

## ARS – ASX ANNOUNCEMENT

ASX Announcement ASX: ARS

10<sup>th</sup> August 2018

# BOTTLE CREEK OFFERS POTENTIAL FOR RE-PROCESSING TAILINGS DAMS WITH >1 g/t Au AND >18 g/t Ag ASSAYED

## **HIGHLIGHTS:**

- 66 preliminary Aircore holes drilled into historical tailings dams at Bottle Creek
- Potential for near term gold production from tailings dam stripping
- Results up to 1.28 g/t Au and 18.4 g/t Ag, with an average of 6.1 g/t Ag
- The two tailings dams cover a combined area of 21.6 ha
- Systematic Aircore program and detailed survey planned to bring tailings into planned Bottle Creek Resource estimate

Alt Resources Ltd (ASX: ARS, Alt or 'the Company') is pleased to announce the results from preliminary testing of the historical Bottle Creek Mine Tailings Dams, WA. 66 shallow Aircore holes were drilled for 323m. The maximum hole depth was 12m with hole spacing of 20m. Alt drilled north-south and east-west fences across each of the dams. Samples were assayed for gold and silver, with values up to 1.28 g/t Au and 18.4 g/t Ag received. Average grade for the tailings material based on limited testing thus far is 0.16 g/t Au and 6.1 g/t Ag.

Bottle Creek was mined for gold by Norgold Ltd in 1988-1989. Two tailings dams endure from the previous operation, covering a combined area of 21.6 ha (Figure 1). Alt's aim was to ascertain whether exploitable gold and silver remained within these tailings dams. Figure 1 shows the maximum Au (left) and Ag (right) in each aircore hole across the tailings material. Contained mineralisation is patchy, particularly for gold, whereas silver shows a much more uniform distribution of higher grade (Figure 1), giving an average of **6.1 g/t Ag** across both tailings dams. A more comprehensive drill pattern is planned to cover the whole of each tailings area, to more effectively delineate a volume that can be incorporated in the overall Bottle Creek gold (+ silver) resource.

Within the same program, planned drilling will also include testing of surficial gold-mineralised laterite<sup>1</sup> and pre-existing low grade stockpiles which remain from the previous mining operation.

Alt Resources CEO, James Anderson, stated; "Our objective with this program was to negate the cost of refurbishing the tailings dams. Given the right economics, in a future mining cycle we would strip the existing mineralised soil from the tailings dams, stockpile the soil for re-processing of the low grade gold and silver and refurbish the dams at the same time; it's a recycling concept to cover costs associated with development of the processing plant moving forward. The Company is also progressing towards mine design and pit optimisation for Bottle Creek. Minecomp have been engaged as the consulting mining engineers for this work. We are reinforcing our strategy to bring these assets into production as quickly and as efficiently as possible and we will continue to fast track this project."

<sup>&</sup>lt;sup>1</sup> See ARS ASX announcement, 6<sup>th</sup> August 2018, for description of laterite targets: <a href="https://www.altresources.com.au/wp-content/uploads/2018/08/ARS-ASX-Exploration-Update-6Aug18.pdf">https://www.altresources.com.au/wp-content/uploads/2018/08/ARS-ASX-Exploration-Update-6Aug18.pdf</a>





Figure 1. Results from aircore drilling across the Bottle Creek Tailings Dams. The drillcollars are coloured by the maximum value for gold (Au) obtained in each hole on the left, and maximum silver (Ag) on the right.

## **Regional Setting and Exploration History**

The Bottle Creek gold mine lies 100 km north east of Menzies in the Mt Ida gold belt (Figure 2). The gold mine is located on the northern extremity of the Mt Ida-Ularring greenstone belt extending from Davyhurst to Mt Alexander (Figure 2). The Ularring greenstone belt forms the western part of the Norseman-Wiluna Province of the Yilgarn Craton. The location of mineralisation and local geology, is shown in Figure 3.

During historical operation from 1988-1989, 90,000 oz Au was produced from two open pits (Boags and VB; Figure 4). Significant historical drilling along a 9.8 km strike outlined the Emu, Southwark and Cascade (formerly XXXX) deposits. However these were never mined. The historical RC drill fences were spaced at 100m, with infill drill line spacing at 50m and 25m at various locations. The majority of drilling targeted oxide mineralisation and reached no deeper than 80m vertically below surface.

Alt's new drilling results throughout 2018 continue to provide confirmation of historical intercepts, improve confidence in historical data, prove the continuity and grade of mineralisation in key parts of the Emu and Southwark deposits. Further, gold mineralisation appears to continue at depth, with several drillholes ending in mineralisation. Resource estimation is underway for Emu and Southwark.



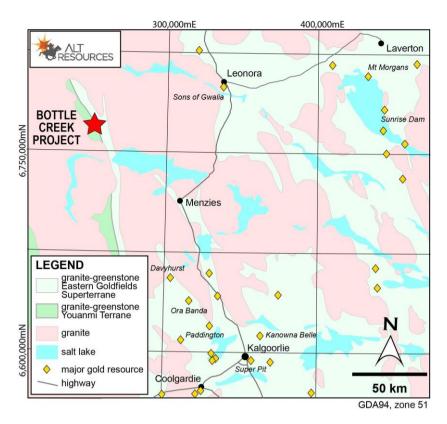


Figure 2. Location of the Bottle Creek Gold Mine, 100 km NE of Menzies. Bottle Creek lies on the boundary between the Youanmi Terrane and the Eastern Goldfields Superterrane, within the Mt Ida-Ularring greenstone belt.

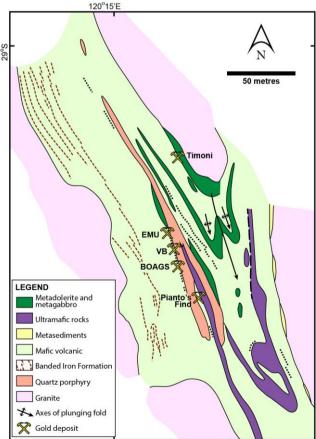


Figure 3. Geological setting of the Bottle Creek project. Modified from Legge et al. (1990).

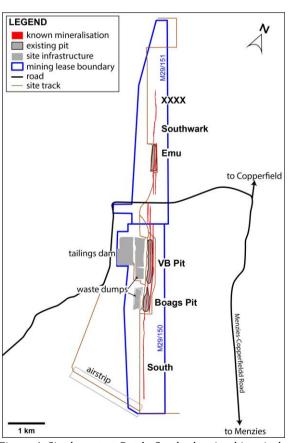


Figure 4. Site layout at Bottle Creek, showing historical VB and Boags open pits as well as the location of unmined mineralisation at Emu, Southwark and XXXX.



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## About Alt Resources

Alt Resources is an Australian based mineral exploration company that aims to become a gold producer by exploiting historical and new gold prospects across quality assets and to build value for shareholders. The Company's portfolio of assets includes the newly acquired Bottle Creek gold mine located in the Mt Ida gold belt, the Paupong IRG Au-Cu-Ag mineral system in the Lachlan Orogen NSW, Myalla polymetallic Au-Cu-Zn project east of Dalgety in NSW and the Mt Roberts gold project located near the town of Leinster in WA.

Alt Resources, having acquired historical and under-explored tenements in the Mt Ida Gold Belt, aims to consolidate the historical resources, mines and new gold targets identified within the region. Potential at Mt Ida exists for a centralised production facility to service multiple mines and to grow the Mt Ida Gold Belt project to be a sustainable and profitable mining operation.

#### References

Legge P.J., Mill J. H. A., Ringrose C. R & McDonald I. R. (1990). Bottle Creek gold deposit. In: Geology of the Mineral Deposits of Australia and Papua New Guinea. F.E Hughes (ed). The Australasian Institute of Mining and Metallurgy, Melbourne pp 357-361.

### **Competent Persons Statement**

The information in this report that relates to mineral exploration and exploration potential is based on work compiled under the supervision of Dr Helen Degeling, a Competent Person and member of the AusIMM. Dr Degeling is an employee of Alt Resources and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity that she is undertaking 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'. Dr Degeling consents to the inclusion in this report of the information in the form and context in which it appears.

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Table 1. Drillhole collar table with significant gold (Au) and silver (Ag) intercepts for new aircore drilling by Alt Resources at the Bottle Creek project, described in this announcement.

Hole ID	m from	m to	Interval (m)	Au (g/t)	Ag (g/t)	Hole Type	Easting*	Northing	RL	Dip	Azi	Total Depth
TSAC002	0	8	8	0.12	9.8	AC	251,782	6,769,957	480.0	-90	0	12
including	0	4	4	0.22	18.4							
TSAC003	0	6	6	0.39	14.8	AC	251,790	6,769,939	479.8	-90	0	8
TSAC004	0	6	6	0.23	8.37	AC	251,797	6,769,920	479.5	-90	0	6
TSAC005	0	6	6	0.24	8.47	AC	251,805	6,769,900	479.5	-90	0	7
TSAC006	0	6	6	0.20	10.7	AC	251,811	6,769,884	479.5	-90	0	10
TSAC007	0	6	6	0.20	8.2	AC	251,818	6,769,867	479.7	-90	0	10
TSAC008	0	6	6	0.14	7.9	AC	251,825	6,769,850	479.7	-90	0	7
TSAC009	0	6	6	0.29	11.9	AC	251,833	6,769,830	479.6	-90	0	7
TSAC010	0	6	6	0.24	9.7	AC	251,840	6,769,813	479.4	-90	0	7
TSAC011	0	6	6	0.36	10.3	AC	251,848	6,769,795	479.4	-90	0	7
TSAC012	0	6	6	0.20	8.25	AC	251,856	6,769,776	479.4	-90	0	7
TSAC013	0	6	6	0.24	12.8	AC	251,865	6,769,757	479.6	-90	0	7
TSAC014	0	6	6	0.32	10.6	AC	251,873	6,769,741	479.7	-90	0	7
TSAC015	0	7	7	0.30	9.9	AC	251,882	6,769,723	480.0	-90	0	8
TSAC017	0	3	3	0.30	10.0	AC	251,890	6,769,684	476.4	-90	0	4
TSAC018	0	2	2	0.23	6.8	AC	251,894	6,769,666	475.8	-90	0	3
TSAC019	0	2	2	0.56	10.4	AC	251,896	6,769,646	475.5	-90	0	3
TSAC020	0	2	2	1.28	6.0	AC	251,900	6,769,627	475.3	-90	0	3
TSAC021	0	2	2	0.50	4.9	AC	251,903	6,769,607	474.9	-90	0	3
TSAC022	0	2	2	0.10	9.6	AC	251,907	6,769,587	474.7	-90	0	3
TSAC023	0	2	2	0.51	8.6	AC	251,911	6,769,568	474.5	-90	0	3
TSAC024	0	1	1	0.28	8.7	AC	251,915	6,769,549	474.4	-90	0	2
TSAC025	0	2	2	0.08	7.9	AC	251,918	6,769,530	474.3	-90	0	4
TSAC029	0	1	1	0.10	11.1	AC	251,935	6,769,452	474.5	-90	0	2
TSAC030	0	1	1	1.12	10.7	AC	251,940	6,769,432	474.7	-90	0	2
TSAC031	0	1	1	0.29	10.5	AC	251,944	6,769,413	474.8	-90	0	3
TSAC032	0	2	2	0.23	8.0	AC	251,947	6,769,394	475.0	-90	0	3
TSAC033	0	2	2	0.25	6.8	AC	251,950	6,769,375	475.5	-90	0	3
TSAC034	0	3	3	0.24	9.4	AC	251,954	6,769,355	475.8	-90	0	4
TSAC035	0	4	4	0.26	6.9	AC	251,957	6,769,335	476.7	-90	0	4
TSAC036	0	8	8	0.16	11.1	AC	251,970	6,769,885	480.0	-90	0	9
TSAC037	0	8	8	0.17	10.5	AC	251,950	6,769,877	479.7	-90	0	9
TSAC038	0	8	8	0.20	10.0	AC	251,933	6,769,870	479.4	-90	0	8
TSAC039	0	7	7	0.16	9.4	AC	251,915	6,769,862	479.1	-90	0	8
TSAC040	0	5	5	0.21	11.6	AC	251,895	6,769,854	479.2	-90	0	7
TSAC041	0	6	6	0.53	12.4	AC	251,876	6,769,846	479.3	-90	0	7
TSAC042	0	6	6	0.18	9.0	AC	251,861	6,769,840	479.3	-90	0	7
TSAC043	0	7	7	0.18	8.3	AC	251,844	6,769,833	479.5	-90	0	7
TSAC044	0	6	6	0.15	9.0	AC	251,823	6,769,824	479.7	-90	0	7
TSAC045	0	6	6	0.17	8.1	AC	251,805	6,769,817	479.7	-90	0	7
TSAC046	0	6	6	0.26	10.0	AC	251,786	6,769,809	479.6	-90	0	7
TSAC047	0	5	5	0.30	7.6	AC	251,767	6,769,801	479.8	-90	0	6



Hole ID	m from	m to	Interval (m)	Au (g/t)	Ag (g/t)	Hole Type	Easting*	Northing	RL	Dip	Azi	Total Depth
TSAC048	0	5	5	0.29	10.4	AC	251,748	6,769,793	480.1	-90	0	6
TSAC049	0	5	5	0.25	11.6	AC	251,731	6,769,786	480.6	-90	0	6
TSAC050	0	5	5	0.23	8.7	AC	252,088	6,769,583	476.0	-90	0	6
TSAC051	0	5	5	0.11	7.4	AC	252,069	6,769,576	475.2	-90	0	5
TSAC052	0	2	2	0.22	8.8	AC	252,049	6,769,568	474.9	-90	0	5
TSAC053	0	2	2	0.18	8.4	AC	252,033	6,769,561	474.8	-90	0	4
TSAC054	0	3	3	0.22	7.9	AC	252,013	6,769,553	474.2	-90	0	4
TSAC055	0	3	3	0.14	6.7	AC	251,996	6,769,546	474.3	-90	0	4
TSAC056	0	2	2	0.29	6.0	AC	251,976	6,769,538	474.3	-90	0	3
TSAC057	0	2	2	0.18	6.5	AC	251,959	6,769,532	474.2	-90	0	3
TSAC058	0	2	2	0.13	7.7	AC	251,941	6,769,524	474.3	-90	0	3
TSAC062	0	1	1	0.01	16.2	AC	251,870	6,769,496	474.7	-90	0	2

<sup>\*</sup>All coordinates in GDA94, zone 51



## JORC Code, 2012 Edition – Table 1 report

## **Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Air-Core (AC) tailings dam "sludge" samples from drillholes TSAC002 to TSAC068 were collected directly from a cyclone on the drilling rig into plastic buckets. Bucket intervals were 1m and was either directly speared into pre-numbered calico bags as a 1m interval or composited into 2m, 3m or a maximum of 4m intervals.</li> <li>The cyclone was cleaned at the end of each hole which had a maximum hole depth of 12m. The cyclone and buckets were thoroughly cleaned between each hole, as all holes were predicted to contain mineralisation.</li> <li>Observations of sample size and moisture were made during logging.</li> <li>Certified reference materials made up 16% of the samples whereby 1 blank and 2 standards, were inserted into the sample sequence every 17 samples, such that for every 20 samples, 3 were certified reference material. Duplicate samples made up 10% of samples.</li> <li>Gold mineralisation (Au) was determined qualitatively using a 30 g fire assay, and atomic absorption spectroscopy technique with reportable results between 0.01 and 100 ppm.</li> <li>Silver mineralisation (Ag) was determined using four acid digest and ICP analysis, with reportable results in the range 0.2 to 100 ppm.</li> </ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>AC drilling for drillholes TSAC002 – TSAC015 and TSAC017-TSAC068 was completed using a tungsten blade to bore a hole into unconsolidated ground. The drill cuttings were removed by the injection of air into the compressed hole.</li> <li>The drill rig used was a truck mounted auger rig, supplied through drilling contractor Gyro Australia.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure</li> </ul>	<ul> <li>A qualitative assessment of sample quality, and moisture content is made whilst drilling. The collected sample is then weighed at the laboratory.</li> </ul>



- representative nature of the samples.
- 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.
- Almost all zones in the drilling section had good recoveries, however where samples had poor recovery, these samples are judged to be representative.
- Results received to date show no sample bias, nor a relationship between grade and recovery.

## 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.
- The total length and percentage of the relevant intersections logged.
- All holes have been geologically logged, however due to the man-made nature of the drilling target, only two lithology types were logged; Clay (Artificial Tailings Sludge) or Laterite (Natural Regolith Surface) All holes were logged to a level of detail sufficient to support future mineral resource estimation, scoping studies, and metallurgical investigations.
- The sequence of sample piles for all holes was photographed, with photos stored in a secure Company database.
- All holes have been logged over their entire length (100%) including any mineralised intersections.

## Sub-sampling techniques and sample preparation

- If core, whether cut or sawn and whether quarter, half or all core taken.
- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
- For all sample types, the nature, quality and appropriateness of the sample preparation technique.
- Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.
- 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.
- Whether sample sizes are appropriate to the grain size of the material being sampled.

- AC tailings fines were sampled via bucket directly from the cyclone during drilling. Almost all samples were moist which made cone or riffle splitting impractical. Therefore, each 1m sample was sub-sampled using a sampling spear, with sub-samples combined into appropriate composite intervals (2-4m).
- The sample preparation technique is judged appropriate for the sample type and mineralisation style being tested.
- The cyclone and sample buckets were cleaned regularly to prevent contamination.
- Field duplicates were taken and to date show excellent correlation and repeatability, suggesting the samples are representative of in situ material.
- The sample size is judged appropriate for the grain size of the material being sampled, and the repeatability of the field duplicates further supports this.

# 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.
- 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.Ba, Mo
- Assays are completed by ALS Kalgoorlie where the delivered sample is
  pulverised to -75μm, and then a 30g subsample analysed by AAS fire assay
  technique. Analyses were for Au with a detection limit of 0.01 ppm, and Ag,
  with a detection limit of 0.2 ppm. Ag analysis was carried out using method
  MEICP-41 four acid digest.
- Samples for analysis were transported by Alt personnel directly to the ALS laboratory in Kalgoorlie.



- Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.
- Certified reference materials made up 16% of the samples whereby 1 blank and 2 standards, were inserted into the sample sequence every 17 samples, such that for every 20 samples, 3 were certified reference material. Duplicate samples made up 10% of samples.
- No umpire assays have been undertaken to date. To date an acceptable level of precision and accuracy have been observed.

## Verification of sampling and assaying

- The verification of significant intersections by either independent or alternative company personnel.
- The use of twinned holes.
- Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.
- Discuss any adjustment to assay data.

- Significant intersections have been verified by Alt Resources geologists.
- No holes have been twinned to date.
- All geological, sampling, and spatial data that is generated and captured in the field is immediately entered onto hard copy field sheets. This data is then uploaded and validated each night using Micromine Software. The data is then sent to a database manager for further validation. If corrections need to be made they are implemented the following day by the Alt geologist on site. Once complete and validated the data is then compiled in the database server.
- No adjustment of assay data is required

## points

- Location of data Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.
  - Specification of the grid system used.
  - Quality and adequacy of topographic control.

- Hole locations were surveyed prior to drilling using a Handheld Garmin 64 GPS. On completion of the drilling program the final collar locations were surveyed by an external survey contractor using a Leica RTK GPS and GOLA standard survey marks. The expected accuracy is 0.15m in three dimensions.
- All drill holes were vertical and were no deeper than 12m, therefore it was deemed by Alt Resources Geologists that no downhole surveys were required.
- The grid system used is MGA94 Zone 51
- The topographic control is judged as adequate and of high quality.

## Data spacing and distribution •

- Data spacing for reporting of Exploration Results.
- 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.
- Whether sample compositing has been applied.

- Alt Resources drilling over the historic tailings dam was spaced at approximately 20m, along 2 perpendicular drill fences for each tailings dam
- Data spacing across the tailings dams is judged as adequate to establish and support a Mineral Resource in the future.
- Sample compositing was applied over almost all of the samples. 1m intervals were placed in sample buckets and each sample was either directly speared into pre-numbered calico bags as a 1m interval or composited into 2m, 3m or a maximum of 4m intervals.

1	Orientation of data in relation to geological structure	•	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  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.	•	As the drill target was a man-made structure (the historical tailings dams), not a natural geological feature, there is no geological structure and therefore no bias in orientation within the drill target.
	Sample security	•	The measures taken to ensure sample security.	•	Alt Resources keeps all samples within its custody, and within its lease boundaries until delivery to the laboratory for assay. Samples are typically collected while drilling to minimise possible contamination, and ensure unbroken sample chain of custody.
-	Audits or reviews	•	The results of any audits or reviews of sampling techniques and data.	•	No external reviews of the sampling techniques have yet been undertaken. Internal reviews and audits are ongoing with each sample submission being analysed and reported on to ensure issues are quickly noted and rectified.



## **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The information in this release relates to the Bottle Creek Project, on mining leases M29/150 and M29/151, which is the subject of a purchase agreement between Alt Resources and a private vendor. The details of this purchase arrangement are outlined in the announcement made to the market on the 8<sup>th</sup> November, 2017 (<a href="https://www.altresources.com.au/wp-content/uploads/2017/11/ARS-ASX-Announcement-Bottle-Creek-acquisition-8Nov17.pdf">https://www.altresources.com.au/wp-content/uploads/2017/11/ARS-ASX-Announcement-Bottle-Creek-acquisition-8Nov17.pdf</a>)</li> <li>There are no existing impediments to M29/150 or M29/151.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>The Bottle Creek Gold Project has seen little or no exploration prior to 1983. Modern gold exploration over the project has been conducted by Electrolytic Zinc (EZ) and Norgold, as described below.</li> </ul>
		Activity Year Company Result conducted
		Stream Sediment 1983-1987 Electrolytic Zinc Defined 15km long Au-As-Sb anomaly associated with Bottle Creek mineralisation
		Ironstone sampling  Definition of linear Au, As, Sb, B and Pb anomalies
		Laterite sampling Definition of 20km long As-Pb anomaly
		Aerial photography
		Aerial magnetic survey anomaly associated with mineralised zone, from magnetite alteration.



The highest magnetic anomalies overlie mineralised shoots

Costeaning

Significant gold intersections defined in areas of poor outcrop, but poor penetration due to hard sub-surface layers

RAB drilling

Defined major mineralised zone (Bottle Creek, including Emu, VB and XXXX) beneath lateritic cover

RC drilling

Definition of oxide gold resources at VB, Boags, Emu

DD drilling

Testing sulphide gold mineralisation beneath Emu and

VΒ

Magnetometric resistivity (MMR) and Very Low Frequency electromagnetic (VLF-E) surveys Neither technique defined the mineralised zone

Geological mapping 1986-1989 Norgold

Project-scale mapping at 1:25,000 scale, defined new prospective zone SE

of Boags

RAB drilling

Exploration drilling of extensions to known mineralisation,

defined parallel zone east of VB and south

of Anchor.



	RC and DD drilling	Reserve drilling at VB, Boags and Emu Resource drilling at
		Anchor, XXXX, Southwark and surface laterite
		Sterilisation drilling for airstrip
	Soil Sampling	Extensions to areas of previous sampling, analysed for Au, Ag, As, Sb
	Airborne multi- spectral survey	Defined high density fracture patterns associated with mineralisation
	Mining	Mining at VB and Boags, 1988-1989. Production at Boags: 382,000t @ 1.75 g/t Au (21.6koz Au)
		Production at VB: 730,000t @ 3.1 g/t Au (72koz Au)
Geology  • Deposit type, geological setting and style of miner	<ul> <li>The Bottle Creek gold project lies on the west Wiluna Province in WA, within the Ularring gongect, the area is characterised by banded with mafic volcanics. In the central and easter dominantly mafic-ultramafic volcanic and intervolcanic volcanic sediments are interbedded with central and eastern zone has been intruded.</li> <li>Near Bottle Creek, the greenstone belt is fold anticline with a granite core.</li> <li>The project is defined by epigenetic, hydroth gold+silver mineralisation. Mineralisation is sheared, carbonaceous black shale unit (the contact with the interbedded mafic volcanics).</li> </ul>	greenstone belt. West of the iron formations interbedded ern parts of the project, a trusive suite occurs. Minor the greenstones. The entire by felsic quartz porphyries. ded into a tight, south-plunging nermal, shear-hosted hosted within a steeply dipping, Emu Formation), close to the



## Drill hole Information

- A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:
  - o easting and northing of the drill hole collar
  - elevation or RL (Reduced Level elevation above sea level in metres) of the drill hole collar
  - o dip and azimuth of the hole
  - o down hole length and interception depth
  - o hole length.
- 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.

- Sulphide mineralisation is characterised by pyrite, pyrrhotite and magnetite, with minor tetrahedrite, sphalerite, arsenopyrite and chalcopyrite. Native gold and electrum are also present as fine, <45μm grains.
- A strong regolith profile is developed in the mineralised zone, to a depth of approximately 85m in some areas.
- 5 mineralised zones have been defined by historical exploration, including from south to north, Boags, VB, Emu, Southwark and XXXX.
- See Table 1 and Figure 1 above for drillhole information pertaining to significant intercepts presented here.
- No significant information has been excluded for drilling results reported in this document.

## Data aggregation methods

- In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.
- 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.
- The assumptions used for any reporting of metal equivalent values should be clearly stated.

- Reported drill intercepts are weighted averages of composite samples, with composite sample widths ranging from 1-4m downhole.
- No cutting of high grade values has been undertaken.
- Significant intercepts (see Table 1 in the body of this release) are reported using a low-grade cut-off of 0.1 g/t Au, 5.0 g/t Ag and no more than 1m internal waste.

# 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').
- Mineralisation within the tailings dams has no defined geometry, other
  than the flat orientation of sediment remaining from the dams which were
  constructed and used during the previous operation. Drillholes were
  oriented straight down (90° from surface), which is deemed to be the best
  orientation to test the flat lying tailings dams sediment layer.
- Reported intercepts are downhole lengths; due to the man-made nature of the drill target, there is no 'true width' that can be reported for these



### **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.

#### results.

- The location of new drillholes at the Tailings Dams with significant intercepts described in the text is shown in Figure 1. Coordinates in GDA94, zone 51.
- The layout of the Bottle Creek site is shown in Figure 4.
- Table 1 gives the details of significant intercepts discussed in this release, including drillhole collar information.

## Balanced reporting

 Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.

- All drillhole locations are reported and a table of significant intervals is provided in the text of this release (Table 1), and are judged to be a balanced report of exploration results.
- The range of assay results from this drilling program was from below detection to 1.28 g/t Au for gold, and from 0.2 to 18.4 g/t Ag for silver.

# 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.

## **Metallurgical Testing**

 Metallurgical testwork was carried using selected composited RC intervals by EZ, as below:

Hole ID	Interval	Sample Number
EMU-32	54-58m	110721
EMU-12	24-28m	119717
EMU-31	90-99m	110720
EMU-38	33-60m	110722
EMU-14	69-90m	110718
EMU-17	34-44m	110719

- The six composite samples were submitted to Eltin Pty Ltd in Kalgoorlie for preliminary metallurgical. Cyanidation tests were carried out by Kalgoorlie Metallurgical Laboratories.
- Testwork used the following parameters:
- Nominal grind to 80% 75 microns
- 24 hour cyanidation test
- pH of 9.5
- splitting of cyanide residue into +75 micron and -75 micron fractions for liberation tests
- production of rate curves for the test to establish recovery times



- assessment of reagent usage for the test
- Kalgoorlie Scheme water was used for the test
- The following results were determined:
- The samples are free milling
- For a head grade greater than 4 g/t Au, recoveries of the order of >90% can be expected at a grind of approximately 80% passing 75 microns
- Greater recoveries can be expected in a full size plant
- By cyaniding in the mill, the rate of gold dissolution can be significantly increased compared to the laboratory curves
- There is evidence of some soluble copper which will affect cyanide consumption
- Samples 110718, 110721 and 110722 require further work due to high cyanide resistant residues.

## **Specific Gravity**

- Specific gravity analyses were performed by EZ using selected samples of PQ core
- Volume calculations were made with calipers and a complex programmable calculator programme to take in account uneven breaks
- The sections of core were weighed on a series of kitchen scales. The scales were recalibrated after every weighing using pieces of lead cut to size and weighed on a microbalance. The recalibration was undertaken over a range of weights each time.
- The quality of the core was noted for each block weighed. The complete mineralised zone was weighed along with representative sections of the wall rock.
- Principal results of the SG calculations are:

#### Mineralised Zone:

Surface ironstone 2.7-3.2
Ironstone >2.1
Massive quartz 1.75-1.85
Sugary quartz 1.60-1.65

Wall rocks:



		Laterite (clay) 1.9-2.0 Porphyry 2.2-2.3  • Open File report by Electrolytic Zinc (a18217) notes that there is a
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Vertical density stratification within the ore zone.</li> <li>Follow-up drilling of the Bottle Creek Tailings Dams will be conducted so that the mineralised material may be included in the overall Bottle Creek resource update.</li> <li>A resource drilling program has recently been completed at Bottle Creek, which aimed to confirm historical drilling and provide enough confidence in the historical data to develop a resource able to be reported according to the JORC 2012 code for the remaining in-ground mineralisation at Bottle Creek. Resource estimation is currently underway.</li> <li>Further drilling beneath the VB and Boags pits will occur during the remainder of 2018.</li> </ul>