

30 July 2021

## QUARTERLY REPORT – QUARTER ENDED 30 JUNE 2021

Please find attached the Quarterly Activities Report and Appendix 5B for the three-month period ended 30 June 2021.

Yours faithfully,

**Simon Youds**  
**Executive Chairman**  
**Cauldron Energy Limited**

### ABN

22 102 912 783

### Address

Unit 47,  
Level 1  
1008 Wellington Street  
WEST PERTH WA 6005

PO BOX 1024  
West Leederville WA 6007

### ASX Code

CXU

### Securities on Issue

451,999,512 shares  
6,833,395 Options (*exercise price: \$0.03; expiry 31 Dec 2021*)  
16,666,666 Options (*exercise price: \$0.03; expiry 31 Mar 2022*)  
10,000,000 Unlisted Options (*exercise: \$0.03; expiry 16-Sep-22*)  
6,000,000 Unlisted Options (*exercise: \$0.05; expiry 16-Sep-23*)  
9,000,000 Performance Rights (*expiring 10 August 2025*)

### Board of Directors

Simon Youds  
Executive Chairman

Jess Oram  
Non-Executive Director

Qiu Derong  
Non-executive Director

Judy Li  
Non-executive Director

Chenchong Zhou  
Non-executive Director

Michael Fry  
CFO/Company Secretary

## **HIGHLIGHTS**

### **EXPLORATION & PROJECTS**

#### **Blackwood Gold Project**

##### **During this Quarter**

- In late-June, Cauldron received the final consent it requires to access existing underground infrastructure for exploration and drilling of high priority targets at Blackwood;
- In early July, Cauldron finalized terms of engagement with its preferred drilling contractor with works expected to commence in mid-August following establishment of site operations and mobilization of personnel and equipment to site.
- Also in early July, Cauldron appointed Mark Burdett, a highly experienced and technically accomplished geologist, specialising in structural geology to manage and guide the upcoming underground drill program at Blackwood.

##### **Future Activities**

- The current proposed plan/timing of further work is as follows:
  - Mobilisation of personnel and equipment
  - Establishment of site operations
  - Commencement of underground sampling and drilling in accordance with approval.

##### **Background**

- The Blackwood Goldfield project is located southeast of Daylesford, in the highly prospective Central Victorian Goldfields that surround Ballarat.
- The Blackwood Goldfield Project covers an area of about 24 km<sup>2</sup> and secures the most significant portion of the historic Blackwood Goldfield.
- From 1864 to 1960 the Blackwood Goldfield produced about 218,000 ounces of gold<sup>1</sup>.
- Vendor of Blackwood Goldfield Project has spent 25 years consolidating the leases of the project area, providing a great opportunity for systematic exploration and development for the first time in recent history.
- Multiple high-priority targets identified with plans prepared for immediate testing.

#### **WA Sands Project**

##### **During this Quarter**

- The acquisition is partially complete, with ownership of four of the eight licences transferred to Cauldron to date.
- In June 2021, ownership of four sought-after river mouth sand licences (EL08/2328, EL08/2329 and EL08/2462 and miscellaneous licence L08/71) located at the mouth of the Ashburton River in Onslow were transferred to Cauldron.
- An appeal by the project vendor in relation to its application for Mining Lease Application 09/150, located at the mouth of the Gascoyne River at Carnarvon, being determined invalid is ongoing.
- Proceedings also remain ongoing against Cauldron, the project vendor, the Mining Registrar and the WA Minister for Mines, Industry Regulation and Safety with respect to Mining Lease 08/487, located at the mouth of the Ashburton River in Onslow, where a third party is opposing the transfer of Mining Lease 08/487 to Cauldron.

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<sup>1</sup> **Source:** Report titled “The Gold Mines of Blackwood” prepared by Erik Norum, Consultant Geologist, August 2018

- The project vendor and the Company have agreed that if the legal proceedings in relation to either MLA09/150 or ML08/487 are not concluded in favour of Cauldron or the project vendor, that they may consider an adjustment to the consideration or a replacement of the tenement(s).
- Cauldron has conducted sampling and physical characterisation studies of sand material from the Onslow and Carnarvon exploration licences and will release the results when they become available.
- During the quarter, progress was made on the establishment of a concrete manufacturing business with an agreement reached with Kuuwa Rentals Pty Ltd to lease its T4 Sami Mobile Concrete Batching Plant, capable of producing a range of high strength quality concrete products. Contemporaneously, Cauldron signed an initial one-year property lease with Traditional Owner, BTAC, in Onslow's industrial zone to house the Mobile Concrete Batching Plant.

#### Background

- In late December 2020, Cauldron announced the acquisition of a 100% ownership interest in a number of river sand tenements located at the mouths of the Carnarvon, Onslow and Derby rivers in Western Australia, collectively covering an area of about 286 km<sup>2</sup>.
- Sand is the most consumed natural resource on the planet besides water and by far the largest globally mined commodity. It is estimated that over 40 billion tonnes of aggregate (sand and gravel) is consumed annually<sup>2</sup>.
- The demand for construction sand, found in the beds, banks and riverplains of rivers, as well as in lakes and on the seashore, is significant and likely to outstrip supply in years to come.
- High quality silica sand is a key ingredient in the manufacture of cement. The river mouth sand licences acquired by Globe are expected to contain high quality silica sand suitable for cement production.

### **Yanrey Uranium Project**

#### During this Quarter

- Apart from minor recent activity at the Company's Flagstaff tenement (E08/3088), development work remains suspended pending a change in government support for mining of uranium in Western Australia.
- Uranium spot price finished the quarter higher at US\$32.23/lb (31 March 2021: US\$30.94/lb) but has since declined and is currently trading at US\$28.85/lb as at the date of this report (*Source: Trading Economics*)

#### Future Activities

- Respot to complete the passive seismic data collection at Flagstaff
- Cauldron will incorporate the passive seismic data into the exploration model and consider follow-up work

#### Background

- Yanrey is prospective for large sedimentary-hosted uranium deposits and is host to the Bennet Well Uranium Deposit.
- The Bennet Well Uranium Deposit is comprised of four spatially separate deposits; Bennet Well East, Bennet Well Central, Bennet Well South and Bennet Well Channel.
- The Mineral Resource (JORC 2012) estimate is:
  - Inferred Resource: 16.9 Mt at 335 ppm eU<sub>3</sub>O<sub>8</sub> for total contained uranium-oxide of 12.5 Mlb (5,670 t) at 150 ppm cut-off;
  - Indicated Resource: 21.9 Mt at 375 ppm eU<sub>3</sub>O<sub>8</sub> for total contained uranium-oxide of 18.1 Mlb (8,230 t) at 150 ppm cut-off;
  - total combined Mineral Resource: 38.9 Mt at 360 ppm eU<sub>3</sub>O<sub>8</sub>, for total contained uranium-oxide of 30.9 Mlb (13,990 t) at 150 ppm cut-off.

<sup>2</sup> **Source:** "Why the world is running out of Sand" BBC article dated 18 November 2019, author Vince Beiser

- Cauldron has not completed any work on the mineralisation since the Mineral Resource was published in 2015.
- The mineralisation at Bennet Well is a shallow accumulation of uranium hosted in unconsolidated sands close to surface (less than 100 m downhole depth) in Cretaceous sedimentary units of the North Carnarvon Basin.

### Project Generation

- Cauldron remains vigilant to new project opportunities that complement the Company's project portfolio, are value accretive and have the potential to provide early cash flow.
- Shareholders will be informed of key developments if and when they occur.

### Corporate

- During the quarter Ms Ash Rao, who has wide-ranging experience across gold and uranium mineral systems across three continents, was appointed Exploration Manager to oversee Cauldron's Blackwood Gold Project and Yanrey Uranium Project, replacing Jess Oram who has resigned after ~7 years with CXU in an executive capacity to join Paladin Energy in the role of General Manager Exploration. Mr Oram will continue as a non-executive director.
- During May, Mr Simon Youds was promoted to the position of Executive Chairman. Mr Youds has a long history with Cauldron, having served as Manager of Operations from June 2012 until February 2016, and as Non-Executive Chair of the board of directors since 15 March 2019. In being promoted to Executive Chair, Mr Youds will be directly responsible for the Company's sand project interests, with the objective of advancing the project interests into a cash generating business unit of the Company.
- On 1 June 2021, the Company issued 4,000,000 FPO Shares in consideration for the four river mouth sand licences (EL08/2328, EL08/2329 and EL08/2462 and miscellaneous licence L08/71) located at the mouth of the Ashburton River in Onslow which were transferred to Cauldron by the Project vendor.

### Cash Position

- As at the date of this report, Cauldron has circa \$911k cash at bank (30 June 2021: \$375k).
- Post 30 June 2021, the Company has divested (in part) a portfolio of shares it held in other ASX listed entities realising ~\$820k. Post these divestments, the Company still retains a portfolio of shares in other ASX listed entities valued at approximately \$1.8 million as at the date of this report.
- The Company can continue to divest (in part or all) of its portfolio of shares in other ASX listed entities to meet short to medium term cash requirements.

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Cauldron Energy Ltd (**Cauldron** or the **Company**) is pleased to present its Quarterly Activities Report for the period ended 30 June 2021.

### EXPLORATION ACTIVITIES: AUSTRALIA

In Australia, Cauldron holds a 51% joint venture interest in the Blackwood Gold Project located south-east of Daylesford, in the highly prospective Central Victorian Goldfields that surround Ballarat.

In December 2020, Cauldron announced the acquisition of a 100% ownership interest in a number of river sand leases located at the mouths of the Carnarvon, Onslow and Derby rivers in Western Australia, collectively covering an area of about 286 km<sup>2</sup>. As at the date of this report, the acquisition is partially complete, with ownership of four of the eight licences having transferred to Cauldron. For further information refer following.

In addition, Cauldron owns the **Yanrey Project (Yanrey)** consisting of 12 granted exploration licences for a total project area of 1,270 km<sup>2</sup> in Western Australia. Yanrey is prospective for large sedimentary-hosted uranium deposits and is host to the Bennet Well Uranium Deposit.

## BLACKWOOD GOLD PROJECT

From 1864 to 1960 the Blackwood Goldfield produced about 218,000 ounces of gold from orogenic gold sources (199,000 ounces) and from placer sources (19,000 ounces).<sup>3</sup> Gold was won from surface down to a depth of 100 m below ground level, with very little mining activity below a depth of 150 m. The Sultan mine is the deepest in the goldfield with production levels at 230 m below ground surface and its shaft reaching 274 m, and still in pay.

For detailed information on the Blackwood Gold Project and historical work performed refer Appendix B.

### Work Completed During Reporting Period

In late June, Cauldron received consent from Melbourne Water being the last remaining consent/approval required to access existing underground infrastructure at Blackwood for the purposes of exploration and drilling of high priority targets.

Melbourne Water's consent follows approval from Victoria's Earth Resource Regulation (ERR) Department in March 2021 for Cauldron's program of work to target modelled high-grade plunges below the Sultana, Sultan and North Sultan shafts utilising existing underground infrastructure, see figure below.

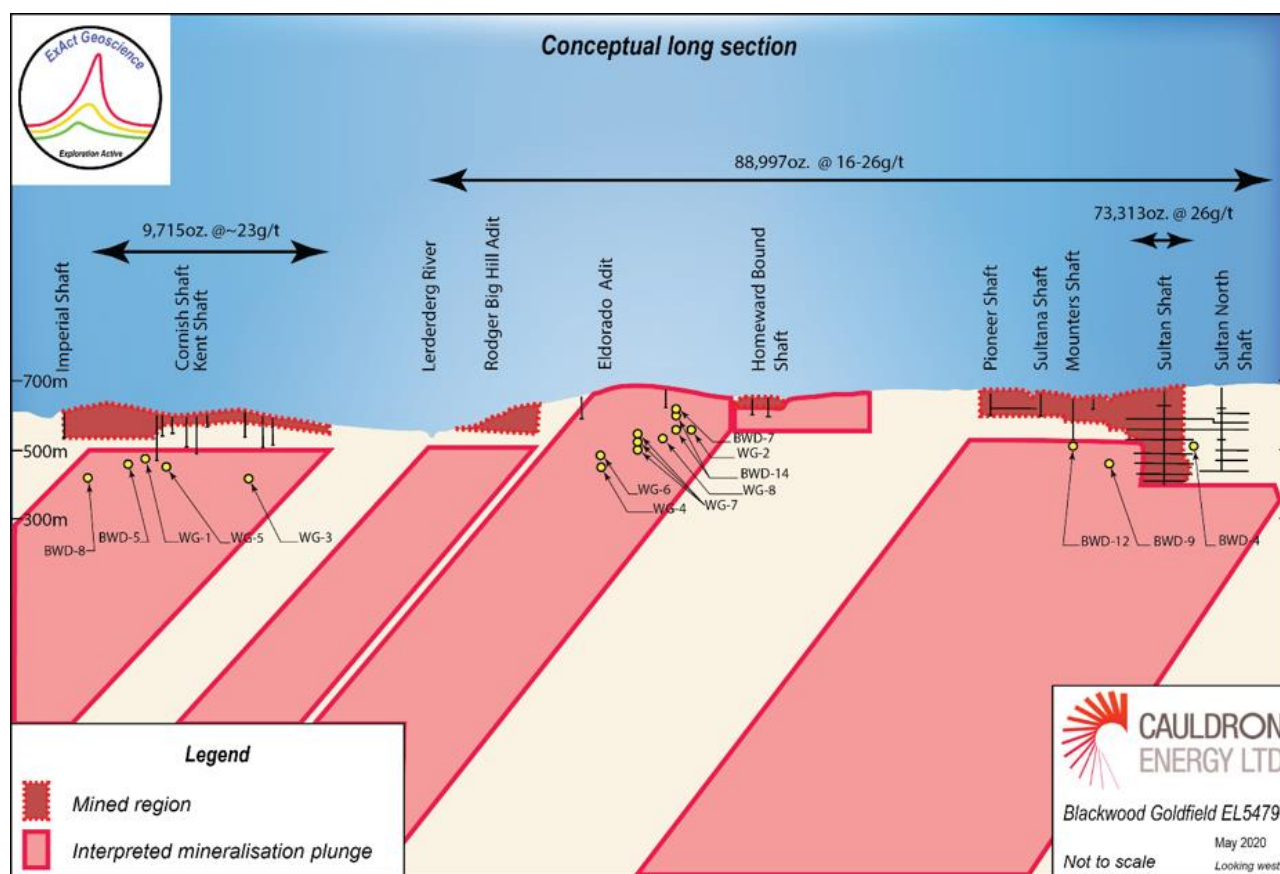


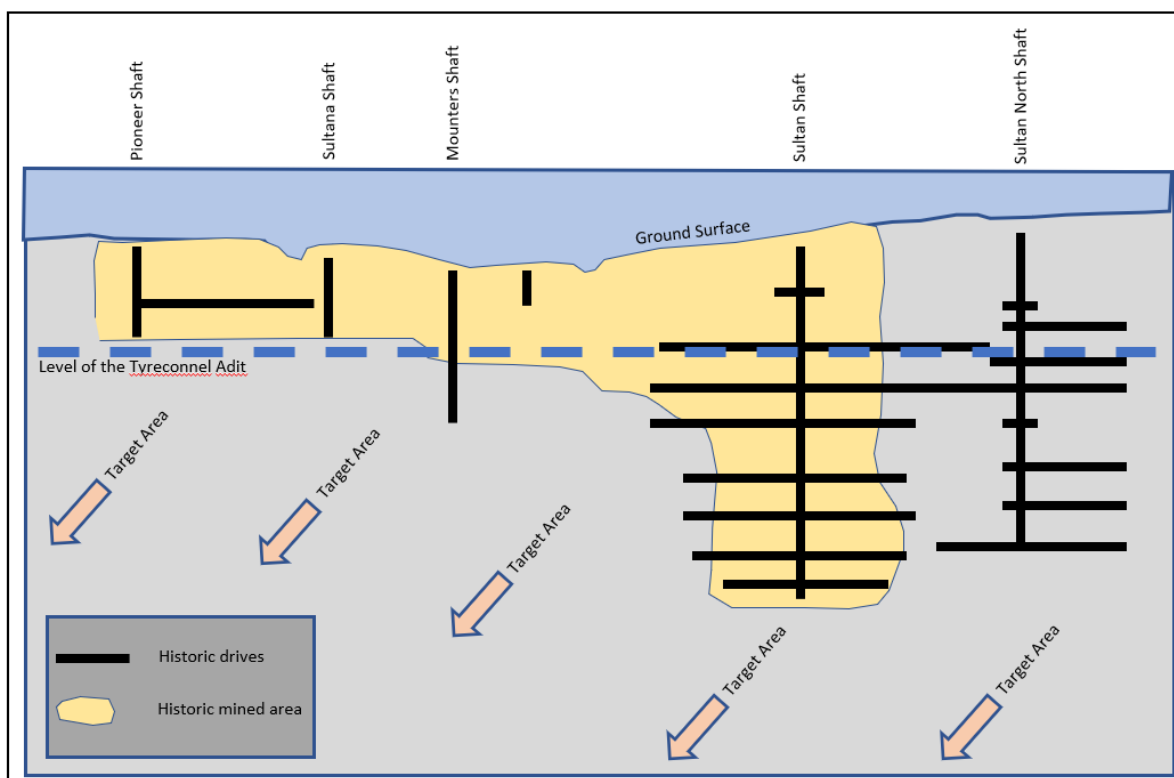
Figure 1: SN Long Section showing historical shafts & production

The Company intends to use the Tyreconnel Adit and drive as a drill access point to target the modelled deeper high-grade plunges (refer Figure 1); with no impact on surface.

The walk-in tunnel system can also be used to structurally map and sample the multiple reef structures identified from historical activities (refer Figure 2 over).

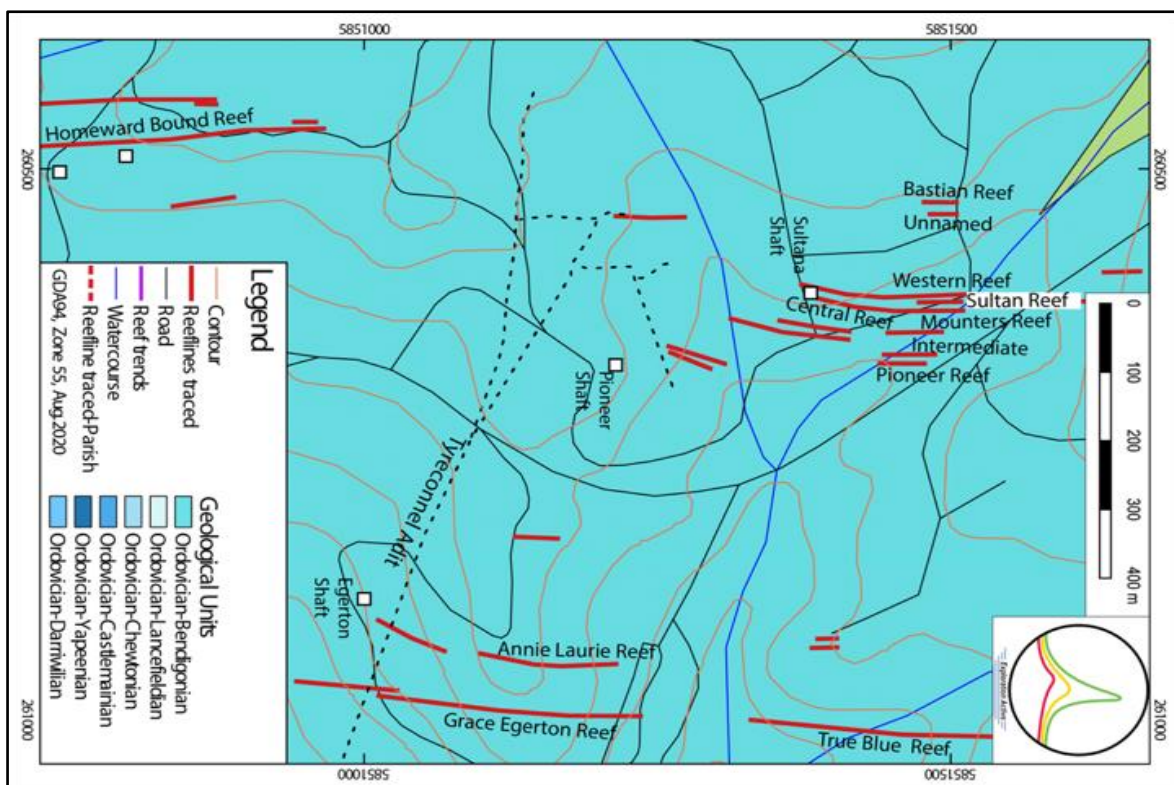
<sup>3</sup> **Source:** Report titled "The Gold Mines of Blackwood" prepared by Erik Norum, Consultant Geologist, August 2018





**Figure 2; the walk-in Tyreconnel adit accesses under Pioneer and Mounters shafts allowing access for bulk sampling and multiple short drill opportunities into the predicted high-grade reefs underfoot.**

This drive also allows physical access to the key northern shaft areas of Pioneer and Mounters which were stopped by lack of pumping technology. Accessing these areas for sampling grows the geological understanding but may also open up the area for potential production without significant time or cost.



**Figure 3: Parallel lode structures untested by drilling**

Also during the quarter, Cauldron's team of exploration specialists and experienced mining personnel visited site for the purpose of organising logistics for the approved exploration program, which will involve the mobilisation of equipment and experienced personnel to re-establish access to the network of more than 1.5km of tunnels.



**Figure 4: Pictures of the Tyreconnel Adit and inside the drive**

Whilst at site, Cauldron undertook community engagement programs aimed at outlining Cauldron's work approach and objectives.

As part of Cauldron's community consultation, Cauldron outlined its commitment to achieving net zero carbon emissions at its Blackwood Goldfield Project during exploration and mining phases, in the event that exploration activities prove-up viable mineralisation.

In order to achieve this, Cauldron's vision at Blackwood is to combine the best of traditional and modern mining methods. The invention of the airleg sprung from the district in the late 1800's, a handheld narrow vein mining system using compressed air. This traditional mining method can be combined with modern battery driven transport systems to reduce carbon emissions to the environment. The aspiration driving this mining system is to be a low carbon using 'green' mine with the advantage of mining lesser but better tonnes at higher cut off grades (should the development work allow mining lower mass for higher grade).

The Company plans to bring miners experienced in the older handheld rail and shaft mining systems to help achieve this more environmentally sensitive mining approach. The high-grade bonanza type mineralisation found historically at Blackwood lends itself to this mining system, because it reduces the dilution of ore by waste material and lessens the requirement to use a highly mechanised style of mining. The small-scale handheld mining techniques will be used to open access for drilling, mapping and sampling.

Post the end of the quarter, in early July, Cauldron finalized terms of engagement with its preferred drilling contractor, Core Prospecting Pty Limited of Heathcote Victoria, with works expected to commence in mid-August (subject to lifting of COVID-19 restrictions which have already caused delay) following establishment of site operations and mobilization of personnel and equipment to site.

Core Prospecting has a successful history of performing underground drilling services at a number of historical mines in the Victorian Goldfields in line with the Company's goals of using mining access created by historic miners and traditional mining methods.

Also in early July, Cauldron appointed Mark Burdett, a highly experienced and technically accomplished economic geologist, specialising in structural geology to manage and guide the upcoming underground drill program at Blackwood. Mark's title is Chief Exploration Geologist for the Blackwood Gold Project.

The regional and prospect scale structural mapping projects Mark has led in the past is exactly the skillset Cauldron requires to identify and target the high-grade plunges downdip from the historical production from the Blackwood Project 'line of lode', the reef system that extends over 3.5 km in length.

Mark joins Stewart Govett, a geologist with a specialised local knowledge in the Victorian Goldfields under the overarching guidance given by Asha Rao overall as Exploration Manager (refer to ASX announcement date 1 July 2021). Stuart has compiled the historic data and generated the initial targeting information

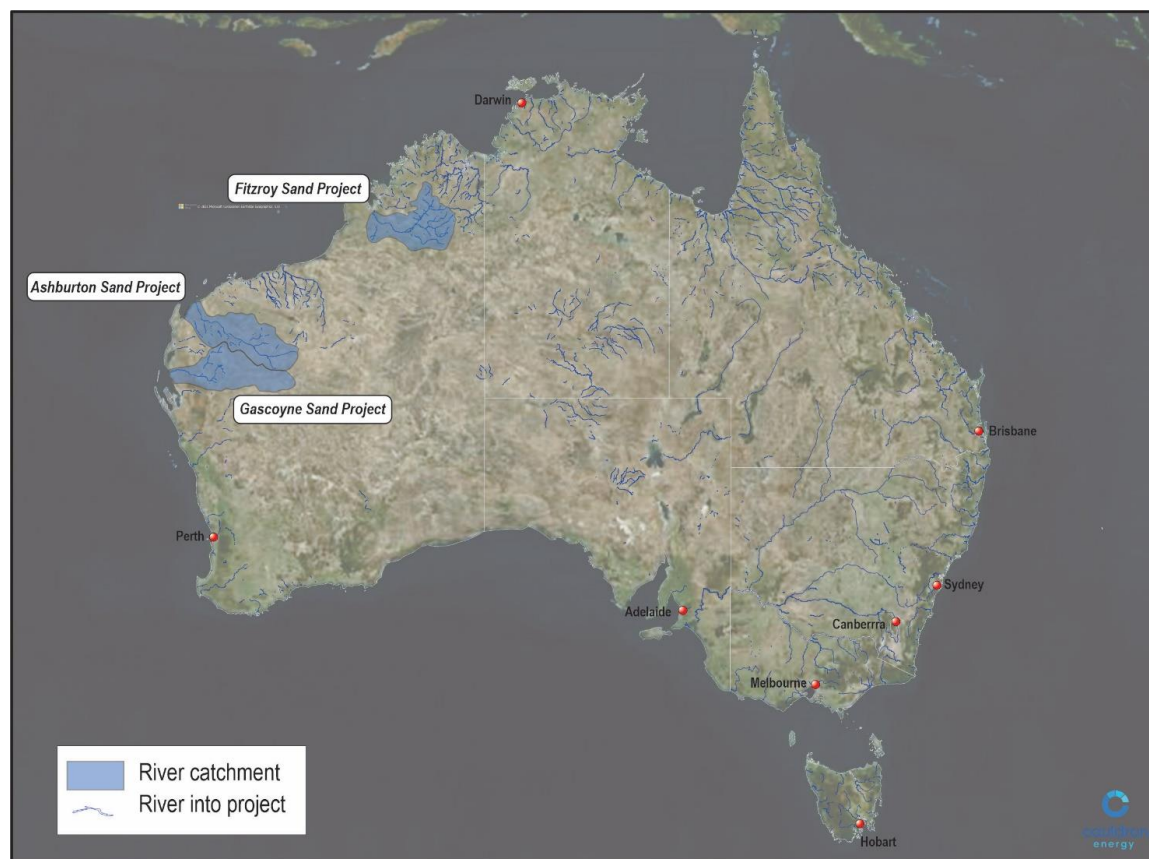
(refer to ASX announcement dated 31 August 2021). Mark's inclusion into the Cauldron team will help assemble the pieces on this exciting gold exploration puzzle.

## **WA SANDS PROJECT**

In December 2020, Cauldron announced it had entered into a sale and purchase agreement (**SPA**) to acquire full ownership of a number of river sand leases covering substantial portions of three of the largest river systems crossing the coast in central to northern Western Australia. The licences cover the mouths of the Fitzroy River at Derby, the Ashburton River at Onslow and the Gascoyne River at Carnarvon, with each prospective for sand suitable for the construction and reclamation industries.

Sand is the most consumed natural resource on the planet besides water and by far the largest globally mined commodity. It is estimated that over 50 million tonnes of aggregate (sand and gravel) is consumed annually.

The Fitzroy, Ashburton River and Gascoyne rivers drain a huge area of granitic rocks commencing from its respective headwater all the way to the project area, being the mouth of the river (refer to Figure 5). Every time there is a flooding event somewhere in the catchment area, sand is deposited into the project area, replenishing the supply of sand and re-establishing the river mouth in its original a pristine condition. Some river mouths are being 'swamped' from flooding events, with excessive sand build-up preventing the use of high value infrastructure facilities, which adversely affect the economies of these regional economies.



**Figure 5: Cauldron River Sands Project - Catchment Area draining into the project area at river mouth**

Cauldron expects to benefit from its 'first mover status' and having early participation in a global growth industry. Global usage of construction sand is estimated to be ten times that of global bulk coal and forty times bulk iron ore (refer ASX announcement 23rd December 2020) with nearly all of the sand used in making concrete in southeast Asia being imported.



## Acquisition Status

The acquisition of the licences is partially complete as at the date of this report, with ownership of four of the eight licences having transferred to Cauldron.

The Project vendors have received a total of 8,000,000 fully paid shares (out of a total of 20,000,000 fully paid shares agreed) in Cauldron in respect of the tenements transferred to date. The balance of 12,000,000 fully paid shares in Cauldron will be issued to the Project vendors once all of the licences are transferred to Cauldron. In addition, the Project vendors are entitled to certain Production Payments and Royalties as set in the Company's ASX announcement of 22 December 2020.

Cauldron notes that one of the Tenements being acquired, being Mining Lease Application 09/150, is listed as "dead" on the register maintained by the Department of Mines, Industry Regulation and Safety of Western Australia. Cauldron identified this fact as part of its due diligence conducted prior to entering into the agreement. The recording of MLA09/150 as "dead" follows a decision in the Western Australian Supreme Court in the case *Onslow Resources Ltd v The Minister for Mines and Petroleum* [2020] WASC 310, in which the Justice determined that the application for ML09/150 was invalid. Onslow Resources Limited is presently appealing this decision, as is its right. As at the date of this report a decision is yet to be handed down.

In addition, Cauldron notes that with respect to Mining Lease 08/487, that on 22 January 2021 proceedings were commenced against Quarry Park Pty Ltd, the Mining Registrar, the WA Minister for Mines and Petroleum and the Company in relation to the validity of ML08/487. As at the date of this report a decision is yet to be handed down in relation to this matter.

Neither MLA09/150 or ML08/487 is considered material to the overall transaction and Cauldron has and will proceed with the acquisition of the remaining Tenements whether or not each, or both, are ultimately included. If either is excluded the parties are agreed that they will consider an adjustment to the consideration to be paid, or a replacement of either of the tenements.

For detailed information on the WA Sands Project and historical work performed refer Appendix C.

## Work Completed During Reporting Period

On 1 June 2021, Cauldron announced that it had completed the acquisition of four sought-after river mouth sand licences (EL08/2328, EL08/2329 and EL08/2462 and miscellaneous licence L08/71) located at the mouth of the Ashburton River in Onslow (see Figure 6) following DMIRS registration of the transfer of ownership to Cauldron.

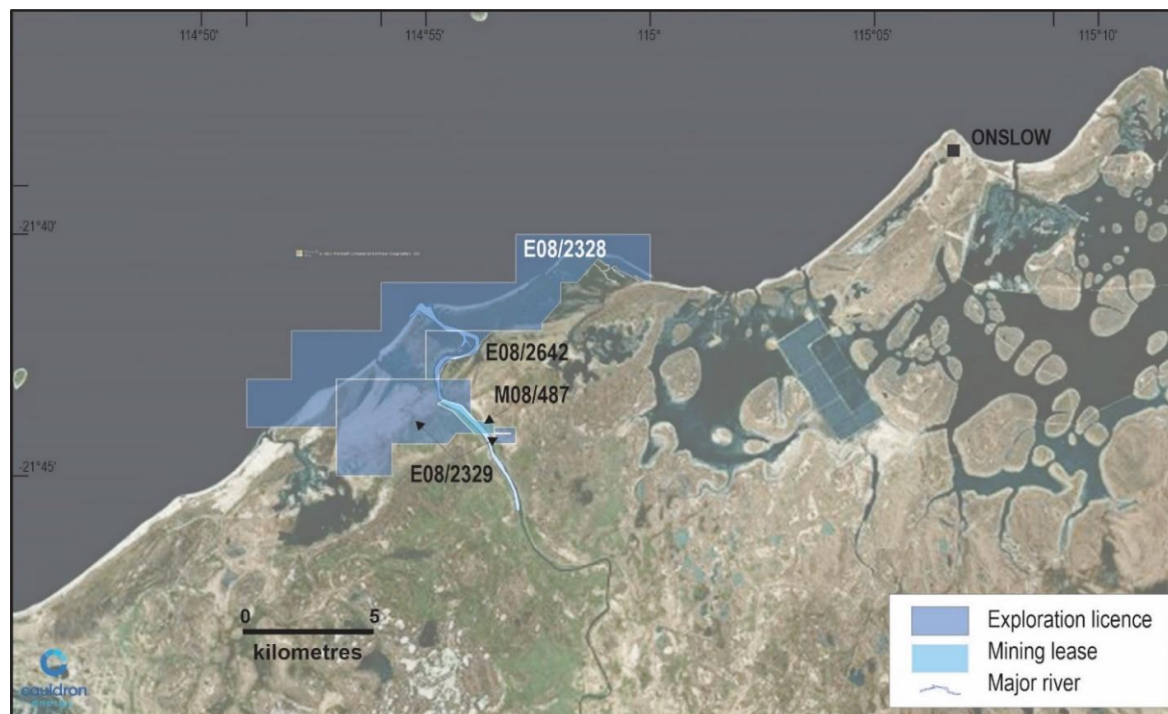


Figure 6: Ashburton River Sand Project – Mining Title (image courtesy of Bing)

The licences are considered highly prospective for sand to be used in the construction and reclamation industries.

In anticipation of the transfer of ownership of the licences to Cauldron, work has commenced on the establishment of a concrete manufacturing business with an agreement reached with Kuuwa Rentals Pty Ltd to lease its T4 Sami Mobile Concrete Batching Plant, capable of producing a range of high strength quality concrete products. Contemporaneously, Cauldron signed an initial one-year property lease with Traditional Owner, BTAC, in Onslow's industrial zone to house the Mobile Concrete Batching Plant.



**Image 1: T4 Sami Mobile Concrete Batching Plant, Lot 697 Cornish Way, Onslow**

Kuuwa is a hire company based in Onslow having majority ownership by the Buurabalayji Thalanyji Aboriginal Corporation (BTAC). Cauldron plans to further its commercial relationship with Kuuwa by hiring equipment required to operate the plant, following Shire approval. The region is expected to experience an uplift in investment activity from resource companies supporting the two significant off-shore gas projects owned by BHP and Chevron. Cauldron views these as potential markets for concrete sales once the plant has been re-commissioned.

The high summer and autumn temperatures limit effective transport distance of high-quality concrete. Many of the potential projects, currently in planning, require delivery of concrete outside the effective trucking distance from the town of Onslow. The CBP is mobile allowing the facility to be moved to any project site which is expected to commence construction.

The partnership between Kuuwa and Cauldron is a demonstration of Cauldron's commitment to develop the economic interests of the local community. The Company's green low carbon focus can also be explored with 'green concrete' where cement potentially can be partially or completely replaced with alternative commodities with similar pozzalenic properties but without its carbon footprint.

## **YANREY PROJECT**

The Yanrey Project comprises a collection of 12 exploration tenements in northwest Western Australia, one of which secures the Bennet Well Uranium Deposit.

The mineralisation at Bennet Well is a shallow accumulation of uranium hosted in unconsolidated sands (less than 100 m downhole depth) in Cretaceous sedimentary units of the North Carnarvon Basin.

The project is prospective of sandstone-style uranium mineralisation capable of extraction by in-situ recovery mining techniques.

For detailed information on the Yanrey Project and historical work performed including the Bennett Well Resource refer Appendix A.

### ***Work Completed During Reporting Period***

No work was conducted during the current quarter.

In the previous quarter, Cauldron commenced a passive seismic program at its Flagstaff tenement that abuts the western boundary of the tenement that hosts the Bennet Well deposit. Flagstaff was ending its first year of tenure during the March quarter and the work enabled the Company to achieve its minimum statutory expenditure commitment. The fieldwork was abandoned on encountering extremely wet conditions following the heavy rainfall received in the area. It was hoped that the data collection of the passive seismic program would be completed this quarter but weather did not permit and as such the remainder of the program will be completed as soon as the ground dries.

## **URANIUM PRICE INFORMATION**

Uranium does not trade on an open market like other commodities. Buyers and sellers negotiate contracts privately. Prices are published by independent market consultants.

According to Trading Economics, the uranium spot price has firmed marginally from US\$30.94/lb (at 31 March 2021) to close at US\$32.23/lb (on 30 June 2021), and has since remained relatively steady around the US\$32.50/lb level and is currently trading at US\$32.45/Lb as at the date of this report. (Source: *Trading Economics*).

Analysts remain positive about the price outlook in the medium term; with supply expected to experience further tightening and increasing commentary around uranium as a clean energy source and alternative to the burning of fossil fuels.

## **EXPLORATION ACTIVITIES: ARGENTINA**

No work was completed in Argentina. The tenements remain suspended by the local authorities, and the Company is considering its options.

## **EXPLORATION COSTS (ALL PROJECTS) FOR THE QUARTER**

In accordance with the requirements of ASX Listing Rule 5.3.1 the Company advises that during the quarter, the Company expended \$336k on exploration related items (including salaries). The major cost areas were Salaries: \$58k, Consultants: \$117k; Rents (Department of Mines) and rates: \$41k; accommodation, flights, travel expenses: \$8k, legal expenses in relation to the WA Sands Project: \$105k and miscellaneous items \$7k.

In addition, the Company incurred ~\$86k in relation to stamp duty in respect of the WA Sands Project.

## **PROJECT GENERATION**

As a direct result of the current state government of Western Australia being opposed to uranium mining in Western Australia, field operations at the Yanrey Project have been suspended with the exception of work conducted at Flagstaff (E08/3088), a tenement ending its first year of tenure, and tenements in the north of the entire group. As a consequence, over the past twelve months, considerable effort and resources have been directed at seeking advanced exploration projects in commodities other than uranium, to diversify the company's project portfolio. This culminated in the acquisition of the Blackwood Gold Project and the WA Sands Project.

Despite the recent acquisitions, and a relatively complete and diverse range of projects, Cauldron will remain vigilant to new project opportunities that complement the Company's project portfolio, are value accretive and have the potential to provide early cash flow.

## **CHANGES IN OWNERSHIP INTERESTS OF MINERAL TENEMENTS**

In accordance with the requirements of ASX Listing Rule 5.3.3 the Company confirms that no tenements (including beneficial interests in tenements) were acquired, disposed or lapsed during the quarter.

## **SCHEDULE OF MINERAL TENEMENTS**

Refer Appendix D.

## **CORPORATE**

### **Appointment of Ms Asha Rao as Exploration Manager**

On 1 July 2021, Cauldron announced the appointment of Ms Asha Rao as full-time Exploration Manager, with Asha to commence employment with Cauldron on 1 September 2021. Ms Rao has broad experience in both gold and uranium mineralisation across Canada, Australia and Africa and specific experience in relation to in-situ recovery (ISR) of uranium.

Miss Asha Rao is a geologist with sixteen years of experience in the minerals industry, having worked in uranium and gold mineral systems in a wide range of geological terranes, countries and resource companies. Her geological experience is broad-based, ranging from early-stage, 'grass-roots' exploration through to 'brownfields', pre-production work. Asha has a proven technical ability in identifying new exploration targets, with a passion for geology, challenging concepts and ideas, and employing innovation to unravel the intricacies of mineral deposits.

Miss Rao has a Master of Earth Science (MESci Hons) Geology degree from the University of Liverpool, United Kingdom, and is a member of both the Australasian Institute for Mining and Metallurgy (AusIMM) and Australian Institute of Geoscientists (AIG).

### **Resignation of Mr Jess Oram as Executive of Cauldron**

After nearly seven years, Jess Oram has elected to resign his executive role with Cauldron in order to join Paladin Energy in the role of General Manager Exploration. It was important that Mr Oram's knowledge and understanding of Cauldron's projects not be lost and the Company is pleased that Mr Oram will continue as a non-executive director to mentor and transfer specific Project knowledge to Asha Rao and to a lesser extent Mark Burdett.

### **Share Issue**

On 1 June 2021, Cauldron issued 4,000,000 fully paid ordinary shares to the WA Sands Project vendor pursuant to the terms of the acquisition and pursuant to shareholder approval granted on 29 January 2021.



## RELATED PARTY PAYMENT INFORMATION

In accordance with the requirements of ASX Listing Rule 5.3.5 the Company advises that during the quarter ended 30 June 2021 the following payments were made to directors of the Company and their associates:

	\$
Executive Chairman	60,000
Executive Director	58,309
<b>Total</b>	<b>118,309</b>

Notes:

- (1) Fees paid to Mr Simon Youds (Executive Chairman) during the quarter comprised director fees of \$12,000 plus consultancy fees of \$48,000; and
- (2) Fees paid to Mr Jess Oram (Executive Director) were in respect of salary and inclusive of superannuation.

## AUTHORISATION FOR RELEASE

This report has been authorised for release by the Company's Executive Chairman, Simon Youds.

**End**

For further information, visit [www.cauldronenergy.com.au](http://www.cauldronenergy.com.au) or contact:

Cauldron Energy Limited

Ph: (08) 6117 3860

## Competent Person Statements

### Exploration Results

The information in this report that relates to exploration results for the **Blackwood Gold Project** is extracted from reports released to the Australian Securities Exchange (ASX) on 31 August 2020 titled "Victoria's Blackwood - Cauldron's Golden Opportunity", on 15 March 2021 titled "Blackwood Goldfield Project Update", on 25 June 2021 titled "Green Light for Exploration at Blackwood", on 5 July 2021 titled "Blackwood Gold Project Update – Drilling Contractor Engaged" and on 12 July 2021 titled "Highly Experienced Geologist joins Blackwood Team" and are available to view at [www.cauldronenergy.com.au](http://www.cauldronenergy.com.au) and for which Competent Persons' consents were obtained. Each Competent Person's consent remains in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The Company confirms that is not aware of any new information or data that materially affects the information included in the original ASX announcements released on 31 August 2020, 15 March 2021, 25 June 2021, 5 July 2021 and 12 July 2021.

The information in this report that relates to exploration results for the **Western Australian Sands Project** is extracted from reports released to the Australian Securities Exchange (ASX) on 23 December 2020 titled "Cauldron to Acquire River Sand Interests", on 9 February 2021 titled "Company Update – WA Sands Project" and on 1 June 2021 titled "Cauldron cements position in Ashburton Sand Project" and are available to view at [www.cauldronenergy.com.au](http://www.cauldronenergy.com.au) and for which Competent Persons' consents were obtained. Each Competent Person's consent remains in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The Company confirms that is not aware of any new information or data that materially affects the information included in the original ASX announcements released on 23 December 2020, 9 February 2021 and 1 June 2021.

## **Mineral Resource Estimates**

The information in this report that relates to Mineral Resources for the Bennett Well Deposit is extracted from a report released to the Australian Securities Exchange (ASX) on 17 December 2015 titled "Substantial Increase in Tonnes and Grade Confirms Bennet Well as Globally Significant ISR Project" and available to view at [www.cauldronenergy.com.au](http://www.cauldronenergy.com.au) and for which Competent Persons' consents were obtained. Each Competent Person's consent remains in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The Company confirms that is not aware of any new information or data that materially affects the information included in the original ASX announcement released on 17 December 2015 and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the original ASX announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the original ASX announcement.

## **Disclaimer**

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The report has been prepared by the Company based on information available to it, including information from third parties, and has not independently verified. No representation or warranty, express or implied, is made to the fairness, accuracy or completeness of the information or opinions contained in this report.

The Company estimates its reserves and resources in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves 2012 Edition ("JORC Code"), which governs such disclosures by companies listed on the Australian Securities Exchange.

## APPENDIX A

### Bennet Well Mineral Resource

A Mineral Resource (JORC 2012) for the mineralisation at Bennet Well was completed by Ravensgate Mining Industry Consultants (Ravensgate) in 2015 and is based on information compiled by Mr Jess Oram, Executive Director of Cauldron Energy and Mr Stephen Hyland, who was a Principal Consultant of Ravensgate. Mr Oram is a Member of the Australasian Institute of Geoscientists and Mr Hyland is a Fellow of the Australasian Institute of Mining and Metallurgy.

The mineralisation at Bennet Well is a shallow accumulation of uranium hosted in unconsolidated sands close to surface (less than 100 m downhole depth) in Cretaceous sedimentary units of the Ashburton Embayment.

The Bennet Well deposit is comprised of four spatially separate deposits; namely Bennet Well East, Bennet Well Central, Bennet Well South and Bennet Well Channel.

The Mineral Resource (JORC 2012) estimate is:

- Inferred Resource: 16.9 Mt at 335 ppm eU<sub>3</sub>O<sub>8</sub> for total contained uranium-oxide of 12.5 Mlb (5,670 t) at 150 ppm cut-off;
- Indicated Resource: 21.9 Mt at 375 ppm eU<sub>3</sub>O<sub>8</sub> for total contained uranium-oxide of 18.1 Mlb (8,230 t) at 150 ppm cut-off;
- total combined Mineral Resource: 38.9 Mt at 360 ppm eU<sub>3</sub>O<sub>8</sub>, for total contained uranium-oxide of 30.9 Mlb (13,990 t) at 150 ppm cut-off.

**Table 1: Mineral Resource (JORC 2012) at various cut-off**

Deposit	Cutoff (ppm eU <sub>3</sub> O <sub>8</sub> )	Deposit Mass (t)	Deposit Grade (ppm eU <sub>3</sub> O <sub>8</sub> )	Mass U <sub>3</sub> O <sub>8</sub> (kg)	Mass U <sub>3</sub> O <sub>8</sub> (lbs)
Bennet Well_Total	125	39,207,000	355	13,920,000	30,700,000
<b>Bennet Well_Total</b>	<b>150</b>	<b>38,871,000</b>	<b>360</b>	<b>13,990,000</b>	<b>30,900,000</b>
Bennet Well_Total	175	36,205,000	375	13,580,000	29,900,000
Bennet Well_Total	200	34,205,000	385	13,170,000	29,000,000
Bennet Well_Total	250	26,484,000	430	11,390,000	25,100,000
Bennet Well_Total	300	19,310,000	490	9,460,000	20,900,000
Bennet Well_Total	400	10,157,000	620	6,300,000	13,900,000
Bennet Well_Total	500	6,494,000	715	4,640,000	10,200,000
Bennet Well_Total	800	1,206,000	1175	1,420,000	3,100,000

Deposit	Cutoff (ppm U <sub>3</sub> O <sub>8</sub> )	Deposit Mass (t)	Deposit Grade (ppm U <sub>3</sub> O <sub>8</sub> )	Mass U <sub>3</sub> O <sub>8</sub> (kg)	Mass U <sub>3</sub> O <sub>8</sub> (lbs)
BenWell_Indicated	125	22,028,000	375	8,260,000	18,200,000
<b>BenWell_Indicated</b>	<b>150</b>	<b>21,939,000</b>	<b>375</b>	<b>8,230,000</b>	<b>18,100,000</b>
BenWell_Indicated	175	21,732,000	380	8,260,000	18,200,000
BenWell_Indicated	200	20,916,000	385	8,050,000	17,800,000
BenWell_Indicated	250	17,404,000	415	7,220,000	15,900,000
BenWell_Indicated	300	13,044,000	465	6,070,000	13,400,000
BenWell_Indicated	400	7,421,000	560	4,160,000	9,200,000
BenWell_Indicated	500	4,496,000	635	2,850,000	6,300,000
BenWell_Indicated	800	353,000	910	320,000	700,000

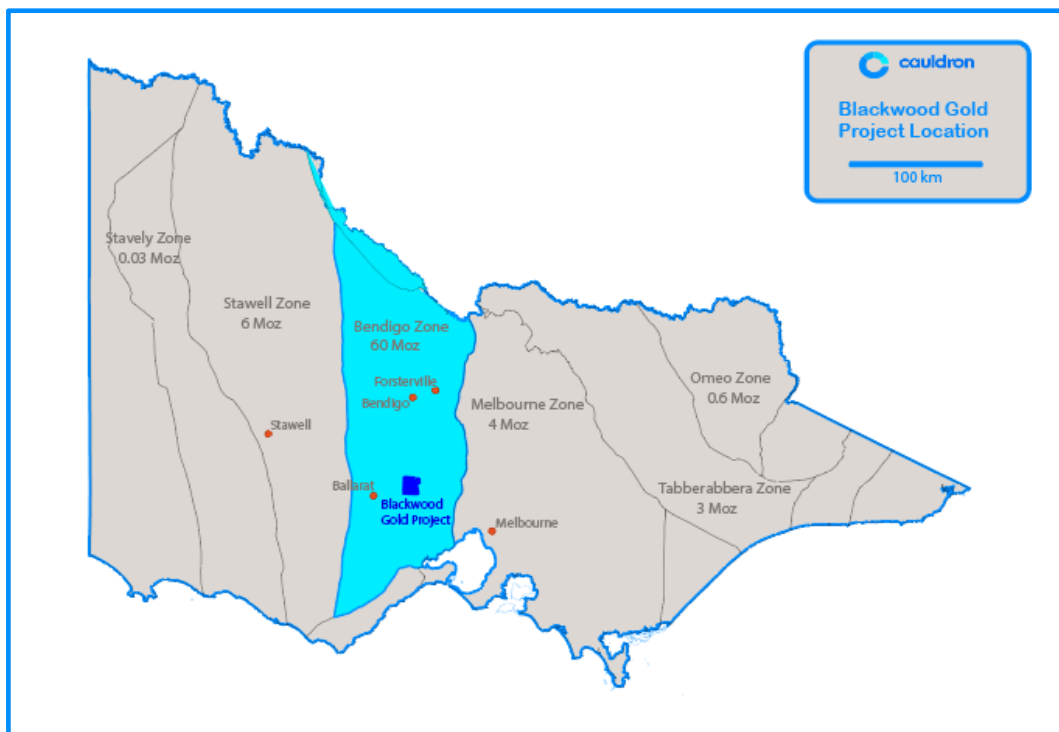
Deposit	Cutoff (ppm U <sub>3</sub> O <sub>8</sub> )	Deposit Mass (t)	Deposit Grade (ppm U <sub>3</sub> O <sub>8</sub> )	Mass U <sub>3</sub> O <sub>8</sub> (kg)	Mass U <sub>3</sub> O <sub>8</sub> (lbs)
BenWell_Inferred	125	17,179,000	335	5,750,000	12,700,000
<b>BenWell_Inferred</b>	<b>150</b>	<b>16,932,000</b>	<b>335</b>	<b>5,670,000</b>	<b>12,500,000</b>
BenWell_Inferred	175	14,474,000	365	5,280,000	11,600,000
BenWell_Inferred	200	13,288,000	380	5,050,000	11,100,000
BenWell_Inferred	250	9,080,000	455	4,130,000	9,100,000
BenWell_Inferred	300	6,266,000	535	3,350,000	7,400,000
BenWell_Inferred	400	2,736,000	780	2,130,000	4,700,000
BenWell_Inferred	500	1,998,000	900	1,800,000	4,000,000
BenWell_Inferred	800	853,000	1285	1,100,000	2,400,000

**Note:** table shows rounded numbers therefore units may not convert nor sum exactly

## APPENDIX B

### Blackwood Gold Project

The Blackwood Gold Project comprises Exploration Licence (EL) 5479 covering an area of 24 km<sup>2</sup> located in central Victoria, 40 km east-northeast of Ballarat.



**Figure 1; Blackwood Gold Project – Location Map; Victorian structural zone with historic gold production (modified after GeoVic3); Blackwood and Bullarto South tenements shown in dark blue.**

The Exploration Licence is granted and in good standing with a licence expiry date of 23 March 2024.

Cauldron has an existing 51% joint venture ownership with stepped rights to earn-in to an initial level of 65% and then up to 80% ownership, following the achievement of certain milestones, as follows: CXU to earn 65% of the joint venture following achievement of a Mineral Resource (JORC 2012) containing at least 300,000 ounces of gold; CXU has a further right to earn-in to 80% ownership of the joint venture following the mining production of gold at a rate of at least 10,000 ounces per annum.

The Project is centred on the Sultan Mine which historically produced a little over 73,000 ounces of gold at an average grade of 28 g/t. In addition, the project contains in excess of 250 underground workings; with the largest known producers shown in Table 1, which follows.

**Table 1: Gold production various reef sources in Blackwood Goldfield**

Mine	Worked Depth [m]	Ore Mined [t]	Gold Produced [oz]	Grade [g/t Au]
North Sultan	243		620	
Sultan	231	82,000	73,310	28
Sultana	61		1,530	
Mounters	134	19,070	9,910	16
Homeward Bound	20		450	
Bog Hill	62		3,180	
Annie Laurie	76		270	
Grace Edgerton	62	1,090	2,850	80
British Lion			1,100	

**Source:** Report titled "The Gold Mines of Blackwood" prepared by Erik Norum, Consultant Geologist, August 2018

Note: total reported production in this table is over 93,000 ounces for the larger producers; over 190,000 ounces for field



Most mining activity on reef structures in the goldfield halted at shallow depths. Cessation of mining in many cases was not due to depletion of mineralisation but to other factors such as inability to cope with high ground water flows in the underground workings or inability to raise the capital for development work.

## Geology and Mineralisation of the Victorian Goldfields

The Blackwood Gold Project is located in the highly prospective Golden Triangle.

The “Golden Triangle” is a colloquial term for a highly productive central portion the Victorian gold province, contains the Bendigo (>22.4 million ounces of gold production), Ballarat (>13.1 million ounces of gold production), Castlemaine (>4.2 million ounces of gold production) and Stawell goldfields (>2.6 million ounces of gold production)<sup>4</sup>.

The central portion of the Victorian gold province, one of the world’s most productive and until recently, largely forgotten gold producing areas, accounting for more than 2% of world gold production and 30% of Australian gold production since 1850.

The geology of Victoria is split into twelve distinct zones, each having a distinct stratigraphic, structural and lithological style. Of these zones, the Ballarat (mustard colours), Melbourne (blue colours) and Stawell zones (mauve colours) are historically the most productive for gold (refer to Figure 3).

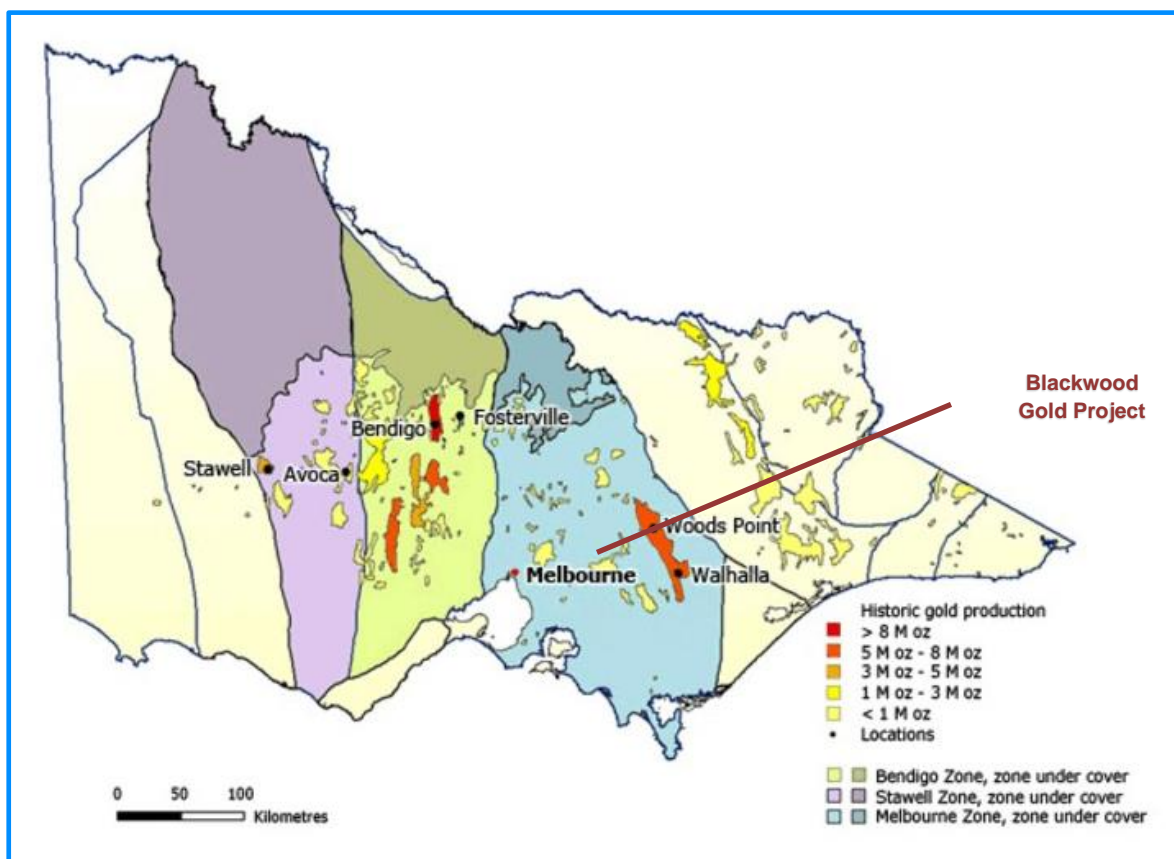


Figure 2; Victorian geological zones with goldfield coloured by production (GeoVic3)

Gold mineralisation is associated with quartz hosted by tightly folded monotonous fine-grained sedimentary rock sequences (interbedded sandstone and siltstone becoming slate). The folds have upright geometry with trends that are oriented north-south. As folding developed the sequence ‘locked-up’ causing differential tension in the deforming and shortening rock sequence. Faulting released the built-up stresses leading the development of zones of weakness having some specific geometry relative to the north-south trending folds. Of the range of fault sets that develop on this ‘locking up’ folded geometry, the high angle reverse fault has a major influence on the development of mineralisation.

<sup>4</sup> **Source:** Department of Earth Resources, Victoria website: [www.earthresources.vic.gov.au/geology-exploration/minerals/metals/gold](http://www.earthresources.vic.gov.au/geology-exploration/minerals/metals/gold)

The combination of folding and faulting of certain geometry allowed dilational openings which localised the deposition of quartz, gold and minor sulphide mineralisation (refer to Figure 4). This process occurred over the regional area causing much of the lode-style mineralisation now known in the Victoria gold province.

Three-dimensional modelling of the Barrys Reef workings (Turner 2019) including the eastern reefs of Annie Laurie and Grace Egerton, as well as the Sultana-Mounters group leads to the following conclusions:

1. Gold-quartz structures are formed by interaction of faults that are sub-parallel to bedding, but when encountering a change in bedding orientation will refract with possible dilation.

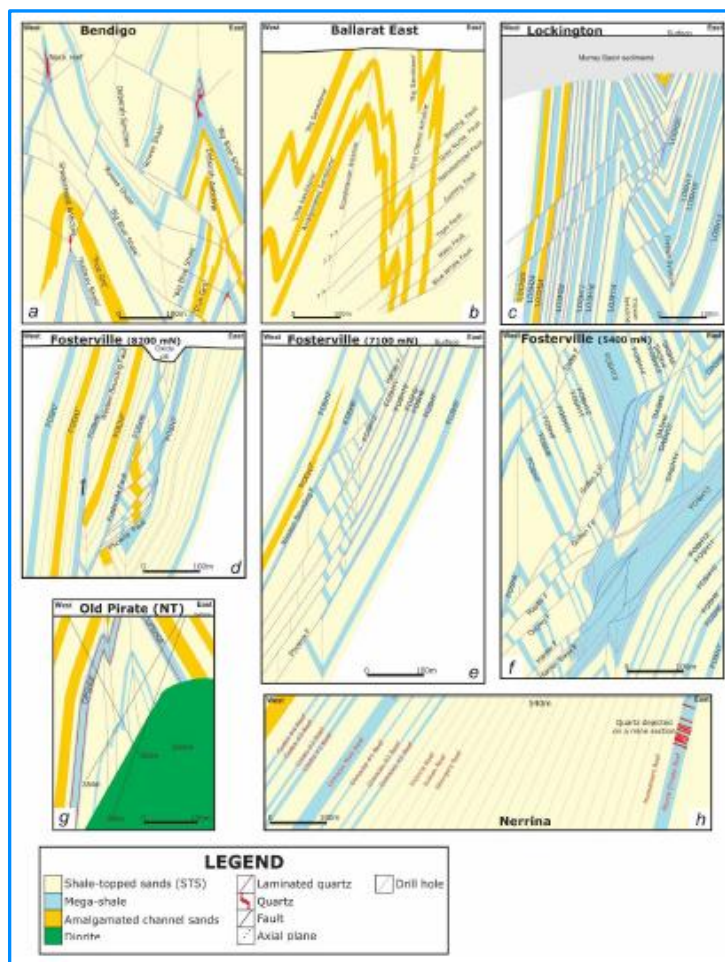


Figure 4; Typical fault intersections with folded sediments in Victoria (Boucher 2017)

2. Mineralised shoots may be controlled by the intersection of faults with bedding, some high-angle reverse faults refract as they pass through changes in competency of host rocks.
3. Reef structures are not always associated with anticlines or synclines.
4. Gold shoots plunge towards the south and dip towards the west; the vertical historic shafts markedly diverged from the shoots with increasing depth and quickly undershot the lode.

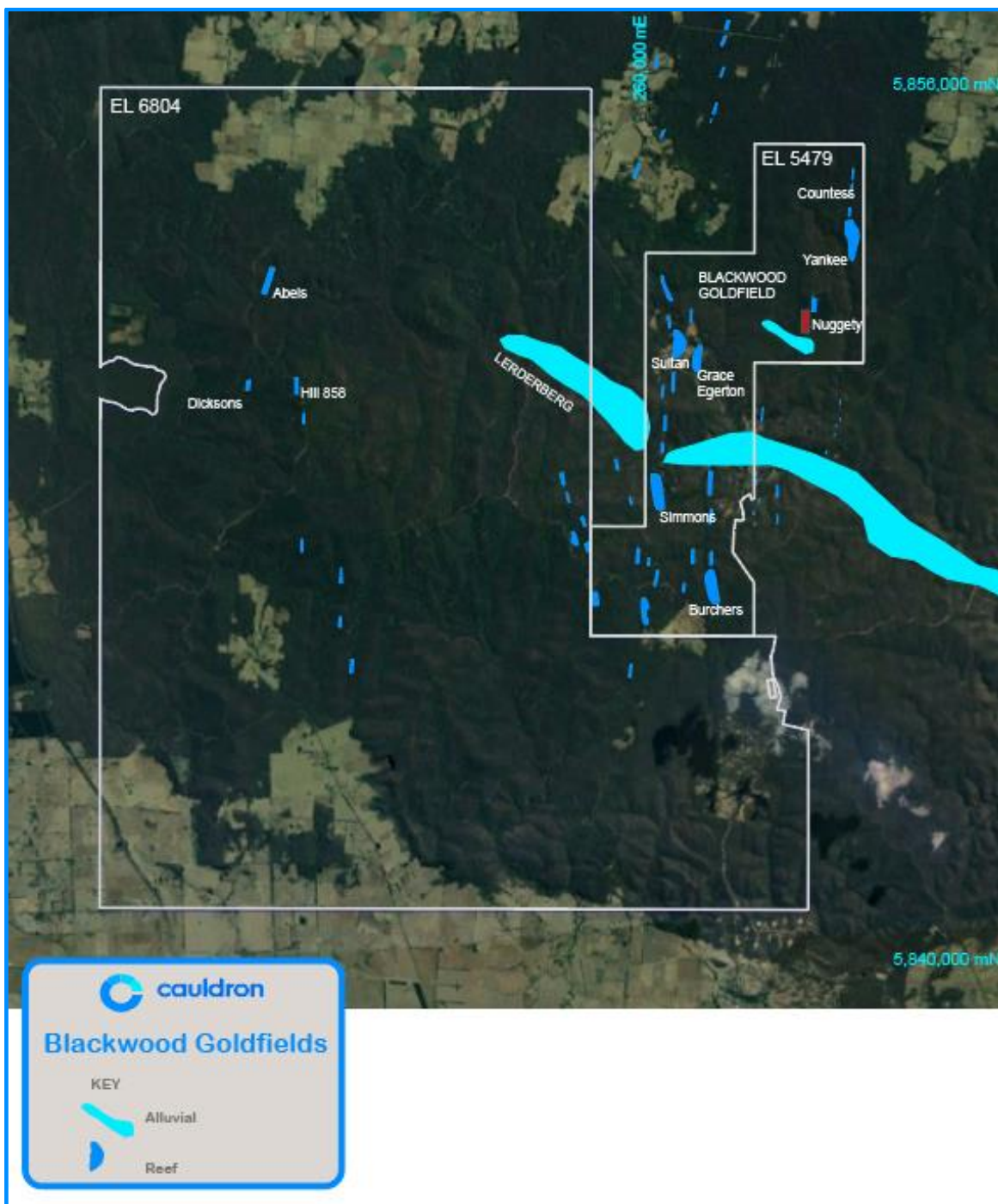
These learnings will be used in drill targeting lode structures after compiling underground mapping data and assays.

### Historical Exploration and Mining Activities

The discovery of gold at Red Hill (near Blackwood) in 1855, led to a rush of prospectors to the goldfields. It is reported that at the peak of mining activity, there were about 13,000 miners along the Lerderberg River and its tributaries.

Alluvial mining quickly gave way to underground hard-rock mining of gold-rich quartz reef structures. More than 90% of the gold produced from the Blackwood goldfields came from the hard rock source.

The largely forgotten Blackwood Goldfield produced significant gold (220,000 ounces pre-1890 from near surface historic mining, with great potential for large tonnage high grade gold, down-plunge and along strike of workings, most less than 100 m below surface.



**Figure 2; Prospect location map and mines of Blackwood Goldfields; blue points show location of mine sites; dark blue denotes location of gold reefs; light blue denotes location of alluvial gold field; image from Google Earth. EL5479 is 51% owned; EL6804 is under application and subject to heads of agreement to acquire 100%**

There is a cluster of mines along parallel but stepped reef structures around the Sultan Mine, including Central, Mounters, Intermediate, Pioneer, Homeward Bound, Western, Edgerton, and Annie Laurie, refer Figure 2, 3 and 4. Often each of these lodes were owned and operated by different companies. The well-capitalised Sultan mine having the deepest workings effectively dewatered the workings of the adjacent mines. When pumping halted at Sultan the adjacent mines lacked the ability to keep their workings dry and ceased operations when their mines flooded. The operations ceased because of flooding as distinct to depletion of ore reserve.



Historical exploration work in the area of the exploration licences includes mineral resource definition drilling, completion of mineral resource estimates (not compliant with JORC 2012 reporting standards), mapping and soil sampling, costeaning and drilling.

Cauldron and independent researchers associated with the vendor has completed a desktop study with preliminary fieldwork and has identified highly prospective target areas for gold mineralisation in the Project area. There is potential for near-term production of gold ore from the mining lease at Nuggety. In addition, there is strong potential for down-dip extensions to mineralisation at Sultan, Barrys Reef East and Yankee, with ability to expand the Target Range and define a Mineral Resource (JORC 2012) of considerable size.

### Work Completed by Cauldron

Work to date has been primarily focussed on the compilation and review of historical data.

On 31 August 2020, the Company released preliminary results upon which it had determined that the Blackwood has the potential to host multiple high-grade gold systems and that there exists within the Project field a near contiguous 3.5km long trend of high-quality gold exploration targets.

Open file data<sup>5</sup> for historic mining demonstrates records production through the 3.5 km mineralised trend (see Figure 5 below) totalling 152,000 oz, at between 16 to 23 g/t gold grade.

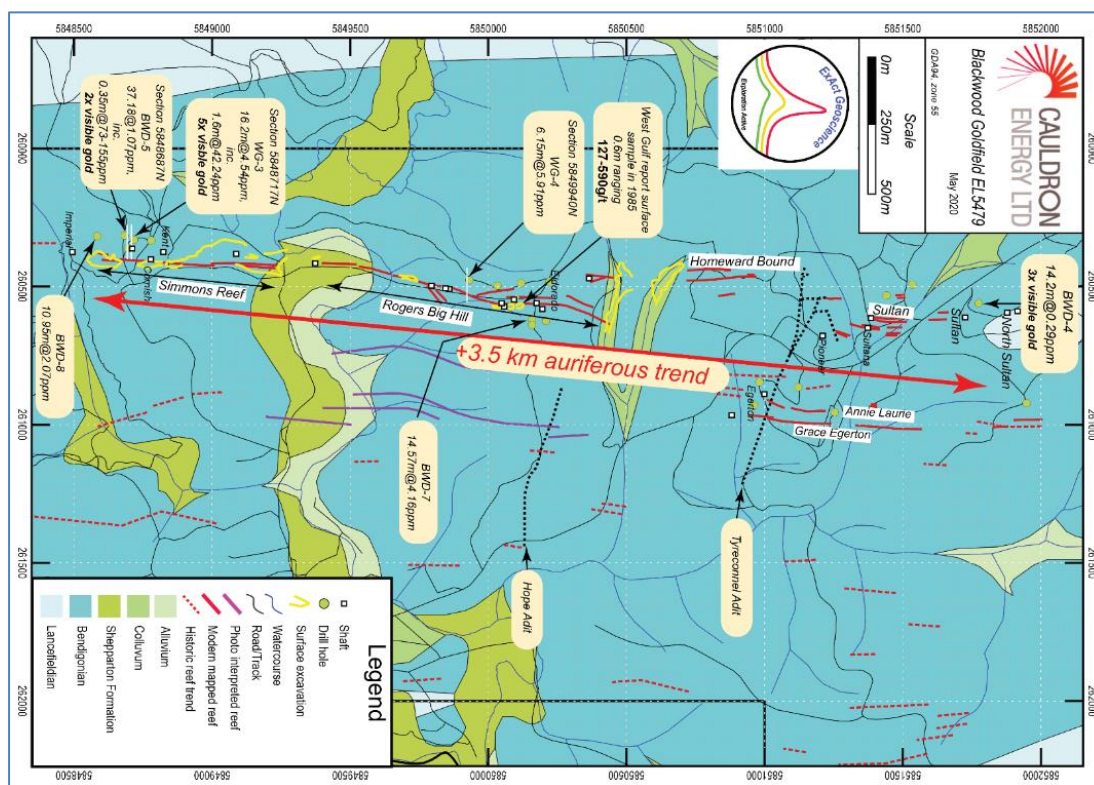


Figure 5; Mine scale geology and prospect map, significant drilling intercepts with historic mining activity

Nearly half the production was made from a single mine, a large proportion of the production grade was from reefs averaging over 20 g/t gold. Drilling and historic mine production records shows these high grades occur throughout the 3.5 km gold-rich trend.

Two listed companies of the past undertook significant exploration activity at The Blackwoods Gold Project; Endeavour Resources Ltd (or "Endeavour") and Western Gulf Oil and Mining Ltd. (or "Western Gulf").

<sup>5</sup> GSV bulletin number 18, 1906.



Endeavour completed surface mapping, underground mapping and sampling, underground refurbishment of historic workings, and diamond drilling; all within the Sultan and Grace Egerton lines of workings and regional along trend exploration drilling.

### **High Grade Nuggety Gold**

Many significant gold drilling intersections for both width and grade are revealed in the historic data. Several greater than 10 m downhole intersections (BWD04, BWD05, BWD07, BWD08, WG03, WG05, and WG09) exist, with many of these having geological descriptions noting the presence of visible gold (BWD04, BWD05, and WG03). It is also significant to note that some other visible gold intersections occur with returned assays of low-grade (less than 1 g/t Au).

Given that mineralisation is nuggety and because sampling was completed on half-core sample splits, we can say that below par assays are interesting and worth following up, especially if they are on-plunge to the defining shoot.

Hole number	Length	Au assay (g/t)	Depth (m)	Explorer	Comment
BWD02	1.27	1.37	102.20	Endeavour	
BWD04	14.28	0.29	126.16	Endeavour	Incl. 4x visible gold specs
BWD05	37.18	1.07	114.34	Endeavour	Incl. 0.3 5m @ 73-155 g/t from 130.65 m and 2x visible gold specs
BWD07	3.65	2.89	64.89	Endeavour	
BWD07	14.57	4.16	83.43	Endeavour	Core loss (0.91 m) with prior interval
BWD08	10.95	2.07	132.79	Endeavour	
BWD12	1.53	5.14	96.65	Endeavour	
BWD14	7.50	1.59	187.50	Endeavour	
DDH YC6	1.50	4.60	141.50	Carpentaria	
WG01	1.60	2.40	103.45	Western Gulf	
WG01	4.27	0.21	138.10	Western Gulf	
WG02	0.55	8.99	93.40	Western Gulf	
WG03	16.2	4.54	141.25	Western Gulf	incl. 1.6 m @ 42.2 g/t and 3.8 m @ 1.98 g/t and 3x visible gold specs
WG04	6.15	5.90	142.5	Western Gulf	Incl. 0.95 m @ 17.14 g/t
WG05	10.05	0.54	121.95	Western Gulf	incl. peak value of 0.9m @ 3.84 g/t
WG07	4.80	1.17	109.00	Western Gulf	
WG07	4.55	2.10	137.35	Western Gulf	
WG08	6.95	0.67	105.55	Western Gulf	
WG09	0.90	1.61	N/A	Western Gulf	
WG09	10.35	0.56	N/A	Western Gulf	
WG09	4.00	0.45	N/A	Western Gulf	

**Table 1: Significant Blackwood diamond drilling intersections.**

The upper expectation for this nuggety style of gold mineralisation is shown by BWD05 returning a drill intercept of 0.35 m @ 73-155 g/t, and WG03 of 1.6 m @ 42.2 g/t, and by WG04 of 0.95 m @ 17.14 g/t. These drilling results were matched with core having geological descriptions noting visible gold, except for WG05.

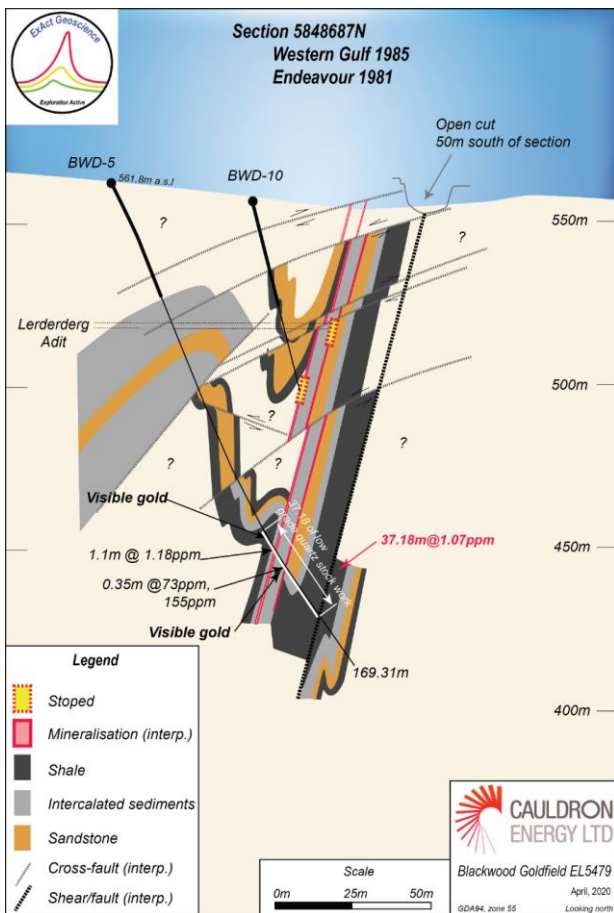
For coarse gold systems such as at Blackwood, it is often difficult to maintain assay accuracy and precision in samples assay due to the 'nuggety' behaviour of gold grains. The assay returns of BWD04, located north of the Sultan Mine, which shows low grade returns of 14.28 m @ 0.29 g/t Au (see Figure 6) but with four specs of visible gold, has the potential to be as significant as the high-grade drill intercepts referred above, and warrants follow-up.

## High Quality Exploration Targets

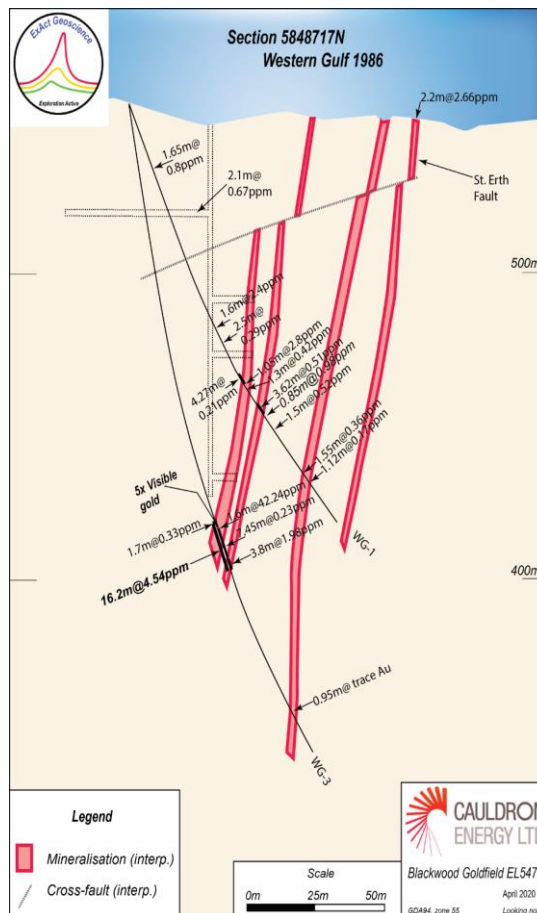
Figure 6 and Figure 7 show along trend profile in the Simmons - Rogers Big Hill - Sultan trend (refer to Figure 5).

These sections are approximately 30 m apart and indicate the true width of mineralisation in the order of 10 m with bulk gold grade likely to be well above 1 ppm (the nugget affect).

Both sections were drilled by different explorers, with visible gold noted in the geological descriptions.



**Figure 6: Interpreted cross-section for diamond drillhole BWD05**



**Figure 7: Interpreted cross-section for diamond drillhole WG03 and WG01**

The section in Figure 7 demonstrates the Rogers - Big Hill – Simmons - Sultan mineralised trend contains the potential for other mineralised structures further to the east of the main lode structure. If this is the case drillholes BWD-5 and BWD-10 will have stopped short of the eastern structures leaving them untested and viable good quality targets. The interpretation of multiple lodes at Homeward Bound and Sultan (Figure 8) also provides for untested lode structures parallel to the main vein.

Overall, there appears to be significant walk up to exploration targets of the same trend, and little exploratory greenfields exploration has been undertaken on other historically mined trends to the east.

On 23 September 2020, the Company released further results of its data compilation and review, noting that it had identified that the central area of the Project (containing the Rogers Big Hill, Eldorado and Homeward Bound prospects) had a geological system like that of Sultan to the north, which produced a little over 73,000 ounces of gold at an average grade of 28 g/t during the 1860's. In addition, it noted that the near surface gold mineralisation at Rogers Big Hill is of bonanza grade and is projecting to depth.

In that release Cauldron noted that there is a parallel stack of reefs which dip west, plunge south. The reefs are open north and south along-strike and open down-plunge towards depth, refer to the long-section of Figure 8.

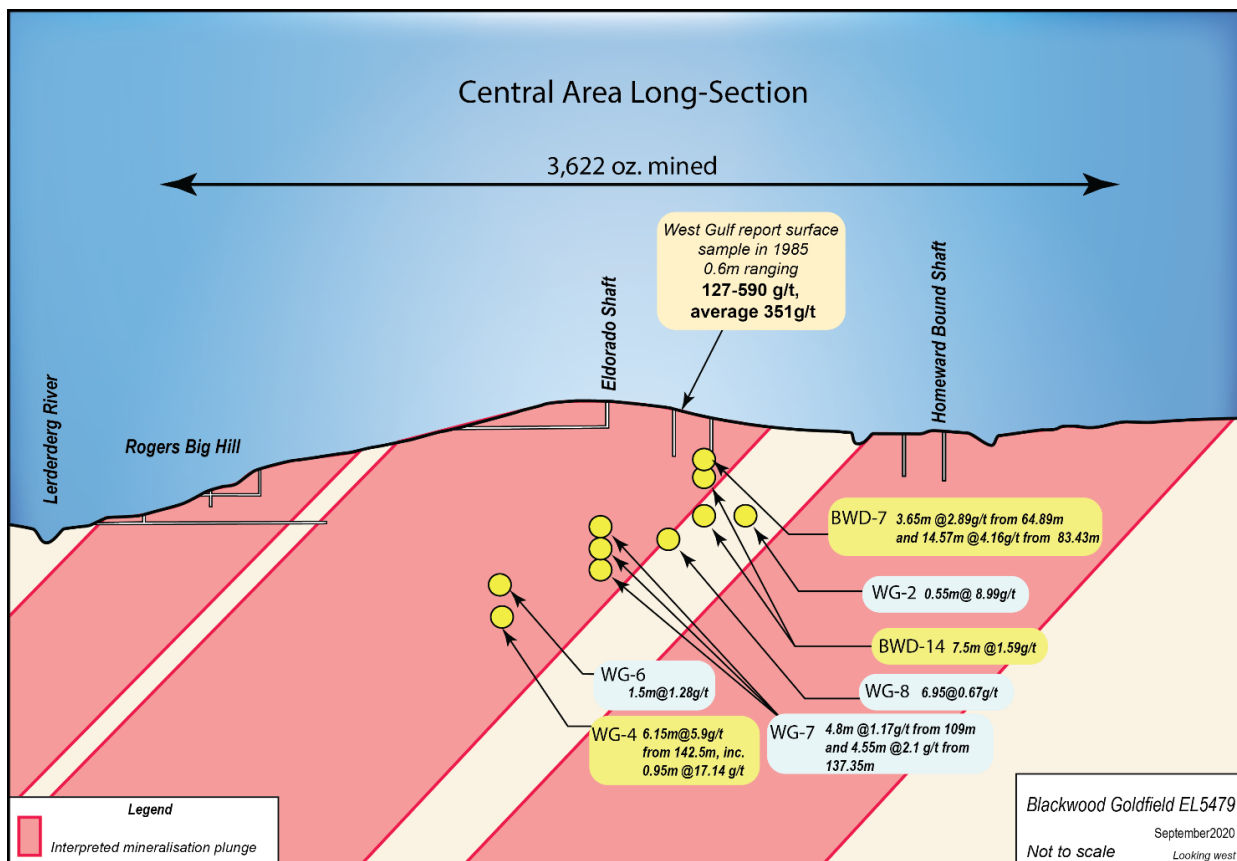
This Central area is referred to as Rogers Big Hill and comprises three historical mining zones namely; Rogers Big Hill, Eldorado and Homeward Bound, refer to Figure 8.

## Prospectivity

Rogers Big Hill is a high-quality advanced exploration prospect evidenced by its high grade and potential for extension.

The potential exists to increase Mineral Resource because the area shows a geological pattern like the Sultan (refer to ASX announcement dated 31 August 2020) where multiple parallel lodes trend in a corridor toward the north and south, reminiscent of those found elsewhere in the Victorian goldfields.

The cross-section in Figure 8 demonstrates the parallel clustering of lodes.



**Figure 8: Long-section of Central prospect area looking west, yellow point shows drilling pierce point with grade**

And the plan of Figure 9 shows the Homeward Bound line of lodes is open to the south into the Rogers Big Hill area. Given the evidence, the linear trend of these lodes can be interpreted to continue within 100 metres west of the Rogers Big Hill lodes.

This exploration target stands alongside the potential provided by the Sultan lines-of-lode to the north and Simmons lines-of-lode to the south.

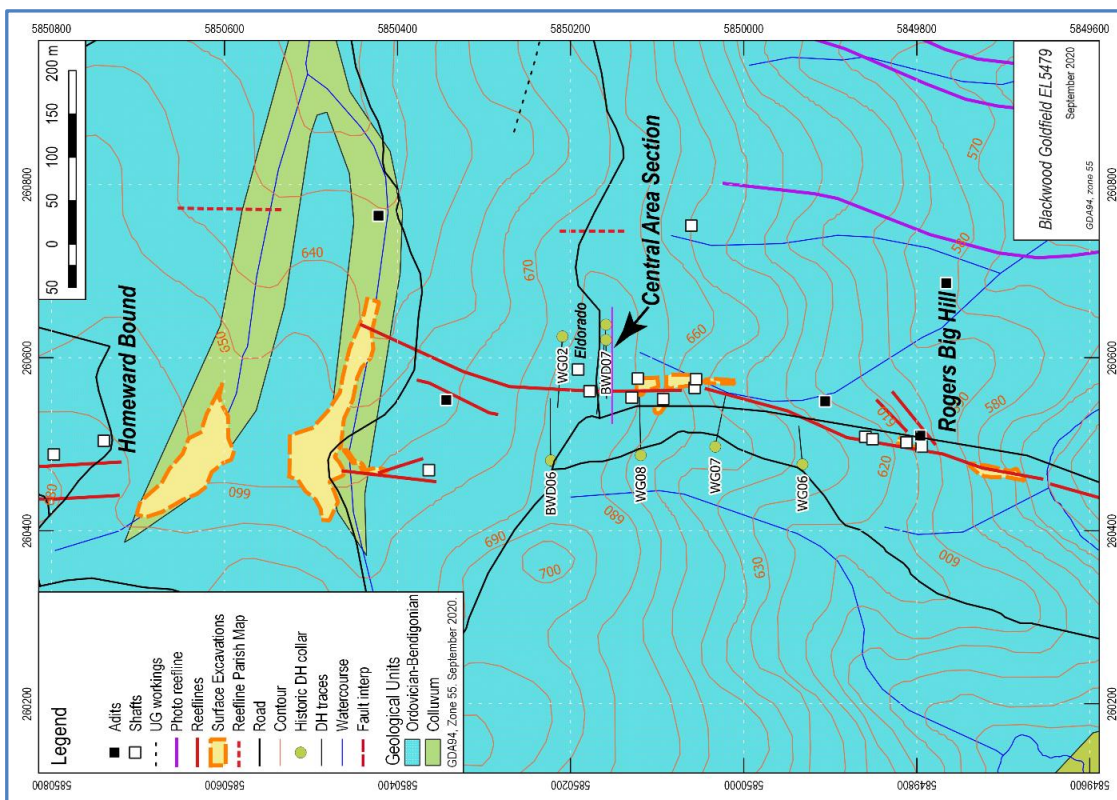


Figure 9: Plan view of Central prospect areas containing Cross-Section N5850158 (refer to Figure 4)



## APPENDIX C

### WA Sands Project

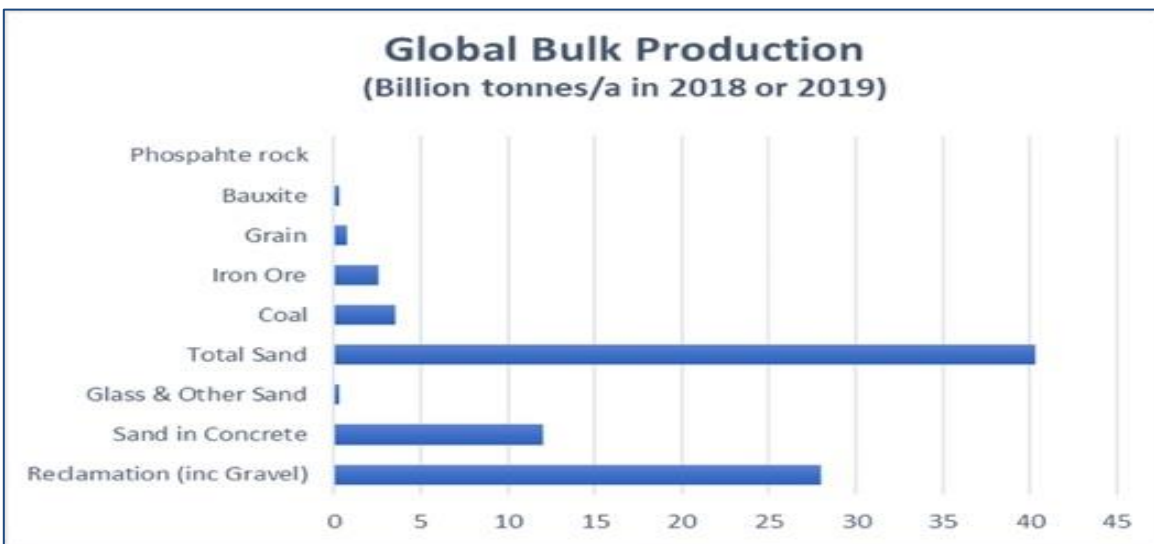
Cauldron has secured and is in the process of transferring a mining lease and several exploration licences located on three of the largest river systems crossing the coast in central to northern Western Australia. These licences cover the mouths of the Fitzroy River at Derby, the Ashburton River at Onslow and the Gascoyne River at Carnarvon.

The Fitzroy, Ashburton and Gascoyne rivers drain a huge area of granitic rocks commencing from its respective headwater all the way to the project area, being the mouth of the river (refer to Figure 2). Every time there is a flooding event somewhere in the catchment area, sand is deposited into the project area, replenishing the supply of sand and re-establishing the river mouth in its original a pristine condition. Some river mouths are being 'swamped' from flooding events, with excessive sand build-up preventing the use of high value infrastructure facilities, which adversely affect the economies of these regional economies.



**Map 1: Cauldron River Sands Project - Catchment Area draining into the project area at river mouth**

## Sand as a Resource Bulk Commodity



**Figure 1:** Estimated Global Annual Bulk Commodity Production in billion tonnes (2018/2019)[Source CXU]

Sand is by far the largest globally mined commodity (refer Figure 1), outstripping the shipments of coal, iron ore and grain. Sand is not traded on any recognised exchange, but the United Nations (UN) estimates 40 billion tonnes of sand<sup>6</sup> is mined globally each year. Putting this in context, the next largest bulk commodity, in terms of tonnage moved, is coal at about 3.5 billion tonnes in 2018 (International Energy Agency, IEA).

The global sand market however lacks transparency and due to localised demand and supply relationships has attracted the activities of organised crime gangs in some countries.

The consumption of sand in the developing world is voracious. Sand or silica dioxide ( $\text{SiO}_2$ ) has in terms of bulk tonnage three main uses. By far, the largest bulk commodity use is in land reclamation and island building, followed by use in the manufacture of concrete. There are increasingly valuable uses for sand or silica in glass manufacture or specialised glass like phone screens for which the cost per tonne exceed USD\$1000/tonne. The total usages for this third 'minor' tonnage is about 300Mt or 0.3 billion tonnes per annum globally. This represents the target area for most silica sand miners as the high value, high margin products capable of absorbing high processing and transport costs.

The graph above (refer **Figure 1**) shows the massive tonnage difference estimated for the two major uses (28 Bt/a & 12 Bt/a) in comparison with the higher value Glass and specialised uses. For perspective the other main global bulk commodities annual usage is graphed for comparison. (Refer **Figure 1**)

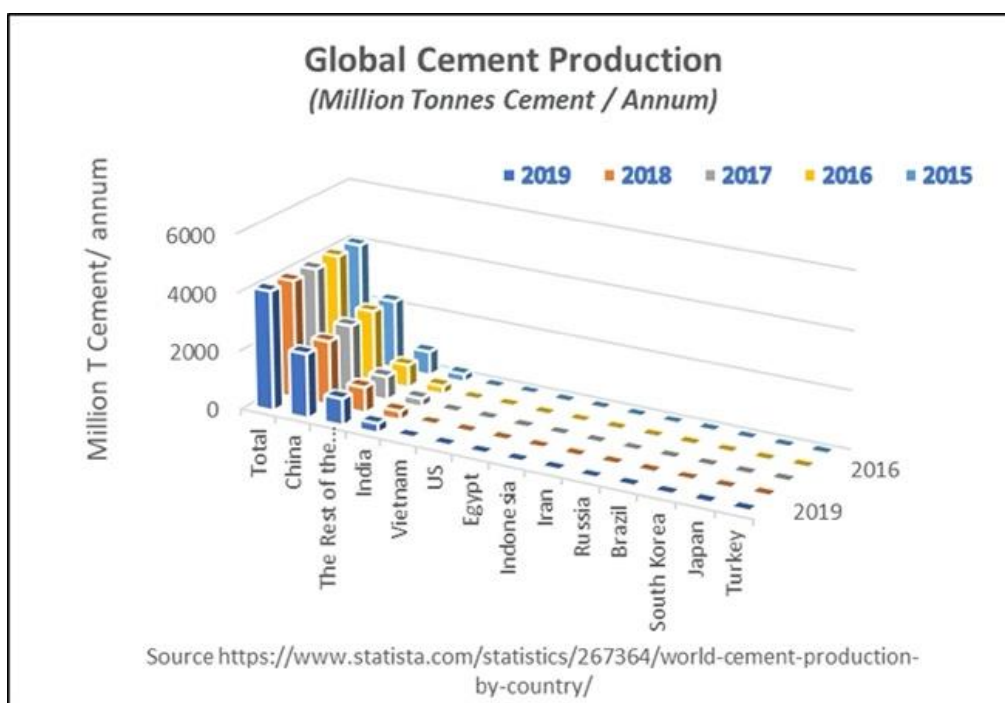
### The Global Construction Sand Market

Cauldron has recognised that the river sand as a bulk commodity is distinct from desert, dune or marine sand which is found in relatively high quantities. Ideally river sand comprises of more angular particles with higher silica content, naturally sized by river action. The reduced period of erosion in rivers as opposed to a the marine or desert environment, leaves a more angular less rounded particle, capable of interlocking and hence offering a greater load bearing capacity. It is this size-sorted resilient angular particle which is much sought after for construction. Recent growth in Asia and globally has created a scarcity in this commodity and an associated demand driven price rise sufficient to justify sea-borne transport.

<sup>6</sup> UN Environment 2019; Sand and Sustainably, Finding new solutions for Environmental Governance of global sand resources

The market investigation completed by CXU, shows global usage of sand per annum is between 35 and 45 billion tonnes comprising 12 billion tonnes in concrete and 25-30 billion tonnes in land reclamation. Precise information on global sand extraction is not available but estimates from the United Nations are 40 billion tonnes per annum<sup>7</sup>.

As an unregulated and unmeasured market, we can only estimate or derive the global production demand of construction sand. This market demand is highly coupled to growth and the associated use of concrete manufacture when mixed with cement and aggregate. Annual production of cement is measured and recorded. In 2019 about four billion tonnes of cement was manufactured and used globally with over 50% used in Asia, consistent with the previous five years (refer **Figure 2**).



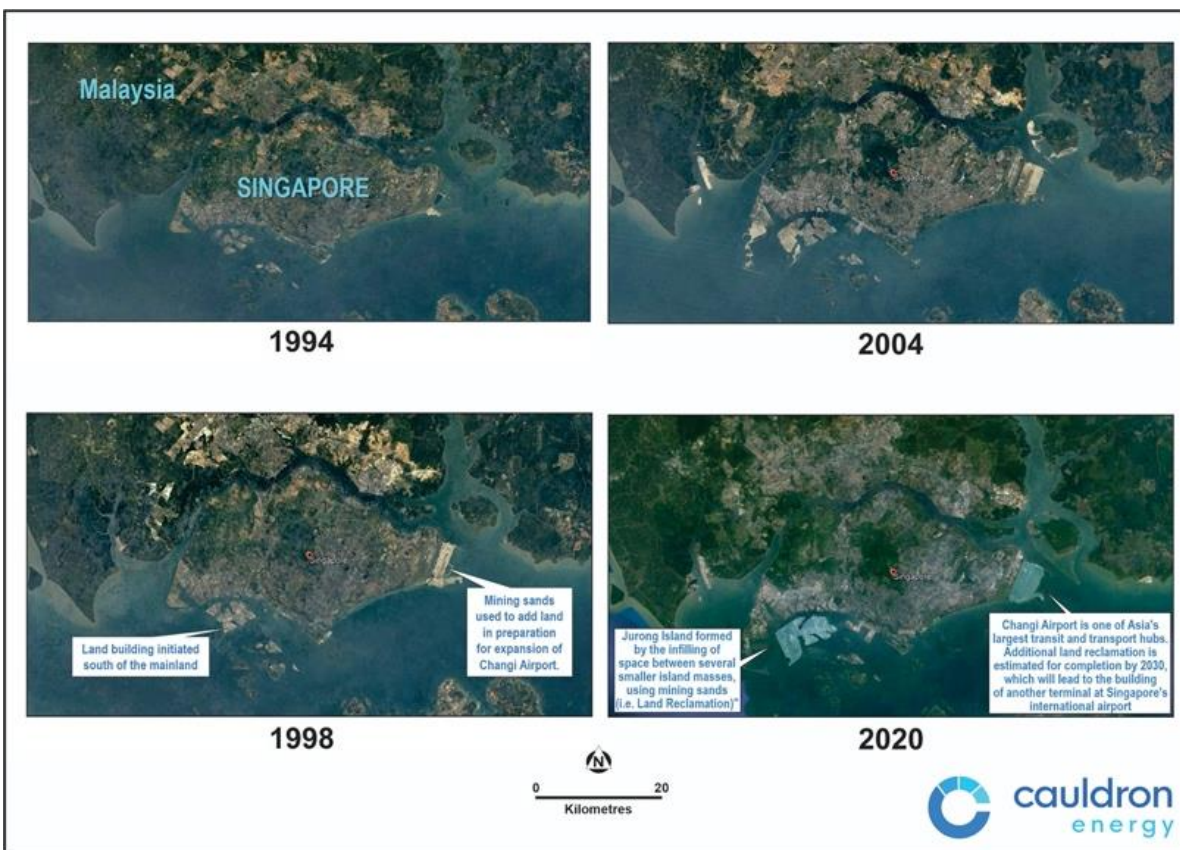
**Figure 2:** Global Cement Production of 4 billion tonnes >50% in Asia or approximately 12 billion tonnes of sand assuming this cement is used predominantly for concrete manufacture consistently over last 5 years

The ratio of cement, sand and gravel used in concrete is about 1:3:6. Approximately three tonnes of sand is needed per tonne of cement in concrete or based on four billion tonnes of annual cement production, an estimated twelve billion tonnes of construction sand is demanded each year globally with over six billion required in Asia alone (refer **Figure 1**).

### **The Global Land Reclamation Sand Market**

The use of sand in the manufacture of concrete is dwarfed by the use of sand for land reclamation purposes. The estimation of the demand for reclamation sand is more difficult to derive given the numerous unregulated extraction sources. The preference for sand used in construction and land reclamation is for the less eroded and more unsorted sand particles found in river and estuarine placement. Marine sand also has a higher proportion of softer less resilient calcium carbonate particles arising in the marine environment from shells and corals which is less desirable for construction.

<sup>7</sup> Driven to Extraction Can Sand Mining be sustainable? Oli Brown, Hoffmann Centre, Chatham House.  
<https://hoffmanncentre.chathamhouse.org/article/driven-to-extraction-can-sand-mining-be-sustainable/>



**Figure 3:** Time related images taken of Singapore harbour over a 25-year period showing the land reclaimed from the harbour shows Jurong Island group now as one island and its growth south plus the expansion west of the land adjacent to Changi into the harbour. Further land reclamation is planned up to 2030 and beyond.

The use of reclamation sand has been estimated by various bodies of work to be as much as 35 billion tonnes dwarfing the next largest bulk commodity mined, coal at approximately four billion tonnes of global production annually. Sand used in land reclamation has a self-draining property and a requirement to withstand a vertical loading. The raw material for this needs to be angular river sand. The more rounded sand particles found in deserts and in the marine environment is not preferred.

### **The Growth in Sand Demand and Mining**

The burgeoning demand in Singapore, Hong Kong and other Asian growth centres has depleted nearby quality sources creating an illegal mining industry in neighbouring countries. The environmental damage and associated involvement of organised crime has brought about sand export bans in Vietnam, Malaysia, Indonesia and Cambodia. It has been widely reported that sand in precious fisheries and river systems have been targeted by organised crime sourcing sand as far away as the Philippines and India.

Singaporean authorities have responded by dictating their sand imports to be supported by the correct regulatory environmental approvals from the dispatch country and has the required Singaporean laboratory tests work to ensure suitability for purpose. For this it has been accepted that this quality will involve a higher price which has opened the market to legitimate and ethical suppliers adhering to local regulatory conditions imposed by their mining jurisdiction. This positive change has created a sustainably sourced sea-borne sand market in Singapore and other Asian countries, which provides the lead for other importing countries to follow.





**Figure 4:** Plan model showing the planned construction on the reclaimed Jurong island in Singapore's harbour depicted in Figure 3. Not only is the land being built on reclamation sand, the concrete used in the building construction planned compromises ~30%-40% construction sand, illustrating the sand requirement for this form of development found in the high growth regions of the world.



A view of 'The World Island' development seen from the air in Dubai, United Arab Emirates.  
Credit: Chris Jackson/Getty Images.

**Figure 5:** World Island Construction in Dubai using imported International sand after local stocks were depleted.

## **Low Impact Sand Extraction**

The United Nations has identified sand mining as a critical global resource to be managed<sup>1</sup>. The use of extraction measurement and licencing as practiced in the highly regulated Australia resources industry minimises the poor environmental outcomes. This has been identified by the United Nations and adopted by target customer market in Singapore as a requirement for tender on their government sponsored building and construction projects. The exploration licences acquired by the Company are in areas where shipping channels and other infrastructure are at risk of becoming choked with the sand being transported and deposited by these large northern western Australian river systems. Any sand removed from the river estuary and channels is replaced by cyclonic flooding with the frequency of two to three years.

Low environmental impact sand extraction is at a rate that the river replaces the extracted resource. The north of Western Australia has large catchment river systems with frequent significant flooding events driven by monsoonal activity with several occurring in the region each year between October and March. Around Carnarvon the sand deposited during recent flood events has not been able to be removed by maintenance dredging affordable by the local community. Key economic assets of port and shipping plus recently built tourist infrastructure and historical infrastructure is at risk of being lost to the deposited sand. This situation is something the Company is in commercial position to assist with once delayed mining approvals are resolved. A positive outcome in sand removal may provide a significant economic boon to the Carnarvon port as it once again can be the safe and logical anchorage staging stop for the boating community en route from Perth to the renowned fishing waters of Exmouth.

## **Low-Cost Extraction enabling Global Sales**

The Company further understands the sand in river mouths is near-to-transport infrastructure and can be mined using an environmentally sensitive low cost and low-impact extraction method. The extraction systems have been approved and adopted for use in Queensland near the Great Barrier Reef, having significant environmental sensitivity. The use of low impact excavator extraction on barges and barging to self-loading sea-going bulk transport allows these operations in northern Australia to compete on cost with closer-to-market sand sources. The approval process for these planned operations will follow the world recognised mining licencing and environmental approval protocols established in Australia. Prior to the utilisation of these techniques, Cauldron will utilise traditional truck and shovel methods on existing mining licences which recently supplied the sand that was used in the construction of large local resource projects near Onslow.

## APPENDIX D

### Schedule of Tenements

Mining tenements held at 30 June 2021, including tenements acquired, through grant, and disposed of during the quarter:

Tenement reference	Project & Location	Acquired interest during the quarter	Disposed interest during the quarter	Interest at end of quarter
E08/1489	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/1490	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/1493	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/1501	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/2017	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/2081	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/2205	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/2385	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/2386	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/2387	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/2774	YANREY – WESTERN AUSTRALIA	-	-	100%
E08/3088	YANREY – WESTERN AUSTRALIA	-	-	100%
393/2010	Catamarca, Argentina	-	-	100%
140/2007	Rio Colorado Project - Catamarca, Argentina	-	-	100%
141/2007	Rio Colorado Project - Catamarca, Argentina	-	-	100%
142/2007	Rio Colorado Project - Catamarca, Argentina	-	-	100%
143/2007	Rio Colorado Project - Catamarca, Argentina	-	-	100%
144/2007-581/2009	Rio Colorado Project - Catamarca, Argentina	-	-	100%
176/1997	Rio Colorado Project - Catamarca, Argentina	-	-	100%
232/2007	Rio Colorado Project - Catamarca, Argentina	-	-	100%
270/1995	Rio Colorado Project - Catamarca, Argentina	-	-	100%
271/1995	Rio Colorado Project - Catamarca, Argentina	-	-	100%

## Appendix 5B

### Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Cauldron Energy Limited

ABN

22 102 912 783

Quarter ended ("current quarter")

30 June 2021

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 months) \$A'000
<b>1.</b>	<b>Cash flows from operating activities</b>		
1.1	Receipts from customers		
1.2	Payments for		
	(a) exploration & evaluation (if expensed)		
	(b) development		
	(c) production		
	(d) staff costs	(75)	(322)
	(e) administration and corporate costs	(104)	(353)
1.3	Dividends received (see note 3)		
1.4	Interest received	-	1
1.5	Interest and other costs of finance paid		
1.6	Income taxes paid		
1.7	Government grants and tax incentives		
1.8	Other (provide details if material)		
<b>1.9</b>	<b>Net cash from / (used in) operating activities</b>	<b>(179)</b>	<b>(674)</b>
<b>2.</b>	<b>Cash flows from investing activities</b>		
2.1	Payments to acquire or for:		
	(a) entities		
	(b) tenements	(86)	(86)
	(c) property, plant and equipment	(17)	(17)
	(d) exploration & evaluation (if capitalised)	(336)	(1,124)
	(e) investments		
	(f) other non-current assets		



<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (12 months) \$A'000</b>
2.2	Proceeds from the disposal of:		
	(a) entities		
	(b) tenements		
	(c) property, plant and equipment		
	(d) investments	280	280
	(e) other non-current assets		
2.3	Cash flows from loans to other entities		
2.4	Dividends received (see note 3)		
2.5	Other (provide details if material)		
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>(159)</b>	<b>(947)</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	1,600
3.2	Proceeds from issue of convertible debt securities		
3.3	Proceeds from exercise of options		
3.4	Transaction costs related to issues of equity securities or convertible debt securities		
3.5	Proceeds from borrowings		
3.6	Repayment of borrowings		
3.7	Transaction costs related to loans and borrowings		
3.8	Dividends paid		
3.9	Other (provide details if material)		
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>-</b>	<b>1,600</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	713	396
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(179)	(674)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(159)	(947)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	1,600

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 months) \$A'000
4.5	Effect of movement in exchange rates on cash held		
4.6	Cash and cash equivalents at end of period	375	375

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	375	713
5.2	Call deposits		
5.3	Bank overdrafts		
5.4	Other (provide details)		
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	375	713

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	118
6.2	Aggregate amount of payments to related parties and their associates included in item 2	

*Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.*

The payments made to directors of the entity and their associates reported at 6.1 were comprise as follows:

	A\$'000
Non-Executive Director's Fees	-
Chairman's Fees	60
Executive Director Fees	58
<b>TOTAL</b>	<b><u>118</u></b>

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

<b>7. Financing facilities</b> <i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
7.1 Loan facilities		
7.2 Credit standby arrangements		
7.3 Other (please specify)		
7.4 <b>Total financing facilities</b>		
7.5 <b>Unused financing facilities available at quarter end</b>		
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

<b>8. Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1 Net cash from / (used in) operating activities (item 1.9)	(179)
8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(336)
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(515)
8.4 Cash and cash equivalents at quarter end (item 4.6)	375
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	375
8.7 <b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	<b>0.73</b>
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer: Yes.	
8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer: The Company has post 30 June 2021 realised ~\$820k from its portfolio of shares it holds in other ASX listed entities. Post these divestments, the Company still retains a portfolio of shares in other ASX listed entities valued at approximately \$1.8 million valued as at the date of this report which it can divest (in part or all) to meet short to medium term cash requirements.	

**Mining exploration entity or oil and gas exploration entity quarterly cash flow report**

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: Yes.

*Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.*

**Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

30 July 2021

Date: .....

SIMON YOUNDS

Executive Chairman of Cauldron Energy Limited

Authorised by: .....  
(Name of body or officer authorising release – see note 4)

**Notes**

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.