Investor presentation | October 2023 | ASX: AHK

Rare Earths in a Sand Pit

ARK MINES LTD.

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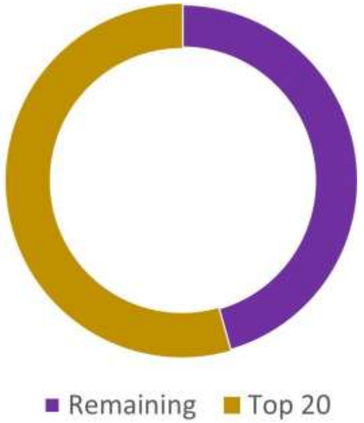
Corporate snapshot

Overview	
ASX Code	**AHK**
Shares on Issue	**55m**
Share price	**~$0.19**
Options on issue	**15,172,500**
Market capitalisation	**$10.00M**
Cash balance (approx.)	**$3.01M**

Share price and volume

Top 20 shareholders



Company personnel

Name	Position	Experience
Roger Jackson	Executive Chairman	30+ years in exploration, development and mining operations
Benjamin Emery	Executive Director	10+ years in development and monetizing mineral projects
Ian Mitchell	Non-Executive Director	45+ experience years practicing law with 30+ years in the minerals sector

ARK MINES LTD.

SANDY MITCHELL

THE ONLY INLAND SURFACE EXPRESSED PLACER DEPOSITS TO HOST RARE EARTHS ON THE ASX

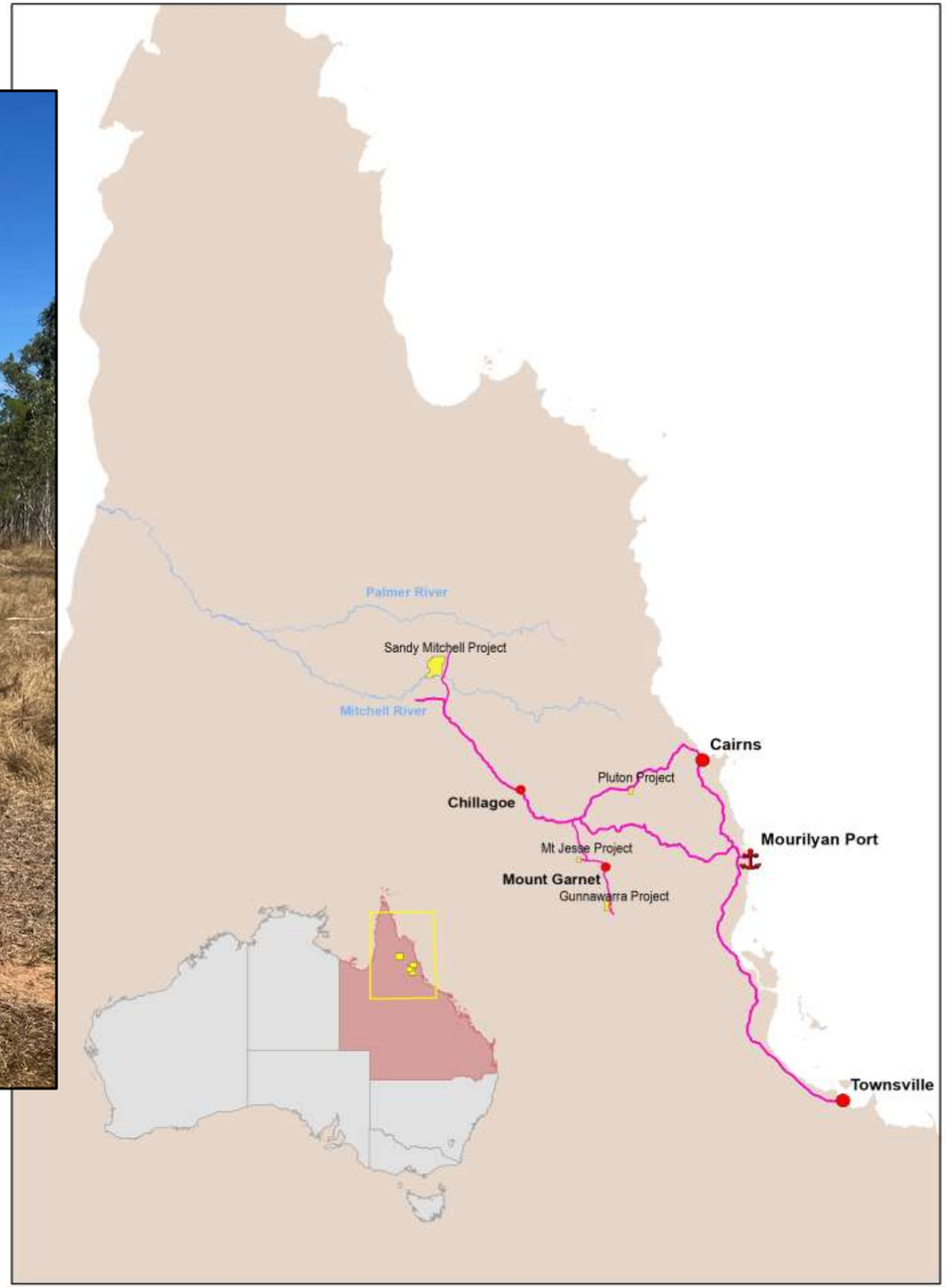
A RARE EARTH PROJECT WITH LOW START-UP CAPEX LOW OPERATIONAL COST AND NEAR-TERM DEVELOPMENT POTENTIAL WITH THE LOWEST ENVIRONMENTAL IMPACT

HOSTS ALL THE RARE EARTHS, PLUS HEAVY MINERAL, NIOBIUM AND PHOSPHATE

THE PROJECT HAS ACCESS TO QUALITY NEARBY INFRASTRUCTURE, FAVOURABLE REGULATORY REGIME, SAFE JURISDICTION, EASE OF PERMITTING

UNDERPINNED BY A TEAM WITH MINE DEVELOPMENT, COMMODITIES TRADING, AND EXPLORATION SKILLS

Sandy Mitchell REE HM Project location



300km west of Cairns and 100km North of Chillagoe

Sits on only one station – 750,000 acres in size

THE SANDY MITCHELL PROJECT

- 147km^2 EPM 28013 'Sandy Mitchell' – an advanced Rare Earths Project in North Queensland
- The sand hosts grains of mostly monazite (light rare earths) but also Xenotime (heavy rare earths) and Zirconium's and Titanium's and Niobium
- Total Rare Earth Oxides plus Yttrium and Scandium average grades for every metre assayed 503.5ppm with highest grades of 1175.4ppm;
- Light Rare Earth average grade for every metre assayed 454.3 ppm with the highest grades of 1048 ppm.
- Heavy Rare Earth plus Yitrium average grade for every meter assayed 49.2 ppm with the highest grades of 129.3 ppm.
- Magnetic Rare earth Oxides average grade for every metre assayed 109.4 ppm with the highest grades of 269.7 ppm.

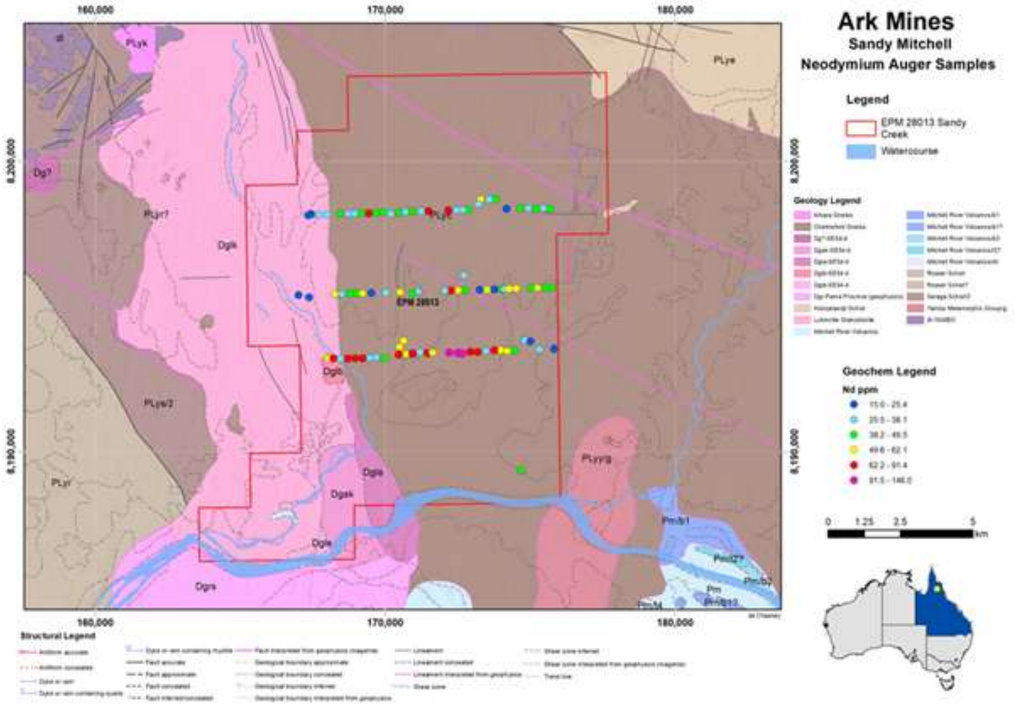
- Very high historical TREO grades including high grade pan concentrates of up to **30% TREO, and up to 25% Nd Pr**
- Extensive historical metallurgical work undertaken by Jogmec in 2010
- Rare Earths are amenable to panning a concentrate
- Low-cost, fast start up, straightforward beneficiation by gravity processing
- Landholder Access Agreements in place

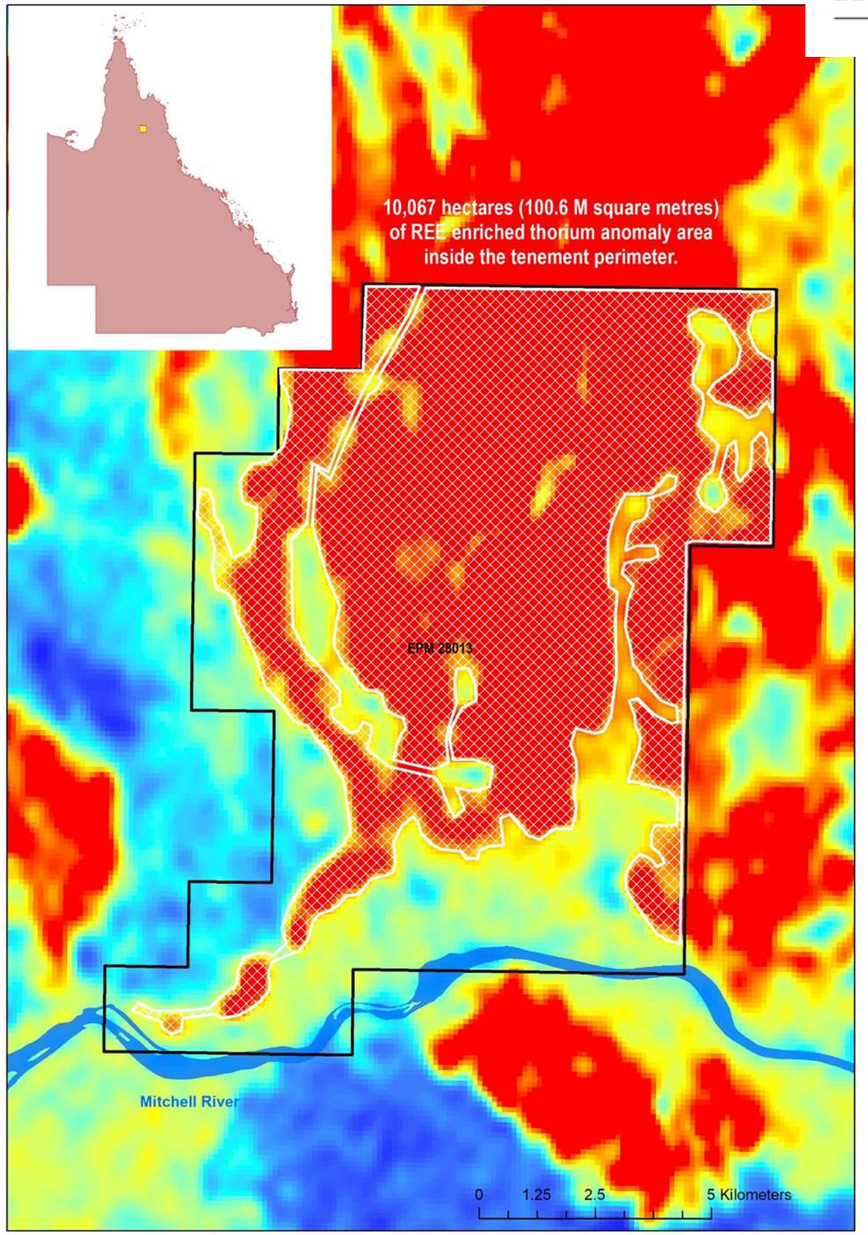
MAJOR NEW RARE EARTH MINERAL PROVINCE FOR QUEENSLAND

- Immense growth potential – Current drilled < 1% of the radiometric anomaly
- Further Exploration and Resource Definition Drilling is well advanced

SCALE

- **The size of the thorium anomaly correlating with REE enriched alluvial sands within the Project tenement is 10,067 ha.**
- **Sands with Heavy Minerals and Rare Earths are eroded from Sandstones to the North. These sandstones were paleao beach settings where the rare earths and Heavys were sorted through wave actions.**
- **The tenement is 147km^2 and a further 138 km 2 has been pegged to the North.**
- **The anomalous rare earth historical augur drilling shows and anomalous area of 35km 2. (refer to the figure below)**





CONTINUOUS REHABILATION AT SANDY MITCHELL

LOW IMPACT MINING

- ✓ No Drill and Blast
- ✓ No overburden
- ✓ No clay to deal with
- ✓ Only 10m deep
- ✓ At 10m – you can selectively mine
- ✓ No tails dam
- ✓ No waste piles

LOW ENVIRONMENTAL IMPACT

- ✓ No Chemicals
- ✓ No Salts No Acids
- ✓ Simple digging
- ✓ In situ processing with gravity only
- ✓ No impact on farm country – subsidence
- ✓ The landform will be the same after mining as before
- ✓ Rehabbed to the Landholder liking by only seeding the ground down

Well advanced compared to other rare earth projects

PLACER DEPOSITS HAVE DISTINCT ADVANTAGES OVER HARD ROCK ADD CLAY-BASE RARE EARTH PROJECTS

	Ionic Clays	Hard Rocks	PLACER (SANDY MITCHELL)
CAPEX	Reasonable	Capex Heavy, Overburden/strip development costs, Mining costs high	Capex lite and utilizing low-cost skid-mounted gravity plant to deliver a concentrate Mining cost and operating cost – negligible
Scale	Typically, smaller tonnage	Typically require significant scale for economic viability	Potential to be massive tonnage
Exploration	Resources can be defined inexpensively and rapidly given shallow drilling using aircore, auger, push-tube core	Similar to other hard rock base metals requiring substantial drilling, geochemistry, geophysics etc	Resources can be defined inexpensively and rapidly given shallow drilling using aircore, auger, push-tube core
Mining	Stripping and progressive rehabilitation. Many have overburden and some strip ratio	Drill and blast with significant mining fleet. Higher strip ratios or expensive underground mining and development	Stripping and progressive rehabilitation. No Overburden Zero strip ratio. Mined with a wheeled loader only
Permitting	Due to water processing and chemicals Environmental challenges will need to be met	Significant environmental impact	Simple in situ gravity processing with the sand put back where it was moved from
Processing	Simple metallurgy; clay is washed with a desorption agent to recover REEs	Strong acids and salts with high temperature +/- pressure. Radioactive tailings	Simple metallurgy; Gravity and magnetic in-situ processing, no water, continuous rehabilitation Nature has already done our crushing and grinding Mineral sands bi-product

Combined company investment highlights

- Phase 2 drilling program underway now at Sandy Mitchell, undertake further metallurgical test work and apply for Mining Licence
- Advancing processing and off-take discussions – considerable interest in Sandy Mitchell from local processors and customers seeking concentrate
- Expectations of production within 18 months
- Ark expects to report further updates on metallurgy before year end, including ore characterisation and HMC production evaluation (including suitability of beneficiation by gravity).