

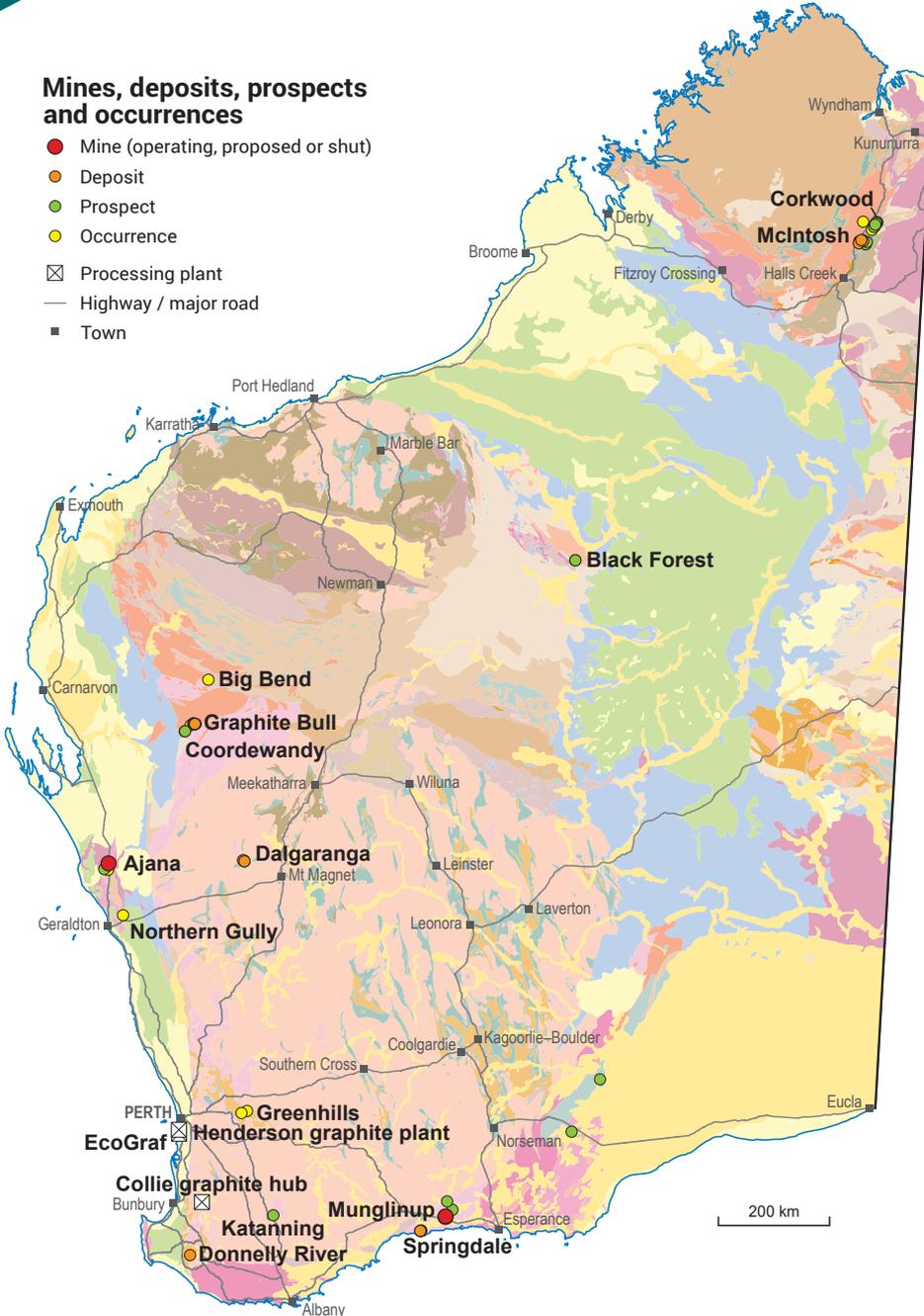
# GRAPHITE

## INVESTMENT OPPORTUNITIES

WORLD-CLASS RESOURCE PROVINCE | SECURE INVESTMENT LOCATION  
WORLD-LEADING GEOSCIENTIFIC DATA | GLOBAL MINING SERVICES INDUSTRY

### Mines, deposits, prospects and occurrences

- Mine (operating, proposed or shut)
- Deposit
- Prospect
- Occurrence
- ⊠ Processing plant
- Highway / major road
- Town



### Western Australia has resources of over 3.6 Mt of contained total graphitic carbon

- Recorded historical production is 219 t of graphite, mainly from Munglinup
- The majority of occurrences are in Archean to Mesoproterozoic graphitic schists or gneisses (representing metamorphosed carbonaceous sedimentary rocks) in mostly flake and 'amorphous' varieties
- There are sporadic vein-hosted occurrences, associated with Proterozoic pegmatites and paragneisses (e.g. Ajana)

### Defined resources

- Munglinup
- McIntosh
- Springdale
- Graphite Bull
- Initial results at the McIntosh Project confirmed an average flake size between 75–150 µm, which is the desired flake size starting point to make spherical graphite for battery anode material. Drilling at the Emperor deposit intersected 250 m at 3.9% total graphitic carbon (TGC), intersecting a previously unknown and untested graphite zone below the resource. The Sturgeon prospect was identified with up to 94 m at 4.5% TGC
- A final investment decision (FID) review of the Munglinup Project is expected in the June 2024 quarter
- The Collie Downstream Processing Facilities Works approval was received for installation of 'qualification scale' micronizing equipment at the Collie Graphite Hub. Installation is currently underway
- International Graphite continues to rapidly advance as Western Australia's first fully integrated 'mine-to-market' producer of graphite battery anode material. In September 2023, the company announced an updated Resource for Springdale of 49.3 Mt at 6.5% TGC, making it the largest graphite project in Western Australia. A Scoping Study was completed end of 2023

219 t  
Historical  
production



\$271 m\*  
Investment  
projects



5.0%  
Royalty  
rate



(2022–23 financial year)

\* Includes projects planned, possible, committed or under construction as of October 2023



Department of Energy, Mines,  
Industry Regulation and Safety

demirs.wa.gov.au

Geological Survey of  
Western Australia



# Graphite resources ranked by contained graphite (kt)

All Resource Estimates compliant with JORC 2012 unless otherwise stated

Project	Status	Owner	Resources TGC (Mt)	Average grade TGC (%)	Contained TGC (kt)	Resource date
Springdale	Exploration	International Graphite	49.3	6.43	3 168	12/09/2023
McIntosh	Feasibility	Hexagon Energy Materials / Green Critical Minerals	23.8	4.45	1 059	05/04/2019
Munglinup	Feasibility	Mineral Commodities / Gold Terrace	8.0	12.18	973	08/01/2020
Graphite Bull	Exploration	Buxton Resources	4.0	16.17	650	24/10/2014
<b>TOTAL</b>			<b>85.1</b>	<b>6.87</b>	<b>5 850</b>	

Resource estimates have been rounded  
Abbreviation: TGC, total graphitic carbon

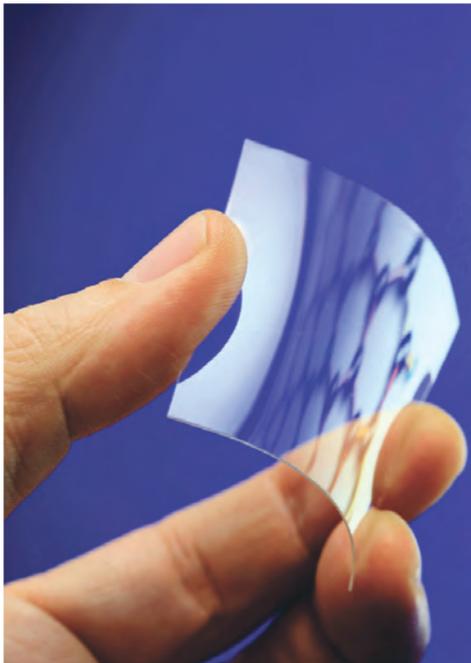
Spatial and resource estimates data sourced from WA Mines and Mineral Deposit database (MINEDEX)

## Graphite prospectivity of Western Australia

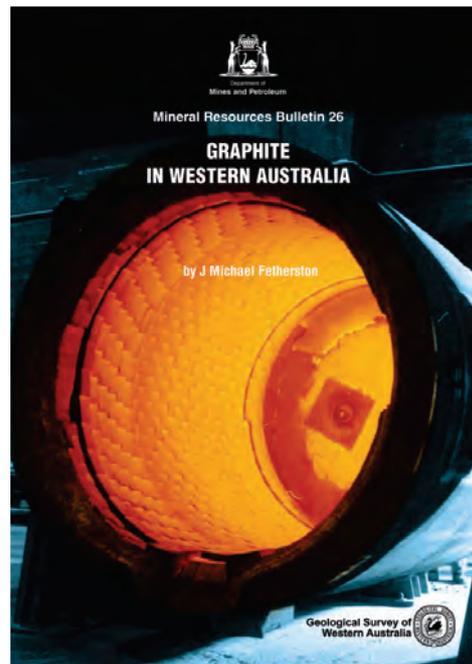
- Flake and amorphous graphite in regionally metamorphosed metasedimentary rocks of Archean and Proterozoic terranes (e.g. the majority of Western Australia's graphite deposits, including Graphite Bull, McIntosh and Munglinup)
- Flake graphite deposits hosted in veins associated with pegmatites and paragneisses in Proterozoic terranes (e.g. Ajana region, Northampton Inlier)
- Disseminated flake graphite hosted in weathered pegmatites (e.g. Katanning)

## Properties and uses

- Graphite is a naturally occurring crystalline form of carbon
- It does not react with other materials and is an excellent conductor of electricity and heat
- Applications and uses include pencils, lubricants, brake lining and clutches, lithium-ion batteries, fuel cells, vanadium redox-flow batteries, and in the aerospace industry
- Medium- to coarse-grained graphite is particularly useful in batteries, when >150 microns long



Graphene, termed 'the world's next wonder material', comprises a series of one-atom thick sheets of graphite  
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Graphite prospectivity in Western Australia is outlined in the DMIRS publication **Graphite in Western Australia**, available as a free downloadable PDF from the DMIRS bookshop ([www.demirs.wa.gov.au/ebookshop](http://www.demirs.wa.gov.au/ebookshop))

### For more information

MINEDEX is a spatial and textual database of mining and exploration activity

**MINEDEX** [www.demirs.wa.gov.au/minedex](http://www.demirs.wa.gov.au/minedex)

GeoVIEW.WA is a free GIS-based spatial viewer

**GeoVIEW.WA** [www.demirs.wa.gov.au/geoview](http://www.demirs.wa.gov.au/geoview)

The DEMIRS MINEDEX, Statistics, and Geoscience and Titles Information teams have contributed to the production of this flyer

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