

POTASH

INVESTMENT OPPORTUNITIES

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

Mines, deposits and prospects

- Potash from playa-lake brine
- Potash in glauconite-rich sedimentary rock
- Potash in alunite
- Potash in ultrapotassic rock
- Highway
- Town



Western Australia expects first potash production from brine in 2021

- Western Australia is well positioned to take advantage of the current high demand for potash from both domestic and international markets
- Potash is considered a critical mineral, with 90% of the global supply used in fertilizer products
- The two most common forms of potash are:
 - Sulfate of Potash (SOP) – potassium sulfate (K_2SO_4)
 - Muriate of Potash (MOP) – potassium chloride (KCl)
- SOP is a premium potash fertilizer unlike MOP which can be harmful to plants. SOP is used primarily on high-value crops, usually leafy plants, fruits and vegetables
- Development of SOP projects in Western Australia most recently focuses on playa-lake brine deposits, with several globally significant resources identified including Beyondie, Lake Disappointment, Lake Wells and Lake Mackay
- Six projects have completed, or are working towards completing, a feasibility study
- Kalium Lakes has completed 50% of the construction of its Beyondie SOP project
- New discovery at Lake Throssell, with SOP grades up to 14 500 mg/L

183
Full-time
employees



\$1788 m*
Investment
projects



5.0%
Royalty
rate



(2019–20 financial year)

* Includes projects planned, possible, committed or under construction as of September 2020







Potash resources ranked by drainable resources of SOP(Mt)

Resources estimated according to JORC 2012

Project	Status	Owner	Drainable Resource SOP (Mt)	Grade SOP (mg/L)	Drainable Resource K (kt)	Grade K (mg/L)
Lake Disappointment	Feasibility	Reward Minerals	153.0	11 350	68.6	5090
Lake Mackay	Feasibility	Agrimin	123.4	7326	55.3	3285
Beyondie	Under construction	Kalium Lakes	25.4	13 375	11.3	5998
Lake Wells	Feasibility	Australian Potash	18.1	7455	8.1	3343
Lake Way	Pre-feasibility	Salt Lake Potash	11.4	15 200	5.1	6800
Lake Rason	Exploration	Trigg Mining	5.9	5080	2.7	2290
Lake Hopkins	Exploration	Sandfire Resources	4.5	8583	2.0	3849
Carnegie JV	Pre-feasibility	Kalium lakes / BCI Minerals	0.9	7724	0.4	3466

Project	Status	Owner	Resources (Mt)	Av. Grade K ₂ O (%)	Contained K ₂ O (Mt)
Dinner Hill	Inactive		910.0	3.81	34.7
Oxley	Feasibility	Centrex Metals	154.7	8.30	12.8
Lake Chandler	Exploration	ActivEX	5.8	5.73	0.3

Resource estimates have been rounded

 Potash from playa-lake brine	 Potash in ultrapotassic rock
 Potash in glauconite-rich sedimentary rock	 Potash in alunite

Summary of potash resources in Western Australia

- Western Australia has eight brine potash projects with resources all planning to produce SOP by pumping potassium-rich brine into ponds with potassium salts, crystallizing by solar evaporation, then harvesting and processing
- The strategic importance of developing these large-scale brine projects is recognized by the State Government, which in 2019, introduced a concessionary rental rate for mining leases (deriving minerals from brine) to reduce the fixed cost imposed by government to a level more comparable with other conventional mining operations
- Another common source of potash is glauconite in sedimentary greensands. The principal resource is within the Perth Basin (Dandaragan Trough potash – phosphate project)
- Additional potash resources are associated with alunite at Lake Chandler
- An unusual potassium resource occurs in feldspar in Proterozoic ultrapotassic microsyenite at Oxley in the Moora Basin. The proposed product is potassium nitrate (KNO₃)
- Historical production of potash in Western Australia targeted alunite-rich clay deposits at Lake Chandler (9218 t of crude potash) and Kanowna (production not recorded), mainly during World War II

For more information

	www.dmirs.wa.gov.au/gswa
MINEDEX	www.dmirs.wa.gov.au/minedex
GeoVIEW.WA	www.dmirs.wa.gov.au/geoview

Contact us

Resource Investment Information
 Geological Survey and Resource Strategy Division
 Email: minerals.investors@dmirs.wa.gov.au
 Tel: +61 8 9222 3676



Government of Western Australia
 Department of Mines, Industry Regulation and Safety

November 2020

Geological Survey of Western Australia

