
MCAC0558	445697	6729698	354	118	0	-90		52	56	4	25.2
MCAC0559	445804	6729699	354	117	0	-90		56	60	4	47.8
							and	112	117	5	48.2
MCAC0560	445888	6729704	355	114	0	-90		96	100	4	24.3
MCAC0563	446209	6729719	355	132	0	-90		88	92	4	47.4
MCAC0564	446305	6729708	355	138	0	-90		84	88	4	31.0
							and	96	104	8	40.1
MCAC0567	446588	6729704	357	114	0	-90		100	104	4	22.7
							and	108	112	4	61.3
MCAC0585	446002	6729245	354	126	0	-90		112	116	4	54.7
MCAC0586	446112	6729243	355	116	0	-90		64	68	4	26.7
MCAC0587	446215	6729248	355	114	0	-90		56	60	4	27.7
							and	64	68	4	20.5
							and	88	92	4	26.4
MCAC0590	446452	6729246	355	113	0	-90		56	60	4	46.4
							and	84	104	20	59.3
MCAC0591	446498	6729250	356	142	0	-90		84	92	8	133.6
MCAC0592	446605	6729249	356	120	0	-90		84	88	4	32.0
MCAC0593	446703	6729250	356	90	0	-90		64	68	4	66.6
MCAC0594	447598	6729244	360	114	0	-90		96	112	16	108.1
MCAC0595	447694	6729249	360	103	0	-90		64	68	4	95.6
							and	96	100	4	110.0
MCAC0596	447801	6729253	360	120	0	-90		96	104	8	46.9
MCAC0597	447899	6729247	360	108	0	-90		4	8	4	233.0
MCAC0598	448001	6729253	360	120	0	-90		92	96	4	362.0
MCAC0599	448100	6729251	360	90	0	-90		84	90	6	93.4
MCAC0602	446790	6729250	356	123	0	-90		84	88	4	36.7
MCAC0603	446895	6729252	357	108	0	-90		80	84	4	35.5
							and	100	108	8	72.8
MCAC0604	446996	6729247	357	108	0	-90		104	108	4	466.0
MCAC0612	447051	6729252	357	96	0	-90		92	96	4	24.5
MCAC0614	447209	6729250	358	107	0	-90		100	104	4	26.0
MCAC0615	447300	6729245	358	120	0	-90		104	112	8	710.8
							and	116	120	4	25.1
MCAC0616	447408	6729251	358	118	0	-90		4	8	4	28.1
MCAC0622	448306	6729704	362	96	0	-90		76	80	4	34.4
MCAC0627	447801	6729701	360	126	0	-90		84	88	4	31.8
							and	96	100	4	45.4
							and	112	120	8	23.5
MCAC0628	447700	6729700	359.91	96	0	-90		88	92	4	51.1
MCAC0629	447664	6729696	359	127	0	-90		76	80	4	79.4
MCAC0630	447603	6729702	360	115	0	-90		76	80	4	37.5
							and	100	104	4	65.4
MCAC0631	447504	6729702	359	123	0	-90		108	112	4	673.0
MCAC0634	447195	6729704	358	111	0	-90		108	111	3	1390.0
MCAC0635	447105	6729706	358	108	0	-90		60	64	4	148.0
							and	84	88	4	33.2
MCAC0638	446804	6729699	357	103	0	-90		96	100	4	46.4
MCAC0639	446701	6729704	357	119	0	-90		100	108	8	103.6
MCAC0640	444902	6728799	351	117	0	-90		100	116	16	212.9
MCAC0641	444998	6728799	351	110	0	-90		72	84	12	26.9
MCAC0644	445301	6728804	352	110	0	-90		72	76	4	24.6
MCAC0645	446606	6728806	355	124	0	-90		60	64	4	301.0
							and	96	100	4	34.5

MT CELIA DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade ppb
MCAC0646	446504	6728802	355	130	0	-90		72	76	4	25.5
							and	108	112	4	29.7
MCAC0652	445902	6728805	353	104	0	-90		76	80	4	24.0
MCAC0653	445801	6728798	353	98	0	-90		60	64	4	26.3
MCAC0655	445600	6728803	353	103	0	-90		96	100	4	41.6
MCAC0656	445501	6728795	352	110	0	-90		108	110	2	20.7
MCAC0657	445405	6728802	352	122	0	-90		60	64	4	65.1
MCAC0660	447398	6733741	365	70	0	-90		12	16	4	29.6
MCAC0662	447206	6733750	364	77	0	-90		68	77	9	58.6
MCAC0663	447096	6733747	363	82	0	-90		80	82	2	28.4
MCAC0668	446601	6733745	361	104	0	-90		68	72	4	33.4
							and	92	100	8	58.1
MCAC0669	446496	6733743	361	92	0	-90		64	68	4	21.9
MCAC0674	445501	6733751	358	66	0	-90		4	8	4	111.0
MCAC0676	445304	6733758	357	92	0	-90		76	80	4	35.9
							and	88	92	4	25.8
MCAC0677	445203	6733760	357	73	0	-90		60	64	4	20.9
MCAC0682	445596	6732933	357	63	0	-90		60	63	3	31.7
MCAC0687	446596	6732931	360	112	0	-90		80	84	4	104.0
MCAC0688	446699	6732928	361	95	0	-90		84	88	4	24.2
MCAC0689	446796	6732928	361	100	0	-90		72	76	4	20.7
MCAC0692	447099	6732933	362	112	0	-90		92	112	20	57.5
MCAC0693	447198	6732925	362	100	0	-90		64	72	8	76.0
							and	88	100	12	75.3
MCAC0694	447297	6732934	362	73	0	-90		68	72	4	42.3
MCAC0696	447496	6732935	363	88	0	-90		76	80	4	68.1
MCAC0697	447603	6732926	363	87	0	-90		84	87	3	26.0
MCAC0698	447697	6732936	363	88	0	-90		36	40	4	35.1
MCAC0703	447913	6732252	362	100	0	-90		96	100	4	42.6
MCAC0705	447691	6732259	362	120	0	-90		104	108	4	21.0
MCAC0707	447491	6732255	361	98	0	-90		92	96	4	168.0
MCAC0708	447397	6732260	361	123	0	-90		88	116	28	585.3
							incl	**92**	**96**	**4**	**3320.0**
							and	120	123	3	27.1
MCAC0710	447191	6732260	360	98	0	-90		92	97	5	52.8
MCAC0712	446996	6732255	360	97	0	-90		88	92	4	25.3
MCAC0713	446896	6732246	359	115	0	-90		92	100	8	35.5
MCAC0714	446799	6732246	359	97	0	-90		88	92	4	20.2
MCAC0716	446602	6732247	359	92	0	-90		12	16	4	55.8
MCAC0722	446799	6731852	359	129	0	-90		88	92	4	54.1
MCAC0725	447098	6731850	359	98	0	-90		96	97	1	57.0
MCAC0726	447202	6731846	359	120	0	-90		88	92	4	20.9
							and	96	120	24	31.9
MCAC0727	447300	6731851	360	126	0	-90		84	88	4	23.5
MCAC0728	447403	6731848	360	129	0	-90		80	84	4	36.9
							and	92	96	4	47.9
							and	124	128	4	25.2
MCAC0729	447501	6731846	360	126	0	-90		100	104	4	70.5
							and	116	120	4	33.5
MCAC0730	447597	6731846	361	110	0	-90		92	96	4	41.5
MCAC0738	450502	6728800	366	107	0	-90		96	100	4	34.6
MCAC0753	449103	6727898	362	87	0	-90		68	72	4	44.0
MCAC0757	449499	6727898	359	64	0	-90		56	60	4	50.4
MCAC0768	450601	6727902	361	127	0	-90		76	80	4	30.0
MCAC0769	450697	6727897	361	123	0	-90		80	84	4	37.4
							and	120	123	3	31.1
MCAC0770	450805	6727897	362	111	0	-90		80	84	4	27.2
							and	88	100	12	74.1

MT CELIA DRILLING JULY 2019										Downhole	
Hole	Easting	Northing	RL	Depth	Azimuth	Dip		From (m)	To (m)	Width (m)	Grade ppb
MCAC0771	450904	6727902	362	105	0	-90		0	4	4	87.9
							and	72	76	4	20.2
							and	88	105	17	365.2
MCAC0772	450996	6727888	359	83	0	-90		68	76	8	279.6
MCAC0773	448396	6727900	360	91	0	-90		12	16	4	35.5
MCAC0774	448501	6727898	360	85	0	-90		64	72	8	24.3
								80	84	4	23.0
MCAC0775	448599	6727892	360	57	0	-90		55	57	2	31.6
MCAC0776	448699	6727902	360	52	0	-90		40	44	4	24.4
MCAC0784	448799	6728805	362	45	0	-90		44	45	1	23.1
MCAC0785	448896	6728799	363	65	0	-90		52	56	4	39.6
MCAC0788	454501	6722948	372	47	0	-90		28	32	4	27.4
MCAC0812	452002	6723853	361	86	0	-90		84	86	2	49.1
MCAC0813	452092	6723839	362	82	0	-90		64	68	4	21.1
							and	80	82	2	23.4
MCAC0814	452202	6723856	362	79	0	-90		64	68	4	30.2
MCAC0820	452797	6723851	365	81	0	-90		76	80	4	20.1
MCAC0823	453100	6723853	368	72	0	-90		68	72	4	25.3
MCAC0827	453501	6723848	368	82	0	-90		36	40	4	48.6
							and	80	82	2	28.9
MCAC0828	453602	6723846	369	102	0	-90		0	4	4	22.9
MCAC0830	453807	6723837	370	79	0	-90		68	79	11	58.1
MCAC0832	453991	6723854	371	90	0	-90		88	90	2	31.3
MCAC0833	454093	6723847	371	95	0	-90		92	95	3	42.2
MCAC0836	454400	6723854	373	81	0	-90		36	40	4	135.0
MCAC0837	454494	6723846	374	68	0	-90		44	48	4	123.0
							and	60	64	4	112.0
MCAC0838	454604	6723847	374	86	0	-90		76	80	4	41.8
MCAC0862	451298	6725197	362	83	0	-90		80	83	3	46.4
MCAC0881	451102	6726104	365	104	0	-90		100	104	4	61.2
MCAC0892	450401	6725196	356	108	0	-90		60	64	4	35.0
							and	80	84	4	28.6
							and	104	108	4	62.0
MCAC0893	450498	6725200	357	110	0	-90		64	68	4	169.0
MCAC0895	450699	6725201	359	103	0	-90		72	76	4	49.8
							and	88	92	4	36.5
							and	100	103	3	40.0
MCAC0896	450797	6725198	360	108	0	-90		100	108	8	45.8
MCAC0898	450096	6723851	352	100	0	-90		32	36	4	22.3
MCAC0904	450102	6726098	353	126	0	-90		92	96	4	20.3
MCAC0909	450585	6726096	361	123	0	-90		112	123	11	578.7
MCAC0910	450693	6726107	362	114	0	-90		108	114	6	117.5
MCAC0911	450793	6726093	364	116	0	-90		56	60	4	31.9
							and	84	88	4	20.8
MCAC0915	450293	6726991	356	106	0	-90		80	84	4	21.0
							and	92	96	4	44.3
MCAC0917	450496	6727001	359	117	0	-90		96	100	4	56.4
MCAC0918	450600	6727001	360	113	0	-90		88	92	4	38.3
							and	96	104	8	41.3
MCAC0919	450696	6726994	361	92	0	-90		88	92	4	20.5
MCAC0920	450797	6726999	362	114	0	-90		72	76	4	24.4
							and	108	114	6	27.8
MCAC0921	450897	6727000	363	114	0	-90		64	68	4	20.9
								88	96	8	40.3
MCAC0927	447200	6734648	365	31	0	-90		20	24	4	541.0

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 by Saracen at Karari have included reverse circulation drillholes (RC), diamond drillholes (DD) and RC grade control drilling within the pit, and diamond drilling and face chip sampling underground. Historic sampling methods conducted since 1991 have included aircore (AC), rotary air blast (RAB), reverse circulation and diamond drillholes.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling for diamond and RC drilling and face chip sampling is carried out as specified within Saracen sampling and QAQC procedures as per industry standard. RC chips and diamond core provide high quality representative samples for analysis. RC, RAB, AC and DD core drilling was completed by previous holders to industry standard at that time (1991- 2004).
	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*	RC chips are cone or riffle split and sampled into 1m intervals, diamond core is NQ or HQ sized, sampled to 1m intervals or geological boundaries where necessary and cut into half core and underground faces are chip sampled to geological boundaries (0.2-1m). All methods are used to produce representative sample of less than 3 kg. Samples are selected to weigh less than 3 kg to ensure total sample inclusion at the pulverisation stage. Saracen core and chip samples are crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 40g or 50 g sub sample for analysis by FA/AAS. Some grade control RC chips were analysed in the Saracen on site laboratory using a PAL (pulverise and leach) method. Visible gold is sometimes encountered in underground drillcore and face samples. Historical AC, RAB, RC and diamond sampling was carried out to industry standard at that time. Analysis methods include fire assay and unspecified methods.
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 11 AC holes, 452 RAB holes, 496 RC holes (assumed standard 5 ¼ ''bit size) and 25 surface unknown diameter diamond core holes. Saracen has completed 14 surface RC precollars with HQ and NQ diamond tail drill holes (precollars averaging 287m, diamond tails averaging 168m) , 76 RC holes from both surface and within the pit (recent drilling utilised a 143mm diameter bit with a face sampling hammer and an external auxiliary booster) and 3052 grade control RC holes within the pit. 786 NQ diamond holes have been drilled underground. 2002 underground faces and walls have been chip sampled. Diamond tails were oriented using an Ezi-mark tool. Some historic surface diamond drill core appears to have been oriented by unknown methods.
Drill Sample Recovery	*Method of recording and assessing core and chip sample recoveries and results assessed*	RC sampling recoveries are recorded in the database as a percentage based on a visual weight estimate; no historic recoveries have been recorded. Diamond core recovery percentages calculated from measured core versus drilled intervals are logged and recorded in the database. Recoveries average >90%.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	RC drilling daily rig inspections are carried out to check splitter condition, general site and address general issues. Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against depth given on the core blocks. UG faces are sampled from left to right across the face at the same height from the floor. During GC campaigns the sample bags weight versus bulk reject weight are compared to ensure adequate and even sample recovery. Historical AC, RAB, RC and diamond drilling to industry standard at that time.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	There is no known relationship between sample recovery and grade for RC drilling. Diamond drilling has high recoveries due to the competent nature of the ground meaning loss of material is minimal. Any historical relationship is not known.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate*	Logging of RC chips and diamond drill core records lithology, mineralogy, texture, mineralisation, weathering, alteration and veining.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	Mineral Resource estimation, mining studies and metallurgical studies. *Whether logging is qualitative or quantitative in nature.* *Core (or costean, channel, etc) photography.*	Geotechnical and structural logging is carried out on all diamond holes to record recovery, RQD, defect number, type, fill material, shape and roughness and alpha and beta angles. All faces are photographed and mapped. Chips from all RC holes (exploration and GC) are stored in chip trays for future reference while remaining core is stored in core trays and archived on site. Core is photographed in both dry and wet state. Qualitative and quantitative logging of historic data varies in its completeness.
	The total length and percentage of the relevant intersections logged	All RC and diamond drillholes holes are logged in full and all faces are mapped. Every second drill line is logged in grade control programs with infill logging carried out as deemed necessary. Historical logging is approximately 95% complete.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	All drill core is cut in half onsite using an automatic core saw. Samples are always collected from the same side.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	All exploration and grade control RC samples are cone or riffle split. Occasional wet samples are encountered. Underground faces are chip sampled using a hammer. AC, RAB and RC drilling has been sampled using riffle and unknown methods.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of diamond core and RC and underground face chips adhere to industry best practice. It is conducted by a commercial laboratory and involves oven drying, coarse crushing then total grinding to a size of 90% passing 75 microns. Best practice is assumed at the time of historic sampling.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All subsampling activities are carried out by commercial laboratory and are considered to be satisfactory. Sampling by previous holders assumed to be industry standard at the time.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second half sampling.	RC field duplicate samples are carried out at a rate of 1:20 and are sampled directly from the on-board splitter on the rig. These are submitted for the same assay process as the original samples and the laboratory are unaware of such submissions. No duplicates have been taken of underground core or face samples. Sampling by previous holders assumed to be industry standard at the time.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes of 3kg are considered to be appropriate given the grain size (90% passing 75 microns) of the material 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.*	RC chip samples, grade control chip samples, underground face chip samples and diamond core are analysed by external laboratories using a 40g or 50g fire assay with AAS finish. These methods are considered suitable for determining gold concentrations in rock and are total digest methods. Some GC samples were analysed in the Saracen onsite laboratory using pulverise and leach method. This method is a partial digest. Historic sampling includes fire assay and unknown methods.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools have been utilised for reporting gold mineralisation.
	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.	Certified reference material (standards and blanks) with a wide range of values are inserted into every drillhole at a rate of 1:25 for exploration RC and DD, and 1:40 for GC drilling. These are not identifiable to the laboratory. QAQC data returned are checked against pass/fail limits with the SQL database and are passed or failed on import. A report is generated and reviewed by the geologist as necessary upon failure to determine further action. QAQC data is reported monthly. Sample preparation checks for fineness are carried out to ensure a grindsize of 90% passing 75 microns. The laboratory performs a number of internal processes including standards, blanks, repeats and checks. QAQC data analysis demonstrates sufficient accuracy and precision. Industry best practice is assumed for previous holders.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Significant intercepts are verified by the Geology Manager and corporate personnel.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	The use of twinned holes.	No specific twinned holes have been drilled at Karari but grade control drilling and underground diamond drilling has confirmed the width and grade of previous exploration drilling.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols	Primary data is collated in a set of excel templates utilising lookup codes. This data is forwarded to the Database Administrator for entry into a secure acQuire database with inbuilt validation functions. Data from previous owners was taken from a database compilation and validated as much as practicable before entry into the Saracen acQuire database.
	Discuss any adjustment to assay data.	No adjustments have been made to assay data. First gold assay is utilised for resource estimation.
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.*	Exploration drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm. Drillhole collars within the pit and immediate surrounds are picked up by company surveyors using a Trimble R8 GNSS (GPS) with an expected accuracy of +/-8mm. All underground drillhole collars are picked up by company surveyors using a Leica TS15i (total station) with an expected accuracy of +/-2mm. Underground faces are located using a Leica D5 disto with and accuracy of +/- 1mm from a known survey point. Downhole surveys are carried out using the DeviFlex RAPID continuous inrod survey instrument taking readings every 5 seconds, In and Out runs and reported in 3m intervals, survey accuracy +-3:1000. A number of drillholes have also been gyroscopically surveyed. Previous holders' survey accuracy and quality is unknown
	Specification of the grid system used.	A local grid system (Karari) is used. The two point conversion to MGA_GDA94 zone 51 is KAREast KARNorth RL MGAEast MGANorth RL Point 1 4000 8000 0 439359.94 6663787.79 0 Point 2 3000 7400 0 438359.84 6663187.72 0 Historic data is converted to the Karari local grid upon export from the database.
	Quality and adequacy of topographic control.	Topographic control originally used site based survey pickups in addition to Kevron aerial photogrammetric surveys with +/- 5m resolution. Pre mining, new and more detailed topography has since been captured and will be used in future updates and for subsequent planning purposes.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The nominal spacing for drilling is 25m x 25m.
	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.	Data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for JORC classifications applied.
Orientation of data in relation to geological structure	*Whether sample compositing has been applied.*	Sample compositing is not applied until the estimation stage. Some historic RAB and RC sampling was composited into 3-4m samples with areas of interest re-sampled to 1m intervals. It is unknown at what threshold this occurred.
	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The majority of drillholes are positioned to achieve optimum intersection angles to the ore zone as are practicable. Underground diamond drilling is designed to intersect the orebody in the best possible orientation given the constraints of underground drill locations. UG faces are sampled left to right across the face allowing a representative sample to be taken.
	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.	No significant sampling bias has been recognised due to orientation of drilling in regards to mineralised structures.
Sample security	*The measures taken to ensure sample security.*	Samples are prepared on site under supervision of Saracen geological staff. Samples are selected, bagged into tied numbered calico bags then grouped into secured cages and collected by the laboratory personnel. Sample submissions are documented via laboratory tracking systems and assays are returned via email
Audits or reviews	*The results of any audits or reviews of sampling techniques and*	An internal review of companywide sampling methodologies was conducted to create the current sampling and QAQC

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	data.	procedures. No external audits or reviews have been conducted.

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.*	The Karari pit is located on M28/166 and M28/167 Mining Leases M28/166 and M28/167 are held 100% by Saracen Gold Mines Pty Ltd a wholly owned subsidiary of Saracen Mineral Holdings Limited. Mining Leases M28/166 and M28/167 have a 21 year life (held until 2020) and are renewable for a further 21 years on a continuing basis. There are no registered Aboriginal Heritage sites within Mining Leases M28/166 and M28/167. M28/166 and M28/167 are the subject of the Maduwongga native title claim (WC2017/001). Mining Leases M28/166 and M28/167 are subject to two third party royalties payable on the tenements, a bank mortgage (Mortgage 499142) and two caveats (Caveat 51H/067 and 52H/067, respectively). All production is subject to a Western Australian state government NSR royalty of 2.5%. The tenements are subject to the Pinjin Pastoral Compensation Agreement. The Mining Rehabilitation Fund applies to the tenements.
	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 licence to operate already exists
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	The Carosue Dam project area in which the Karari deposit is located has been subjected to extensive gold exploration by numerous companies since 1991. Karari was highlighted as an area of interest following an aeromagnetic survey conducted by CRA Exploration. Auger sampling of the target defined a widespread gold anomaly with follow up RAB drilling intersecting significant gold mineralisation. RC and DD drilling further defined the mineralisation before Aberfoyle entered into a joint venture agreement with CRA. Further drilling by Aberfoyle defined mineralisation over a 600m strike length. Aberfoyle were subject to a hostile takeover by Western Metals with PacMin then purchasing the Carosue Dam project. An intensive resource definition program consisting of both RC and DD drilling was carried out before mining of Karari commenced in 2000.
Geology	*Deposit type, geological setting and style of mineralisation.*	The Karari deposit sits along the regional NNW-trending Keith-Kilkenny fault zone within the eastern edge of the Norseman-Wiluna greenstone belt. The deposit itself is lithologically and structurally controlled and sits within an altered volcaniclastic sandstone unit that has been offset along a series of major faults running NE-SW and NW-SE, as well as intruded by large lamprophyre units post mineralization. Mineralization is dominated by pyrite and hosted in broad hematite altered sandstone units with a central high grade siliceous core light-moderately dipping to the North.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
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.*	All material data is periodically released on the ASX: 31/07/2018, 01/05/2018,15/02/2018, 27/11/2017, 26/09/2017, 13/07/2017, 01/05/2017, 21/02/2017, 13/04/2016, 23/02/2016, 10/12/2015, 03/07/2015, 25/05/2015, 05/05/2015, 11/03/2015, 16/01/2014, 14/10/2013, 25/01/2013, 28/07/2011, 03/06/2011, 21/04/2011, 09/02/2011, 03/11/2008
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.*	All underground diamond drillhole significant intercepts have been length weighted with a minimum Au grade of 2.5ppm. No high grade cut off has been applied.
	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.	Intercepts are aggregated with minimum width of 0.5m and maximum width of 3m for internal dilution. Where stand out higher grade zone exist with in the broader mineralised zone, the higher grade interval is reported also.
	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.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	Previous announcements included sufficient detail to clearly illustrate the geometry of the mineralisation and the recent drilling. All results are reported as downhole lengths.
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.*	All results from previous campaigns have been reported, irrespective of success or not.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No substantive data acquisition has been completed in recent times.
Further work	*The nature and scale of planned further work (e.g. 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*	Further infill drilling may be carried out inside the reserve UG design to improve confidence. The drilling is getting to the depth where exploration is expensive and the approach needs to be carefully considered. Underground drilling continues and surface drilling is being evaluated. A seismic project is also being assessed.

Whirling Dervish JORC Table 1

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 by Saracen at Whirling Dervish have included reverse circulation (RC), surface and underground diamond drillholes (DD) and RC grade control drilling within the pit. Historic methods conducted since 1993 have included aircore (AC), rotary air blast (RAB), reverse circulation and diamond drillholes.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling for diamond and RC drilling is carried out as specified within Saracen sampling and QAQC procedures as per industry standard. RC chips and diamond core provide high quality representative samples for analysis. RC, RAB, AC and DD core drilling was completed by previous holders to industry standard at that time (1993- 2002).
	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*	Diamond core is NQ sized, sampled to 1m intervals and geological boundaries where necessary and cut into half core to give sample weights under 3 kg. Samples are selected to weigh less than 3 kg to ensure total sample inclusion at the pulverisation stage. RC chips are riffle or cone split and sampled into 1m intervals with total sample weights under 3kg Saracen core and chip samples are crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 40g or 50 g sub sample for analysis by FA/AAS. Historical AC, RAB, RC and diamond sampling was carried out to industry standard at that time. Analysis methods include fire assay, aqua regia, B/ETA and unspecified methods.
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 35 AC holes, 159 RAB holes, 407 RC holes (assumed standard 5 ¼ ''bit size) and 53 surface diamond HQ core and unknown diameter holes. Saracen has completed 51 surface RC precollar with NQ diamond tail drill holes (precollars averaging 193m, diamond tails averaging 200m) , 12 diamond geotechnical holes , 80 RC holes from both surface and within the pit,4039 grade control RC holes within the pit and 222 NQ underground diamond drillholes. Diamond tails were oriented using an Ezy-mark tool. Some historic surface diamond drill core appears to have been oriented by unknown methods.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
Drill Sample Recovery	*Method of recording and assessing core and chip sample recoveries and results assessed*	Diamond core recovery percentages calculated from measured core versus drilled intervals are logged and recorded in the database. Recoveries average >90%. RC sampling recoveries are recorded as a percentage based on a visual weight estimate; no historic recoveries have been recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against depth given on the core blocks. During GC campaigns daily rig inspections are carried out to check splitter condition, general site and address general issues. The sample bags weight versus bulk reject weight is compared to ensure adequate and even sample recovery. Historical AC, RAB, RC and diamond drilling to industry standard at that time.
	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.	Diamond drilling has high recoveries meaning loss of material is minimal. There is no known relationship between sample recovery and grade for RC drilling. Any historical relationship is not known.
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 and RC chips records lithology, mineralogy, texture, mineralisation, weathering, alteration, veining and other features. Geotechnical and structural logging is carried out on all diamond holes to record recovery, RQD, defect number, type, fill material, shape and roughness and alpha and beta angles. Chips from all RC holes (exploration and GC) are stored in chip trays for future reference. Core is photographed in both dry and wet state. Qualitative and quantitative logging of historic data varies in its completeness.
	The total length and percentage of the relevant intersections logged	All diamond drillholes and exploration RC holes are logged in full. Every drill line is logged in grade control programs. Historical logging is approximately 95% complete.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	All drill core is cut in half onsite using an automatic core saw. Samples are always collected from the same side. Historic diamond drilling has been half core sampled.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All exploration and GC RC samples are cone or riffle split. Occasional wet samples are encountered; increased air capacity is routinely used to aid in keeping the sample dry when water is encountered. Historic AC, RAB and RC drilling was sampled using spear, grab, riffle and unknown methods.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of diamond core and RC chips adhere to industry best practice. It is conducted by a commercial laboratory and involves oven drying, coarse crushing then total grinding to a size of 90% passing 75 microns. Best practice is assumed at the time of historic sampling.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All subsampling activities are carried out by commercial laboratory and are considered to be satisfactory. Sampling by previous holders assumed to be industry standard at the time.
	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.	Duplicate sampling is carried out at a rate of 1:10 for exploration drilling and 1:20 for GC drilling and is sampled directly from the on-board splitter on the rig. These are submitted for the same assay process as the original samples and the laboratory are unaware of such submissions. Sampling by previous holders assumed to be industry standard at the time.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are 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.*	RC chip samples, grade control chip samples and diamond core are analysed by external laboratories using a 40g or 50g fire assay with AAS finish. These methods are considered suitable for determining gold concentrations in rock and are total digest methods. Historic sampling includes fire assay, aqua regia, B/ETA and unknown methods.
	For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools have been utilised for reporting gold mineralisation at Whirling Dervish.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	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.	Certified reference material (standards and blanks) with a wide range of values are inserted into every drillhole at a rate of 1:25 for exploration RC and DD, and 1:40 for GC drilling. These are not identifiable to the laboratory. QAQC data returned are checked against pass/fail limits with the SQL database and are passed or failed on import. A report is generated and reviewed by the geologist as necessary upon failure to determine further action. QAQC data is reported monthly. Sample preparation checks for fineness are carried out to ensure a grindsize of 90% passing 75 microns. The laboratory performs a number of internal processes including standards, blanks, repeats and checks. QAQC data analysis demonstrates sufficient accuracy and precision. Industry best practice is assumed for previous holders.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Significant intercepts are verified by the Geology Manager and corporate personnel.
	The use of twinned holes.	No specific twinned holes have been drilled at Whirling Dervish but grade control drilling has confirmed the width and grade of previous exploration drilling.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols	Primary data is collated in a set of excel templates utilising lookup codes. This data is forwarded to the Database Administrator for entry into a secure acQuire database with inbuilt validation functions. Data from previous owners was taken from a database compilation and validated as much as practicable before entry into the Saracen acQuire database.
	Discuss any adjustment to assay data.	No adjustments have been made to assay data. First gold assay is utilised for resource estimation.
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.*	Exploration drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm. Drillhole collars within the pit and immediate surrounds are picked up by company surveyors using a Trimble R8 GNSS (GPS) with an expected accuracy of +/-8mm. All underground drillhole collars are picked up by company surveyors using a Leica TS15i (total station) with an expected accuracy of +/-2mm. Downhole surveys are carried out using the DeviFlex RAPID continuous inrod survey instrument taking readings every 5 seconds, In and Out runs and reported in 3m intervals, survey accuracy +-3:1000. A number of drillholes have also been gyroscopically surveyed. Previous holders' survey accuracy and quality is unknown
	Specification of the grid system used.	A local grid system (Whirling Dervish) is used. It is rotated 45 degrees west of MGA_GDA94. The one point conversion to MGA_GDA94 zone 51 is WDEast WDNorth RL MGAEast MGANorth RL Point 1 20003.8190 50277.5540 0 437865.3740 6665770.2100 0 Historic data is converted to Whirling Dervish local grid upon export from the database.
	Quality and adequacy of topographic control.	Topographic control originally used site based survey pickups in addition to Kevron aerial photogrammetric surveys with +/- 5m resolution. Pre mining, new and more detailed topography has since been captured and will be used in future updates and for subsequent planning purposes.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The nominal spacing for exploration drilling is 25m x 25m
	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.	Data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for JORC classifications applied.
Orientation of data in relation to geological structure	*Whether sample compositing has been applied.*	Sample compositing is not applied until the estimation stage. Some historic RAB and RC sampling was composited into 3-4m samples with areas of interest re-sampled to 1m intervals. It is unknown at what threshold this occurred.

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.	The majority of drillholes are positioned to achieve optimum intersection angles to the ore zone as are practicable.
	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.	No significant sampling bias is thought to occur due to orientation of drilling in regards to mineralised structures.
Sample security	*The measures taken to ensure sample security.*	Samples are prepared on site under supervision of Saracen geological staff. Samples are selected, bagged into tied numbered calico bags then grouped into secured cages and collected by the laboratory personnel. Sample submissions are documented via laboratory tracking systems and assays are returned via email.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	An internal review of companywide sampling methodologies was conducted to create the current sampling and QAQC procedures.

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.*	The Whirling Dervish pit is located on M28/166 and M31/220, while near mine exploration has been carried out on M28/245. The tenements are held 100% by Saracen Gold Mines Pty Ltd, a wholly owned subsidiary of Saracen Mineral Holdings Limited. Mining Leases M28/166 and M31/220 have a 21 year life (held until 2020) and are renewable for a further 21 years on a continuing basis. Mining Lease M28/245 has a 21 year life (held until 2029) and is renewable for a further 21 years on a continuing basis. Mining Lease M28/166 is subject to two third party royalties and one caveat (Caveat 51H/067). Mining Lease M31/220 is subject to two third party royalties and one caveat (Caveat 64H/067) and Mining Lease M28/245 is subject to one third party royalty. There are no caveats associated with Mining Lease M28/245. Mining Leases M28/166, M28/245 and M31/220 are subject to a bank mortgage (Mortgage 499142). All production is subject to a Western Australian state government NSR royalty of 2.5%. Mining Leases M28/166, M31/220 and M28/245 are subject to the Pinjin Pastoral Compensation Agreement. Mining Lease M31/220 is subject to the Pinjin and Gindalbie Pastoral Compensation Agreements. M28/166, M31/220 and M28/245 are the subject of the Maduwongga native title claim (WC2017/001). The Mining Rehabilitation Fund applies to the tenements.
	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 licence to operate already exists.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	The Carosue Dam project area in which the Whirling Dervish deposit is located has been subjected to extensive gold exploration by numerous companies since 1991. Airborne geophysics conducted by Aberfoyle Resources in 1997 highlighted numerous targets in the project area with subsequent RAB drilling intersecting the Whirling Dervish mineralisation and an extensive RC campaign confirming it. Oriole Resources obtained the project in 1998 and, through wholly owned subsidiary company PacMin, completed closely spaced RC drilling to develop the resource through to reserve status. Sons of Gwalia carried out minor drilling before their collapse and takeover of the project by St Barbara.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
Geology	*Deposit type, geological setting and style of mineralisation.*	Whirling Dervish is situated along the Kilkenny-Yilgangi fault zone on the boundary of the Steeple Hill and Mulgabbie domains. The lithology comprises primarily intermediate felsic volcaniclastic sandstones, intermediate tuffs and intermediate porphyry units intruded by granites of varying composition, with stratigraphy dipping generally to the east at approx. 60 degrees. Mineralization has a combined lithological and structurally control dipping parallel to the stratigraphy. Mineralization is continuous along strike in the footwall but is very discontinuous and patchy in the hanging wall structures and overall controlled by the general NW trending ductile faulting and is characterized by weak Hematite banding on the margins to intense hematite-silica alteration hosted in breccia zones adjacent to the faulting with high grade cores typically sericite-silica breccia. Pyrite is the dominant sulphide. The mineralization is terminated to the west by the by a NW trending shear zone dipping 60 degrees to the east.
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.*	All material data is periodically released on the ASX: 31/07/2018, 01/05/2018, 15/02/2018, 27/11/2017, 15/10/2015, 14/10/2013, 23/07/2013, 03/12/2012, 10/10/2012, 31/07/2012, 27/04/2012, 06/03/2012, 27/01/2012, 06/01/2012, 26/10/2011, 01/08/2011, 28/07/2011, 03/06/2011, 21/04/2011, 09/02/2011
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.*	All significant intercepts have been length weighted with a minimum Au grade of 1ppm. No high grade cut off has been applied.
	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.	Intercepts are aggregated with minimum width of 1m and maximum width of 3m for internal dilution. Where stand out higher grade zone exist with in the broader mineralised zone, the higher grade interval is reported also.
	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.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	Previous announcements included sufficient detail to clearly illustrate the geometry of the mineralisation and the recent drilling. All results are reported as downhole lengths.
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.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
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.*	All results from previous campaigns have been reported, irrespective of success or not.
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.*	Drilling is on going on surface and underground. A seismic project is also being assessed.

Deep South JORC Table 1

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 by Saracen at Deep South have included reverse circulation drillholes (RC), aircore drilling (AC), surface and underground diamond drillholes (DD), underground face chip sampling and RC grade control drilling within the pit. Historic sampling methods conducted since 1983 have included rotary air blast (RAB), reverse circulation and diamond drillholes.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling for diamond, face chip and RC drilling is carried out as specified within Saracen sampling and QAQC procedures as per industry standard. RC and UG face chips and diamond core provide high quality representative samples for analysis. RC, RAB and DD core drilling was completed by previous holders to industry standard at that time (1983-2004).
	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*	RC chips are cone or riffle split and sampled into 1m intervals with total sample weights under 3kg Diamond core is NQ sized, sampled to 1m intervals or geological boundaries where necessary and cut into half core to give sample weights under 3 kg. UG faces are chip sampled to geological intervals (0.2 to 1m). Samples are selected to weigh less than 3 kg to ensure total sample inclusion at the pulverisation stage. Saracen core and chip samples are crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 40g or 50 g sub sample for analysis by FA/AAS. Some grade control RC chips were analysed in the Saracen on site laboratory using a PAL (pulverise and leach) method. Historical RAB, RC and diamond sampling was carried out to industry standard at that time. Analysis methods include fire assay, aqua regia, atomic absorption spectroscopy and unspecified methods.
Drilling Techniques	*Drill type (e.g. core, reverse circulation, open-hole*	The deposit was initially sampled by 114 RAB holes, 211 RC holes (assumed standard 5 ¼ ''bit size) and

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	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.).	29 surface HQ and unknown diameter diamond core holes. Saracen has completed 15 surface RC precollars with NQ diamond tail drill holes (precollars averaging 185m, diamond tails averaging 140m) , 3 geotechnical surface diamond NQ drillholes, 57 RC holes from surface and 107 grade control RC holes within the pit. Underground sampling activities have included 646 NQ diamond drillholes and 1596 faces. Exploration of the broader Deep South area has included 312AC holes. Diamond tails were oriented using an Ezi-mark tool. A limited amount of historic surface diamond drill core appears to have been oriented by unknown methods.
Drill Sample Recovery	*Method of recording and assessing core and chip sample recoveries and results assessed*	RC sampling recoveries are recorded in the database as a percentage based on a visual weight estimate; limited historic recoveries have been recorded. Diamond core recovery percentages calculated from measured core versus drilled intervals are logged and recorded in the database. Recoveries average >98%. Limited historic diamond recoveries have been recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	During AC and RC drilling daily rig inspections are carried out to check splitter condition, general site and address general issues. Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against depth given on the core blocks. UG faces are sampled left to right across the face allowing a representative sample to be taken due to the vertical nature of the orebody. During GC campaigns the sample bags weight versus bulk reject weight are compared to ensure adequate and even sample recovery. Historical RAB, RC and diamond drilling to industry standard at that time.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	There is no known relationship between sample recovery and grade for RC or AC drilling. Diamond drilling has high recoveries meaning loss of material is minimal. Any historical relationship is not known.
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 RC and AC chips and diamond drill core records lithology, mineralogy, texture, mineralisation, weathering, alteration and veining. Geotechnical and structural logging is carried out on all diamond holes to record recovery, RQD, defect number, type, fill material, shape and roughness and alpha and beta angles. Chips from all RC holes (exploration and GC) are stored in chip trays for future reference while remaining core is stored in core trays and archived on site. All faces are photographed and mapped. Core is photographed in both dry and wet state. Qualitative and quantitative logging of historic data varies in its completeness.
	The total length and percentage of the relevant intersections logged	All AC, RC and diamond drillholes and grade control holes are logged in full. Historical logging is complete.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	All drill core is cut in half onsite using an automatic core saw. Some grade control diamond holes have been full core sampled. Samples are always collected from the same side. Some historic drillcore was half core sampled, or sampled via unknown methods.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	All exploration and grade control RC samples are cone or riffle split. AC drillholes are spear sampled. Occasional wet samples are encountered; increased air capacity is routinely used to aid in keeping the sample dry when water is encountered. UG faces are chip sampled using a hammer. Historic RAB and RC drilling was sampled using riffle and unknown methods.
	For all sample types, the nature, quality and	The sample preparation of diamond core, UG face chips and RC chips adhere to industry best practice. It

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	appropriateness of the sample preparation technique.	is conducted by a commercial laboratory or onsite laboratory and involves oven drying, coarse crushing then total grinding to a size of 90% passing 75 microns. Best practice is assumed at the time of historic sampling.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All subsampling activities are carried out by commercial laboratory or onsite laboratory and are considered to be satisfactory. Sampling by previous holders assumed to be industry standard at the time.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second half sampling.	RC field duplicate samples are carried out at a rate of 1:20 and are sampled directly from the on-board splitter on the rig. These are submitted for the same assay process as the original samples and the laboratory are unaware of such submissions. Sampling by previous holders assumed to be industry standard at the time.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes of 3kg are considered to be appropriate given the grain size (90% passing 75 microns) of the material 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.*	RC and UG chip samples and diamond core are analysed by external laboratories using a 50g fire assay with AAS finish. AC samples are analysed using a 25g aqua regia digest. These methods are considered suitable for determining gold concentrations in rock and are total digest methods. GC samples were analysed in the Saracen onsite laboratory using a pulverise and leach method. This method is a partial digest. Historic sampling includes fire assay, aqua regia, atomic absorption spectroscopy and unspecified methods.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools have been utilised for reporting gold mineralisation.
	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.	Certified reference material (standards and blanks) with a wide range of values are inserted into every drillhole at a rate of 1:25 for exploration AC, RC and DD, and 1:40 for GC drilling. These are not identifiable to the laboratory. QAQC data returned are checked against pass/fail limits with the SQL database and are passed or failed on import. A report is generated and reviewed by the geologist as necessary upon failure to determine further action. QAQC data is reported monthly. Sample preparation checks for fineness are carried out to ensure a grindsize of 90% passing 75 microns. The laboratory performs a number of internal processes including standards, blanks, repeats and checks. QAQC data analysis demonstrates sufficient accuracy and precision. Industry best practice is assumed for previous holders.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Significant intercepts are verified by the Geology Manager and corporate personnel.
	The use of twinned holes.	No specific twinned holes have been drilled at Deep South but grade control drilling has confirmed the width and grade of previous exploration drilling.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols	Primary data is collated in a set of excel templates utilising lookup codes. This data is forwarded to the Database Administrator for entry into a secure acQuire database with inbuilt validation functions. Data from previous owners was taken from a database compilation and validated as much as practicable before entry into the Saracen acQuire database.
	Discuss any adjustment to assay data.	No adjustments have been made to assay data. First gold assay is utilised for resource estimation.
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*	Exploration drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm. Drillhole collars within the pit and immediate surrounds are picked up by company surveyors using a Trimble R8 GNSS (GPS) with an expected accuracy of +/-8mm.

Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
	Resource estimation.	All underground drillhole collars are picked up by company surveyors using a Leica TS15i (total station) with an expected accuracy of +/-2mm. Underground faces are located using a Leica D5 disto with and accuracy of +/- 1mm from a known survey point. Downhole surveys are carried out using the DeviFlex RAPID continuous inrod survey instrument taking readings every 5 seconds, In and Out runs and reported in 3m intervals, survey accuracy +-3:1000. A number of drillholes have also been gyroscopically surveyed. Previous holders' survey accuracy and quality is unknown
	Specification of the grid system used.	A local grid system (Safari Bore) is used at Deep South. The two point conversion to MGA_GDA94 zone 51 is: SBEast SBNorth RL MGAEast MGANorth RL Point 1 51000 34000 0 451137.753 6734157.921 0 Point 2 51000 30000 0 451137.896 6730157.896 0 Historic data is converted to the Safari Bore local grid upon export from the database.
	Quality and adequacy of topographic control.	Topographic control originally used site based survey pickups in addition to Kevron aerial photogrammetric surveys with +/- 5m resolution. Pre mining, new and more detailed topography has since been captured and will be used in future updates and for subsequent planning purposes.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The nominal spacing for drilling is 20m x 40m and 40m x 40m
	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.	Data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for JORC classifications applied.
Orientation of data in relation to geological structure	*Whether sample compositing has been applied.*	AC drilling is sampled in 4m composites, no other sample compositing has been utilised Some historic RAB and RC sampling was composited into 3-4m samples with areas of interest re-sampled to 1m intervals. It is unknown at what threshold this occurred.
	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The majority of drillholes are positioned to achieve optimum intersection angles to the ore zone as are practicable.
	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.	No significant sampling bias has been recognised due to orientation of drilling in regards to mineralised structures.
Sample security	*The measures taken to ensure sample security.*	Samples are prepared on site under supervision of Saracen geological staff. Samples are selected, bagged into tied numbered calico bags then grouped into secured cages and collected by the laboratory personnel. Sample submissions are documented via laboratory tracking systems and assays are returned via email
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	An internal review of companywide sampling methodologies was conducted to create the current sampling and QAQC procedures. No external audits or reviews have been conducted.

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.*	The Deep South pit is located on M39/740. The tenement is held 100% by Saracen Gold Mines Pty Ltd, a wholly owned subsidiary of Saracen Mineral Holdings Limited. Mining Lease M39/740 has a 21 year life (held until 2024) and is renewable for a further 21 years on a continuing basis. Mining Lease M39/740 is subject to one royalty agreement, one caveat (151H/067) and a bank mortgage (499142). All production is subject to a Western Australian state government NSR royalty of 2.5%. Mining Lease M39/740 is subject to the Edjudina Pastoral Compensation Agreement. There are no registered Aboriginal Heritage sites within Mining Lease M39/740. The Mining Rehabilitation Fund applies to Mining Lease 39/740.
	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 tenement is in good standing and the licence to operate already exists
Exploration done by other parties	A*cknowledgment and appraisal of exploration by other parties.*	Exploration in the vicinity of Deep South commenced in the 1980's with drilling around the historic Deep Well workings 500m north of Deep South, as well as regional RC drilling carried out by Western Mining Corporation. Initial auger sampling carried out over Deep South by Pancontinental Mining in 1994 failed to detect mineralisation due to the transported material overlying the deposit. Wide spaced east angled RAB drilling carried out by Goldfields in 1999 intersected mineralisation, but results were not repeated in further drilling and the project area was sold to Sons of Gwalia. Sons of Gwalia completed extensive RC and diamond drilling to define the Deep South resource, with mining operations undertaken in 2004 before their collapse and takeover by St Barbara.
Geology	*Deposit type, geological setting and style of mineralisation.*	Deep South lies on the eastern margin of the Norseman – Wiluna greenstone belt. This belt is differentiated into numerous structural-stratigraphic domains separated by major regional structures, with Deep South located within the narrow NNW trending Linden Domain. The lithology comprises metasedimentary and felsic volcaniclastic rocks with an ultramafic and high magnesium basalt layer. Mineralisation occurs in two loads concordant to geology, the Butler and Scarlett lodes, and is confined between layered metasedimentary and felsic volcaniclastic units on both the hangingwall and footwall. The two lodes are separated by a high magnesium basalt and an ultramafic unit. The Butler lode is located in the hangingwall and is strongly silica and pyrrhotite-pyrite altered, and well laminated (appearing like a BIF within the oxidise portion). The contrasting physical properties of this unit to the surrounding unit have created fluid pathways and traps, as well as the high iron content of the unit providing a chemical trap, for gold deposition The Scarlett lode is strongly weathered in the upper oxide portion to a gossanous material comprising hematite, goethite and quartz fragments. Weathering at Deep South has been preferential along Scarlett lode due to its high carbonate content. Where fresh, the lode is a fine grained banded carbonate unit with variable pyrrhotite, pyrite and magnetite. It is weakly foliated in line with the regional foliation.
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*	All material data is periodically released on the ASX: 15/02/2018, 27/11/2017, 26/09/2017, 01/05/2017, 21/02/2017, 17/12/2016, 07/09/2016, 11/05/2016, 23/02/2016, 23/07/2013, 10/10/2012, 31/07/2012, 03/06/2011, 29/07/2010 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.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
	and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*	All significant intercepts have been length weighted with a minimum Au grade of 1ppm, or 20ppb for AC drilling No high grade cut off has been applied.
	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.	Intercepts are aggregated with minimum width of 1m and maximum width of 3m for internal dilution. Where stand out higher grade zone exist with in the broader mineralised zone, the higher grade interval is reported also.
	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.* *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').*	Previous announcement included sufficient detail to clearly illustrate the geometry of the mineralisation and the recent drilling. All results are reported as downhole lengths. This remains consistent with other announcements.
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.*	All significant exploration results released by Saracen are accompanied by the appropriate diagrams and maps at the time of the 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.*	All results from the recent campaign have been reported, irrespective of success or not.
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.*	A small geochemical program was undertaken in 2013 to determine the key features associated with mineralisation. The program gave some insight into the local characteristics of the Scarlett and Butler lodes. More work is needed to fully appreciate the geochemical signature associated with the mineralisation. A detailed gravity survey was recently completed at Deep South on a 400m x 100m grid to assist in the interpretation of the basement geology. The data is currently being processed and interpreted. Saracen has recently completed a biogeochemical sampling program at Deep South involving the sampling of new leaf growth on established *Acacia* trees on a 100m x 800m spacing. Samples were collected from trees of a consistent species and height. The biogeochemical program was an orientation survey only and results will not be used in any calculation of mineralisation. The leaves were washed,

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
		dried and pulverised followed by an aqua regia digest for multielement determination.
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*	Surface and underground drilling will continue, and regional aircore program will continue across the Mt Celia district.

Million Dollar JORC Table 1

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.*	Saracen has undertaken reverse circulation drilling (RC) and diamond drilling (DD) at Million Dollar. Historic sampling methods conducted since 1979 have included rotary air blast (RAB), reverse circulation and diamond drillholes (DD).
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling for RC and DD drilling is carried out as specified within Saracen sampling and QAQC procedures as per industry standard. RC chips and DD core provide high quality representative samples for analysis. RC, RAB and DD core drilling was completed by previous holders to industry standard at that time (1979-2004).
	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*	RC chips are cone split and sampled into 1m intervals with total sample weights less than 3 kg. Diamond core is HQ sized, sampled to 1m intervals or geological boundaries where necessary and cut into half core. Samples are selected to weigh less than 3 kg to ensure total sample inclusion at the pulverisation stage. Saracen chip and core samples are crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 50g sub sample for analysis by FA/AAS. Historical RAB, RC and diamond sampling was carried out to industry standard at that time. Analysis methods include fire assay, screen fire assay, aqua regia and unspecified methods.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	detailed information	
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 442 RAB holes, 595 RC holes (assumed standard 5 ¼ ''bit size) and 49 surface unknown diameter diamond core holes. Saracen have completed 246 RC drillholes, with recent drilling utilising a 143mm diameter bit with a face sampling hammer and an external auxiliary booster, and 4 HQ diamond drillholes. Diamond holes were oriented using an ACT 111 tool It is unknown if historic diamond drill core was oriented.
Drill Sample Recovery	*Method of recording and assessing core and chip sample recoveries and results assessed*	RC sampling recoveries are recorded in the database as a percentage based on a visual weight estimate; no historic recoveries have been recorded. Diamond core recovery percentages calculated from measured core versus drilled intervals are logged and recorded in the database No historic diamond core recovery data has been recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	During RC drilling daily rig inspections are carried out to check splitter condition, general site and address general issues. Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against depth given on the core blocks. Historical RAB, RC and diamond drilling to industry standard at that time.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	There is no known relationship between sample recovery and grade for RC drilling. Diamond drilling has high recoveries due to the competent nature of the ground meaning loss of material is minimal. Any historical relationship is not known.
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 RC chips and diamond core records lithology, mineralogy, texture, mineralisation, weathering, alteration and veining. Geotechnical and structural logging is carried out on all diamond holes to record recovery, RQD, defect number, type, fill material, shape and roughness and alpha and beta angles. Chips from all RC drillholes are stored in chip trays for future reference. Core is photographed in both dry and wet state Qualitative and quantitative logging of historic data varies in its completeness.
	The total length and percentage of the relevant intersections logged	All RC and DD drillholes holes are logged in full. Historical logging is approximately 95% complete.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	All drill core is cut in half onsite using an automatic core saw. Samples are always collected from the same side. Historic diamond drilling has been sampled via unknown methods.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	All exploration samples are cone split. Occasional wet samples are encountered; increased air capacity is routinely used to aid in keeping the sample dry when water is encountered. Historic RAB and RC drilling was sampled using riffle, grab, spear and unknown methods.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of RC chips and DD core adheres to industry best practice. It is conducted by a commercial laboratory and involves oven drying, coarse crushing then total grinding to a size of 90% passing 75 microns. Best practice is assumed at the time of historic sampling.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All subsampling activities are carried out by commercial laboratory and are considered to be satisfactory. Sampling by previous holders assumed to be industry standard at the time.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second half sampling.	RC field duplicate samples are carried out at a rate of 1:10 and are sampled directly from the on-board splitter on the rig. These are submitted for the same assay process as the original samples and the laboratory are unaware of such submissions. Sampling by previous holders assumed to be industry standard at the time.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes of 3kg are considered to be appropriate given the grain size (90% passing 75 microns) of the material 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.*	RC chip samples and diamond core samples are analysed by external laboratories using a 40g or 50g fire assay with AAS finish. This method is considered suitable for determining gold concentrations in rock and is a total digest method. Historic sampling includes fire assay, screen fire assay, aqua regia and unspecified methods.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools have been utilised for reporting gold mineralisation.
	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.	Certified reference material (standards and blanks) with a wide range of values are inserted into every drillhole at a rate of 1:25 for exploration RC and diamond drilling. These are not identifiable to the laboratory. QAQC data returned are checked against pass/fail limits with the SQL database and are passed or failed on import. A report is generated and reviewed by the geologist as necessary upon failure to determine further action. QAQC data is reported monthly. Sample preparation checks for fineness are carried out to ensure a grindsize of 90% passing 75 microns. The laboratory performs a number of internal processes including standards, blanks, repeats and checks. QAQC data analysis demonstrates sufficient accuracy and precision. Industry best practice is assumed for previous holders.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Significant intercepts are verified by the Geology Manager and corporate personnel.
	The use of twinned holes.	No twinned holes have been drilled at Million Dollar.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols	Primary data is collated in a set of excel templates utilising lookup codes. This data is forwarded to the Database Administrator for entry into a secure acQuire database with inbuilt validation functions. Data from previous owners was taken from a database compilation and validated as much as practicable before entry into the Saracen acQuire database.
	Discuss any adjustment to assay data.	No adjustments have been made to assay data. First gold assay is utilised for resource estimation.
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.*	Exploration drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm. Downhole surveys are carried out using an Eastman single shot camera at regular intervals (usually 30m). Previous holders' survey accuracy and quality is unknown
	Specification of the grid system used.	A local grid system (Million Dollar) is used. The one point conversion to MGA_GDA94 zone 51 is MDEast MDNorth RL MGAEast MGANorth RL Point 1 5000 20000 0 430962.99 6703259.80 0 Historic data is converted to the Million Dollar local grid upon export from the database.
	Quality and adequacy of topographic control.	Topographic control originally used site based survey pickups in addition to Kevron aerial photogrammetric surveys with +/- 5m resolution. Pre mining, new and more detailed topography has since been captured and will be used in future updates and for subsequent planning purposes.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The nominal spacing for drilling is 20m x 20m to 50mx50m.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and	Data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for JORC classifications applied.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	Ore Reserve estimation procedure(s) and classifications applied.	
Orientation of data in relation to geological structure	*Whether sample compositing has been applied.*	Sample compositing is not applied until the estimation stage. Some historic RAB sampling was composited into 4m samples.
	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The majority of drillholes are positioned to achieve optimum intersection angles to the ore zone as are practicable.
	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.	No significant sampling bias has been recognised due to orientation of drilling in regards to mineralised structures.
Sample security	*The measures taken to ensure sample security.*	Samples are prepared on site under supervision of Saracen geological staff. Samples are selected, bagged into tied numbered calico bags then grouped into secured cages and collected by the laboratory personnel. Sample submissions are documented via laboratory tracking systems and assays are returned via email
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	An internal review of companywide sampling methodologies was conducted to create the current sampling and QAQC procedures. No external audits or reviews have been conducted.

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.*	The Million Dollar pit is located on M31/3. Near mine exploration has occurred on M31/4, M31/6 and M31/76. The tenements are held 100% by Saracen Gold Mines Pty Ltd, a wholly owned subsidiary of Saracen Mineral Holdings Limited. Mining Leases M31/3, M31/4 and M31/6 have a 21 year life and are held until 2025. M31/076 has a 21 year life and is held until 2030. All are renewable for a further 21 years on a continuing basis. Mining Leases M31/3, M31/4 and M31/6 are each subject to one royalty agreement and one caveat (54H/067, 55H/067 and 57H/067, respectively). M31/76 is subject to two royalty agreements, a caveat (59H/067) and a pre-emptive right. M31/3, M31/4 and M31/76 are each subject to a bank mortgage (415495). All production is subject to a Western Australian state government NSR royalty of 2.5%. Mining Leases M31/3, M31/4, M31/6 and M31/76 are subject to the Edjudina Pastoral Compensation Agreement. There are no registered Aboriginal Heritage sites within M31/3, M31/6 and M31/76. A single Aboriginal artefact scatter (ID2323) lies within the northern portion of M31/4 but is not impacted by current mining and exploration activities.
	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 there are no known impediments to obtaining a licence to operate.
Exploration done by other parties	A*cknowledgment and appraisal of exploration by other parties.*	Exploration began in the area in the 1930s, with the Porphyry orebody discovered to the north of Million Dollar with mining operations continuing into the 1940s. Pennzoil carried out exploration in the late 1970s, focussing on the Porphyry area and discovering the Million Dollar mineralisation. Concurrent exploration by Seltrust delineated the Million Dollar South mineralisation. Edjudina Gold Mines, a joint venture between Pennzoil, Picon and Pioneer Concrete, reopened the Porphyry mine, carried out extensive drilling and developed the Million Dollar pit. Poor recovery and excessive dilution led to the closure of the operation.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
		In the late 1980's Audax carried out RAB, RC and diamond drilling at Million Dollar south, delineating the resource. Enterprise Gold entered into a JV with Audax and completed further drilling. Consolidated Resources acquired the Million Dollar project area and carried out further RC drilling at Million Dollar South and a feasibility study before being taken over by Mount Edon Gold Mines who suspended further work. Following an aeromagnetic survey of the Porphyry - Million Dollar area, Mount Edon carried out a RAB and RC program. PacMin acquired the tenements following the takeover of Mount Edon, who then merged with Sons of Gwalia. A wide spaced infill drilling program was commenced to test for extensions and deeper repetitions of the mineralisation before their collapse and takeover of the project by St Barbara.
Geology	*Deposit type, geological setting and style of mineralisation.*	The Million Dollar deposits lie in a greenstone-granite belt within the Eastern Goldfields Province of the Archaean Yilgarn Block. The deposits are hosted predominately within porphyritic quartz monzonite intruded into andesitic volcanic rocks. Gold mineralisation is associated with albite-silica-hematite-sericite-pyrite alteration and quartz pyrite veining. Structural controls on the mineralisation are shallow easterly dipping north striking brittle shear zones related to the NNW trending regional faults. The thickness of the shear zones vary between 1m and 10m wide.
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.*	All material data was periodically released on the ASX: nominally the report dated 29/07/2010 Future drill hole data will be periodically released or when a results materially change the economic value of the project.
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.*	All significant intercepts have been length weighted with a minimum Au grade of 1ppm. No high grade cut off has been applied.
	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.	Intercepts are aggregated with minimum width of 1m and maximum width of 3m for internal dilution. Where stand out higher grade zone exist with in the broader mineralised zone, the higher grade interval is reported also.
	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	*These relationships are particularly important in the reporting of Exploration Results.*	Previous announcements included sufficient detail to clearly illustrate the geometry of the mineralisation and the latest drilling. All results were reported as downhole lengths.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
intercept lengths	*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').*	
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.*	All significant exploration results released by Saracen are accompanied by the appropriate diagrams and maps at the time of the 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.*	All results from the recent campaign have been reported, irrespective of success or not.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No substantive data acquisition has been completed in recent times.
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*	Million Dollar is a current exploration play that is currently being reviewed for greater exploration potential.

Thunderbox JORC Table 1

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 by Saracen at Thunderbox include diamond drilling (DD) and reverse circulation (RC) drilling. Sampling methods undertaken by previous owners have included rotary air blast (RAB), DD and RC drilling and blast hole sampling within the pit. Limited historical data has been provided by previous owners.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling for diamond and RC drilling is carried out as specified within Saracen sampling and QAQC procedures as per industry standard. RC chips and diamond core provide high quality representative samples for analysis Historic 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*	RC chips are cone split and sampled into 4m or 1m intervals with total sample weights under 3kg Diamond core is NQ or HQ sized, sampled to 1m intervals or geological boundaries where necessary and cut into half core to give sample weights under 3 kg. Samples are selected to weigh less than 3 kg to ensure total sample inclusion at the pulverisation stage. Saracen core and chip samples are crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 40g sub sample for analysis by FA/AAS. All historic 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. Saracen completed 46 RC drillholes, 8 diamond geotechnical holes, 65 RC precollar diamond tail drillholes (precollars averaging 122m, diamond tails averaging 351m), 93 underground DD holes and 1998 RC grade control holes. The RC drilling was completed with a 5.5 inch diameter bit with a face sampling hammer. The rig was equipped with an external auxiliary booster. Diamond drilling was HQ or NQ diameter. Drill core was oriented utilising an ACT II core orientation tool.
Drill Sample Recovery	*Method of recording and assessing core and chip sample recoveries and results assessed*	Recoveries for RC drillholes and precollars are recorded as a percentage based on a visual weight estimate. 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 andensure representative nature of the samples	During RC drilling daily rig inspections are carried out to check splitter condition, general site and address general issues. Measures were taken to supress groundwater. Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against

Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
		depth given on the core blocks. Historical drilling is assumed completed to industry standard at that time
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	There is no known relationship between sample recovery and grade for RC drilling. Diamond drilling has high recoveries meaning loss of material is minimal. Any historical relationship is not known.
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 RC chips and diamond drill core records lithology, mineralogy, texture, mineralisation, weathering, alteration and veining. Geotechnical and structural logging is carried out on all diamond holes to record recovery, RQD, defect number, type, fill material, shape and roughness and alpha and beta angles. Chips from all RC holes are stored in chip trays for future reference while remaining core is stored in core trays and archived on site. Core is photographed in both dry and wet state. Qualitative and quantitative logging of historic data varies in its completeness.
	The total length and percentage of the relevant intersections logged	All drillholes completed by Saracen 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.*	All drill core is cut in half onsite using an automatic core saw. Duplicate core samples are quarter cored. Samples are always collected from the same side.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	All exploration RC samples are cone split. Occasional wet samples are encountered. The sampling method for historic 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 sample preparation of diamond core and RC chips adhere to industry best practice. It is conducted by a commercial laboratory and involves oven drying, coarse crushing then total grinding to a size of 90% passing 75 microns. The sampling techniques for historic 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.	All subsampling activities are carried out by commercial laboratory and are considered to be satisfactory. 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.

Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second half sampling.	RC field duplicate samples are carried out at a rate of 1:20 and are sampled directly from the on-board splitter on the rig. These are submitted for the same assay process as the original samples and the laboratory are unaware of such submissions. It is unknown if duplicate sampling was performed on historic 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.*	RC chip samples and diamond core are analysed by an external laboratory using a 40g fire assay with AAS finish. This method is considered suitable for determining gold concentrations in rock and is a total digest method. 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, reading times, calibrations factors applied and their derivation, etc.	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.
	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.	Certified reference material (standards and blanks) with a wide range of values are inserted into every drillhole at a rate of 1:25 for exploration RC and DD. These are not identifiable to the laboratory. QAQC data returned are checked against pass/fail limits with the SQL database and are passed or failed on import. A report is generated and reviewed by the geologist as necessary upon failure to determine further action. QAQC data is reported monthly. Sample preparation checks for fineness are carried out to ensure a grindsize of 90% passing 75 microns. The laboratory performs a number of internal processes including standards, blanks, repeats and checks. QAQC data analysis demonstrates sufficient accuracy and precision. Industry best practice is assumed for previous holders.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Significant intercepts are verified by the Geology Manager and corporate 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	Primary data is collated in a set of excel templates utilising lookup codes. This data is forwarded to the Database Administrator for entry into a secure acQuire database with inbuilt validation functions. Data from previous owners was taken from a database compilation and validated as much as practicable before entry into the Saracen acQuire database
	Discuss any adjustment to assay data.	No adjustments have been made to assay data. First gold assay is utilised for resource estimation.
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.*	Exploration drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm. Downhole surveys are carried out using a hired Reflex EZ-gyro by the respective drilling companies on a regular basis, between 10-30m.
	Specification of the grid system used.	MGA Zone 51 grid coordinate system is used
	Quality and adequacy of topographic control.	Kevron Geomatic Services flew and processed aerial photography and provided ortho images at 1:5000 scale over the Thunderbox deposit and environs.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The nominal spacing for drilling is varied from 20mx20m to 40mx40m

Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
	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.
Orientation of data in relation to geological structure	*Whether sample compositing has been applied.*	RC precollar sampling was composted into 4m samples. 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.*	Samples are prepared on site under supervision of Saracen geological staff. Samples are selected, bagged into tied numbered calico bags then grouped into secured cages and collected by the laboratory personnel. Sample submissions are documented via laboratory tracking systems and assays are returned via email
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	An internal review of companywide sampling methodologies was conducted to create the current sampling and QAQC procedures. No external audits or reviews have been conducted

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 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	*Acknowledgment 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.

Section 2: Reporting of Exploration Results

Criteria	JORC Code Explanation	Commentary
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 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 2722 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. Exclusion of the drilling information will not detract from the reader's view of the report. All material data is periodically released on the ASX: 31/07/2018, 01/05/2018, 13/07/2017, 21/02/2017, 07/12/2016, 25/11/2015, 29/04/2015, 23/03/2015
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.*	All significant intercepts have been length weighted with a minimum Au grade of 0.5ppm. No high grade cut off has been applied.
	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.	Intercepts are aggregated with minimum width of 1m and maximum width of 3m for internal dilution.
	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.* *If it is not known and only the down hole lengths are reported,*	This announcement includes sufficient detail to clearly illustrate the geometry of the mineralisation and the recent drilling. All results are reported as downhole lengths. 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**
	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.*	All results from the recent campaign have been reported, irrespective of success or not.
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. A detailed structural review of the mineralisation has been conducted by Model Earth
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*	Underground drilling is ongoing in the A zone area and future deep surface drilling is still being assessed under A and D Zones.

Atbara (Greater Luvironza) JORC Table 1

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**

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 by Saracen at Greater Luvironza has consisted of reverse circulation (RC) drilling. Historic methods conducted since 1993 have included aircore (AC), rotary air blast (RAB), reverse circulation and diamond drillholes.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling for RC drilling is carried out as specified within Saracen sampling and QAQC procedures as per industry standard. RC chips provide high quality representative samples for analysis. RC, RAB, AC and DD core drilling was completed by previous holders to industry standard at that time (1993- 2002).
	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*	RC chips are cone split and sampled into 4m composite intervals and 1m intervals with total sample weights under 3kg Saracen core and chip samples are crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 40g or 50 g sub sample for analysis by FA/AAS. Historical AC, RAB, RC and diamond sampling was carried out to industry standard at that time. Analysis methods include fire assay, aqua regia, B/ETA and unspecified methods.
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 Greater Luvironza area was initially sampled by 85 AC holes, 170 RAB holes, 224 RC holes (assumed standard 5 ¼ ''bit size) and 22 surface diamond HQ core and unknown diameter holes. Saracen has completed 10 surface RC drill holes, 5 surface diamond holes Diamond holes were oriented using an Ezy-mark tool. Some historic surface diamond drill core appears to have been oriented by unknown methods.
Drill Sample Recovery	*Method of recording and assessing core and chip sample recoveries and results assessed*	Diamond core recovery percentages calculated from measured core versus drilled intervals are logged and recorded in the database. Recoveries average >90%. RC sampling recoveries are recorded as a percentage based on a visual weight estimate; no historic recoveries have been recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against depth given on the core blocks. Daily rig inspections are carried out to check splitter condition, general site and address general issues. The sample bags weight versus bulk reject weight is compared to ensure adequate and even sample recovery. Historical AC, RAB, RC and diamond drilling to industry standard at that time.
	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.	Diamond drilling has high recoveries meaning loss of material is minimal. There is no known relationship between sample recovery and grade for RC drilling. Any historical relationship is not known.
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 and RC chips records lithology, mineralogy, texture, mineralisation, weathering, alteration, veining and other features. Geotechnical and structural logging is carried out on all diamond holes to record recovery, RQD, defect number, type, fill material, shape and roughness and alpha and beta angles. Chips from all RC holes (exploration and GC) are stored in chip trays for future reference. Core is photographed in both dry and wet state. Qualitative and quantitative logging of historic data varies in its completeness.
	The total length and percentage of the relevant intersections logged	All diamond drillholes and exploration RC holes are logged in full. Every drill line is logged in grade control programs. Historical logging is approximately 95% complete.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	All drill core is cut in half onsite using an automatic core saw. Samples are always collected from the same side. Historic diamond drilling has been half core sampled.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All exploration and GC RC samples are cone or riffle split. Occasional wet samples are encountered; increased air capacity is routinely used to aid in keeping the sample dry when water is encountered. Historic AC, RAB and RC drilling was sampled using spear, grab, riffle and unknown methods.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of diamond core and RC chips adhere to industry best practice. It is conducted by a commercial laboratory and involves oven drying, coarse crushing then total grinding to a size of 90% passing 75 microns. Best practice is assumed at the time of historic sampling.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All subsampling activities are carried out by commercial laboratory and are considered to be satisfactory. Sampling by previous holders assumed to be industry standard at the time.
	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.	Duplicate sampling is carried out at a rate of 1:10 for exploration drilling and 1:20 for GC drilling and is sampled directly from the on-board splitter on the rig. These are submitted for the same assay process as the original samples and the laboratory are unaware of such submissions. Sampling by previous holders assumed to be industry standard at the time.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are 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.*	RC chip samples, grade control chip samples and diamond core are analysed by external laboratories using a 40g or 50g fire assay with AAS finish. These methods are considered suitable for determining gold concentrations in rock and are total digest methods. Historic sampling includes fire assay, aqua regia, B/ETA and unknown methods.
	For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools have been utilised for reporting gold mineralisation at Whirling Dervish.
	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.	Certified reference material (standards and blanks) with a wide range of values are inserted into every drillhole at a rate of 1:25 for exploration RC and DD, and 1:40 for GC drilling. These are not identifiable to the laboratory. QAQC data returned are checked against pass/fail limits with the SQL database and are passed or failed on import. A report is generated and reviewed by the geologist as necessary upon failure to determine further action. QAQC data is reported monthly. Sample preparation checks for fineness are carried out to ensure a grindsize of 90% passing 75 microns. The laboratory performs a number of internal processes including standards, blanks, repeats and checks. QAQC data analysis demonstrates sufficient accuracy and precision. Industry best practice is assumed for previous holders.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Significant intercepts are verified by the Geology Manager and corporate personnel.
	The use of twinned holes.	No specific twinned holes have been drilled at Greater Luvironza
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols	Primary data is collated in a set of excel templates utilising lookup codes. This data is forwarded to the Database Administrator for entry into a secure acQuire database with inbuilt validation functions. Data from previous owners was taken from a database compilation and validated as much as practicable before entry into the Saracen acQuire database.
	Discuss any adjustment to assay data.	No adjustments have been made to assay data. First gold assay is utilised for resource estimation.
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.*	Exploration drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm. Downhole surveys are carried out using the Axis Champ north seeking Gyroscopic continuous inrod survey instrument taking readings every 18m (diamond drilling) or 30m (RC drilling) down hole as drilling progresses, with a continuous survey conducted at the end of the hole taking a reading every 1m metre. Previous holders' survey accuracy and quality is unknown
	Specification of the grid system used.	MGA_GDA94 zone 51 is used
	Quality and adequacy of topographic control.	Topographic control originally used site based survey pickups in addition to Kevron aerial photogrammetric surveys with +/- 5m resolution.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The nominal spacing for early stage exploration drilling is 80m x 80m. Later stage exploration drilling is 40m x 40m
	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.	Data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for JORC classifications applied.
Orientation of data in relation to geological structure	*Whether sample compositing has been applied.*	RC drillholes were composited into 4m samples, with mineralised areas being resampled to 1m intervals. Some historic RAB and RC sampling was composited into 3-4m samples with areas of interest re-sampled to 1m intervals. It is unknown at what threshold this occurred.
	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The majority of drillholes are positioned to achieve optimum intersection angles to the ore zone as are practicable.
	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.	No significant sampling bias is thought to occur due to orientation of drilling in regards to mineralised structures.
Sample security	*The measures taken to ensure sample security.*	Samples are prepared on site under supervision of Saracen geological staff. Samples are selected, bagged into tied numbered calico bags then grouped into secured cages and collected by the laboratory personnel. Sample submissions are documented via laboratory tracking systems and assays are returned via email.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	An internal review of companywide sampling methodologies was conducted to create the current sampling and QAQC procedures.
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.*	The Greater Luvironza area is located on M31/210, M31/219, and M31/220 The tenements are held 100% by Saracen Gold Mines Pty Ltd, a wholly owned subsidiary of Saracen Mineral Holdings Limited. Mining Leases M31/219 and M31/220 have a 21 year life (held until 2020) and are renewable for a further 21 years on a continuing basis. Mining Lease M31/210 has a 21 year life (held until 2023) and is renewable for a further 21 years on a continuing basis. Mining Lease M31/210 is subject to two third party royalties and associated caveats (Caveat 62H/067 and Caveat 513935) Mining Lease M31/219 is subject to two third party royalties and one caveat (Caveat 63H/067). Mining Lease M31/220 is subject to two third party royalties and one caveat (Caveat 64H/067). Mining Lease M31/220 is subject to a bank mortgage (Mortgage 499142). All production is subject to a Western Australian state government NSR royalty of 2.5%. Mining Leases M31/210 and M31/219 are subject to the Gindalbie Pastoral Compensation Agreement. Mining Lease M31/220 is subject to the Pinjin and Gindalbie Pastoral Compensation Agreements. Mining Leases M31/210, M31/220, and M31/219 are the subject of the Maduwongga native title claim (WC2017/001). The Mining Rehabilitation Fund applies to the tenements.
	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 licence to operate already exists.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	The Carosue Dam project area in which the Greater Luvironza area is located has been subjected to extensive gold exploration by numerous companies since 1991. Airborne geophysics conducted by Aberfoyle Resources in 1997 highlighted numerous targets in the project area with subsequent AC, RAB and RC drilling intersecting mineralisation.. Oriole Resources obtained the project in 1998 and, through wholly owned subsidiary company PacMin, completed closely spaced RC drilling to develop the Luvironza resource through to reserve status. Sons of Gwalia carried out minor drilling before their collapse and takeover of the project by St Barbara.
Geology	*Deposit type, geological setting and style of mineralisation.*	The Greater Luvironza area is situated along the Kilkenny-Yilgangi fault zone on the boundary of the Steeple Hill and Mulgabbie domains. The lithology comprises primarily intermediate felsic volcaniclastic sandstones, intermediate tuffs and intermediate porphyry units intruded by granites of varying composition, with stratigraphy dipping generally to the east at approx. 60 degrees. Mineralization has a combined lithological and structurally control dipping parallel to the stratigraphy. Mineralization is continuous along strike in the footwall but is very discontinuous and patchy in the hanging wall structures and overall controlled by the general NW trending ductile faulting and is characterized by weak Hematite banding on the margins to intense hematite-silica alteration hosted in breccia zones adjacent to the faulting with high grade cores typically sericite-silica breccia. Pyrite is the dominant sulphide.
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 868 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.*	All significant intercepts have been length weighted with a minimum Au grade of 1ppm. No high grade cut off has been applied.
	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.	Intercepts are aggregated with minimum width of 1m and maximum width of 3m for internal dilution. Where stand out higher grade zone exist with in the broader mineralised zone, the higher grade interval is reported also.
	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. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	Previous announcements included sufficient detail to clearly illustrate the geometry of the mineralisation and the recent drilling. All results are reported as downhole lengths.

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	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.*	All results from previous campaigns have been reported, irrespective of success or not.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No substantive data acquisition has been completed in recent times.
Further work	*The nature and scale of planned further work (e.g. 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*	Extensional exploration for the Greater Luvironza area at this time is under review. Recent results are likely to be followed up with urgency.

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 by Saracen at Deep South have included reverse circulation drillholes (RC), aircore drilling (AC), surface and underground diamond drillholes (DD), underground face chip sampling and RC grade control drilling within the pit. Historic sampling methods conducted since 1983 have included rotary air blast (RAB), reverse circulation and diamond drillholes.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling for diamond, face chip and RC drilling is carried out as specified within Saracen sampling and QAQC procedures as per industry standard. RC and UG face chips and diamond core provide high quality representative samples for analysis. RC, RAB and DD core drilling was completed by previous holders to industry standard at that time (1983- 2004).
	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*	RC chips are cone or riffle split and sampled into 1m intervals with total sample weights under 3kg Diamond core is NQ sized, sampled to 1m intervals or geological boundaries where necessary and cut into half core to give sample weights under 3 kg. UG faces are chip sampled to geological intervals (0.2 to 1m). Samples are selected to weigh less than 3 kg to ensure total sample inclusion at the pulverisation stage. Saracen core and chip samples are crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 40g or 50 g sub sample for analysis by FA/AAS. Some grade control RC chips were analysed in the Saracen on site laboratory using a PAL (pulverise and leach) method. Historical RAB, RC and diamond sampling was carried out to industry standard at that time. Analysis methods include fire assay, aqua regia, atomic absorption spectroscopy and unspecified methods.
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 114 RAB holes, 211 RC holes (assumed standard 5 ¼ ''bit size) and 29 surface HQ and unknown diameter diamond core holes. Saracen has completed 15 surface RC precollars with NQ diamond tail drill holes (precollars averaging 185m, diamond tails averaging 140m) , 3 geotechnical surface diamond NQ drillholes, 57 RC holes from surface and 107 grade control RC holes within the pit. Underground sampling activities have included 646 NQ diamond drillholes and 1596 faces. Exploration of the broader Deep South area has included 312AC holes. Diamond tails were oriented using an Ezi-mark tool. A limited amount of historic surface diamond drill core appears to have been oriented by unknown methods.
Drill Sample Recovery	*Method of recording and assessing core and chip sample recoveries and results assessed*	RC sampling recoveries are recorded in the database as a percentage based on a visual weight estimate; limited historic recoveries have been recorded. Diamond core recovery percentages calculated from measured core versus drilled intervals are logged and recorded in the database. Recoveries average >98%. Limited historic diamond recoveries have been recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	During AC and RC drilling daily rig inspections are carried out to check splitter condition, general site and address general issues. Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against depth given on the core blocks. UG faces are sampled left to right across the face allowing a representative sample to be taken due to the vertical nature of the orebody. During GC campaigns the sample bags weight versus bulk reject weight are compared to ensure adequate and even sample recovery. Historical RAB, RC and diamond drilling to industry standard at that time.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	There is no known relationship between sample recovery and grade for RC or AC drilling. Diamond drilling has high recoveries meaning loss of material is minimal. 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 RC and AC chips and diamond drill core records lithology, mineralogy, texture, mineralisation, weathering, alteration and veining. Geotechnical and structural logging is carried out on all diamond holes to record recovery, RQD, defect number, type, fill material, shape and roughness and alpha and beta angles. Chips from all RC holes (exploration and GC) are stored in chip trays for future reference while remaining core is stored in core trays and archived on site. All faces are photographed and mapped. Core is photographed in both dry and wet state. Qualitative and quantitative logging of historic data varies in its completeness.
	The total length and percentage of the relevant intersections logged	All AC, RC and diamond drillholes and grade control holes are logged in full. Historical logging is complete.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	All drill core is cut in half onsite using an automatic core saw. Some grade control diamond holes have been full core sampled. Samples are always collected from the same side. Some historic drillcore was half core sampled, or sampled via unknown methods.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	All exploration and grade control RC samples are cone or riffle split. AC drillholes are spear sampled. Occasional wet samples are encountered; increased air capacity is routinely used to aid in keeping the sample dry when water is encountered. UG faces are chip sampled using a hammer. Historic RAB and RC drilling was sampled using riffle and unknown methods.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of diamond core, UG face chips and RC chips adhere to industry best practice. It is conducted by a commercial laboratory or onsite laboratory and involves oven drying, coarse crushing then total grinding to a size of 90% passing 75 microns. Best practice is assumed at the time of historic sampling.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All subsampling activities are carried out by commercial laboratory or onsite laboratory and are considered to be satisfactory. Sampling by previous holders assumed to be industry standard at the time.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second half sampling.	RC field duplicate samples are carried out at a rate of 1:20 and are sampled directly from the on-board splitter on the rig. These are submitted for the same assay process as the original samples and the laboratory are unaware of such submissions. Sampling by previous holders assumed to be industry standard at the time.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes of 3kg are considered to be appropriate given the grain size (90% passing 75 microns) of the material 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.*	RC and UG chip samples and diamond core are analysed by external laboratories using a 50g fire assay with AAS finish. AC samples are analysed using a 25g aqua regia digest. These methods are considered suitable for determining gold concentrations in rock and are total digest methods. GC samples were analysed in the Saracen onsite laboratory using a pulverise and leach method. This method is a partial digest. Historic sampling includes fire assay, aqua regia, atomic absorption spectroscopy and unspecified methods.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools have been utilised for reporting gold mineralisation.
	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.	Certified reference material (standards and blanks) with a wide range of values are inserted into every drillhole at a rate of 1:25 for exploration AC, RC and DD, and 1:40 for GC drilling. These are not identifiable to the laboratory. QAQC data returned are checked against pass/fail limits with the SQL database and are passed or failed on import. A report is generated and reviewed by the geologist as necessary upon failure to determine further action. QAQC data is reported monthly. Sample preparation checks for fineness are carried out to ensure a grindsize of 90% passing 75 microns. The laboratory performs a number of internal processes including standards, blanks, repeats and checks. QAQC data analysis demonstrates sufficient accuracy and precision.

Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
		Industry best practice is assumed for previous holders.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Significant intercepts are verified by the Geology Manager and corporate personnel.
	The use of twinned holes.	No specific twinned holes have been drilled at Deep South but grade control drilling has confirmed the width and grade of previous exploration drilling.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols	Primary data is collated in a set of excel templates utilising lookup codes. This data is forwarded to the Database Administrator for entry into a secure acQuire database with inbuilt validation functions. Data from previous owners was taken from a database compilation and validated as much as practicable before entry into the Saracen acQuire database.
	Discuss any adjustment to assay data.	No adjustments have been made to assay data. First gold assay is utilised for resource estimation.
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.*	Exploration drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm. Drillhole collars within the pit and immediate surrounds are picked up by company surveyors using a Trimble R8 GNSS (GPS) with an expected accuracy of +/-8mm. All underground drillhole collars are picked up by company surveyors using a Leica TS15i (total station) with an expected accuracy of +/-2mm. Underground faces are located using a Leica D5 disto with and accuracy of +/- 1mm from a known survey point. Downhole surveys are carried out using the DeviFlex RAPID continuous inrod survey instrument taking readings every 5 seconds, In and Out runs and reported in 3m intervals, survey accuracy +-3:1000. A number of drillholes have also been gyroscopically surveyed. Previous holders' survey accuracy and quality is unknown
	Specification of the grid system used.	A local grid system (Safari Bore) is used at Deep South. The two point conversion to MGA_GDA94 zone 51 is: SBEast SBNorth RL MGAEast MGANorth RL Point 1 51000 34000 0 451137.753 6734157.921 0 Point 2 51000 30000 0 451137.896 6730157.896 0 Historic data is converted to the Safari Bore local grid upon export from the database.
	Quality and adequacy of topographic control.	Topographic control originally used site based survey pickups in addition to Kevron aerial photogrammetric surveys with +/- 5m resolution. Pre mining, new and more detailed topography has since been captured and will be used in future updates and for subsequent planning purposes.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The nominal spacing for drilling is 20m x 40m and 40m x 40m
	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.	Data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for JORC classifications applied.
Orientation of data in relation to geological structure	*Whether sample compositing has been applied.*	AC drilling is sampled in 4m composites, no other sample compositing has been utilised Some historic RAB and RC sampling was composited into 3-4m samples with areas of interest re-sampled to 1m intervals. It is unknown at what threshold this occurred.
	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The majority of drillholes are positioned to achieve optimum intersection angles to the ore zone as are practicable.
	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.	No significant sampling bias has been recognised due to orientation of drilling in regards to mineralised structures.
Sample security	*The measures taken to ensure sample security.*	Samples are prepared on site under supervision of Saracen geological staff. Samples are selected, bagged into tied numbered

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
		calico bags then grouped into secured cages and collected by the laboratory personnel. Sample submissions are documented via laboratory tracking systems and assays are returned via email
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	An internal review of companywide sampling methodologies was conducted to create the current sampling and QAQC procedures. No external audits or reviews have been conducted.

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.*	The Deep South pit is located on M39/740. The tenement is held 100% by Saracen Gold Mines Pty Ltd, a wholly owned subsidiary of Saracen Mineral Holdings Limited. Mining Lease M39/740 has a 21 year life (held until 2024) and is renewable for a further 21 years on a continuing basis. Mining Lease M39/740 is subject to one royalty agreement, one caveat (151H/067) and a bank mortgage (499142). All production is subject to a Western Australian state government NSR royalty of 2.5%. Mining Lease M39/740 is subject to the Edjudina Pastoral Compensation Agreement. There are no registered Aboriginal Heritage sites within Mining Lease M39/740. The Mining Rehabilitation Fund applies to Mining Lease 39/740.
	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 tenement is in good standing and the licence to operate already exists
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Exploration in the vicinity of Deep South commenced in the 1980's with drilling around the historic Deep Well workings 500m north of Deep South, as well as regional RC drilling carried out by Western Mining Corporation. Initial auger sampling carried out over Deep South by Pancontinental Mining in 1994 failed to detect mineralisation due to the transported material overlying the deposit. Wide spaced east angled RAB drilling carried out by Goldfields in 1999 intersected mineralisation, but results were not repeated in further drilling and the project area was sold to Sons of Gwalia. Sons of Gwalia completed extensive RC and diamond drilling to define the Deep South resource, with mining operations undertaken in 2004 before their collapse and takeover by St Barbara.
Geology	*Deposit type, geological setting and style of mineralisation.*	Deep South lies on the eastern margin of the Norseman – Wiluna greenstone belt. This belt is differentiated into numerous structural-stratigraphic domains separated by major regional structures, with Deep South located within the narrow NNW trending Linden Domain. The lithology comprises metasedimentary and felsic volcaniclastic rocks with an ultramafic and high magnesium basalt layer. Mineralisation occurs in two loads concordant to geology, the Butler and Scarlett lodes, and is confined between layered metasedimentary and felsic volcaniclastic units on both the hangingwall and footwall. The two lodes are separated by a high magnesium basalt and an ultramafic unit. The Butler lode is located in the hangingwall and is strongly silica and pyrrhotite-pyrite altered, and well laminated (appearing like a BIF within the oxidise portion). The contrasting physical properties of this unit to the surrounding unit have created fluid pathways and traps, as well as the high iron content of the unit providing a chemical trap, for gold deposition The Scarlett lode is strongly weathered in the upper oxide portion to a gossanous material comprising hematite, goethite and quartz fragments. Weathering at Deep South has been preferential along Scarlett lode due to its high carbonate content. Where fresh, the lode is a fine grained banded carbonate unit with variable pyrrhotite, pyrite and magnetite. It is weakly foliated in line with the regional foliation.
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*	All material data is periodically released on the ASX: 15/02/2018, 27/11/2017, 26/09/2017, 01/05/2017, 21/02/2017, 17/12/2016, 07/09/2016, 11/05/2016, 23/02/2016, 23/07/2013, 10/10/2012, 31/07/2012, 03/06/2011, 29/07/2010

Section 2: Reporting of Exploration Results		
Criteria	**JORC Code Explanation**	**Commentary**
	• *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.*	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.*	All significant intercepts have been length weighted with a minimum Au grade of 1ppm, or 20ppb for AC drilling No high grade cut off has been applied.
	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.	Intercepts are aggregated with minimum width of 1m and maximum width of 3m for internal dilution. Where stand out higher grade zone exist with in the broader mineralised zone, the higher grade interval is reported also.
	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.* *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').*	Previous announcement included sufficient detail to clearly illustrate the geometry of the mineralisation and the recent drilling. All results are reported as downhole lengths. This remains consistent with other announcements.
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.*	All significant exploration results released by Saracen are accompanied by the appropriate diagrams and maps at the time of the 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.*	All results from the recent campaign have been reported, irrespective of success or not.
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.*	A small geochemical program was undertaken in 2013 to determine the key features associated with mineralisation. The program gave some insight into the local characteristics of the Scarlett and Butler lodes. More work is needed to fully appreciate the geochemical signature associated with the mineralisation. A detailed gravity survey was recently completed at Deep South on a 400m x 100m grid to assist in the interpretation of the basement geology. The data is currently being processed and interpreted. Saracen has recently completed a biogeochemical sampling program at Deep South involving the sampling of new leaf growth on established *Acacia* trees on a 100m x 800m spacing. Samples were collected from trees of a consistent species and height. The biogeochemical program was an orientation survey only and results will not be used in any calculation of mineralisation. The

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		leaves were washed, dried and pulverised followed by an aqua regia digest for multielement determination.
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*	Surface and underground drilling will continue, and regional aircore program will continue across the Mt Celia district.