



ASX: BSN

Exploration Update

May 2024



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Disclaimer & Competent Persons Statement

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All figures in Australian Dollars unless stated otherwise.

Competent Persons Statement & Resource Figure Notes

The information in this announcement that relates to previous exploration results was first reported by the Company in accordance with ASX listing rule 5.7 in the following Company ASX market releases;

Date	Title
30/09/2022	Company Prospectus
10/08/2023	Elevated Radioactivity and Significant Hydrothermal Alteration Identified at Geikie
20/09/2023	Basin intersects Uranium Mineralisation up to 0.27% in Maiden Drilling at Geikie
15/11/2023	Gravity Survey Identifies Significant Anomalies at Geikie
9/02/2024	Basin mobilises for Phase 2 Drilling at Geikie uranium project
28/05/2024	Drilling at Geikie identifies 1.5km alteration zone typical of basement-hosted mineralisation

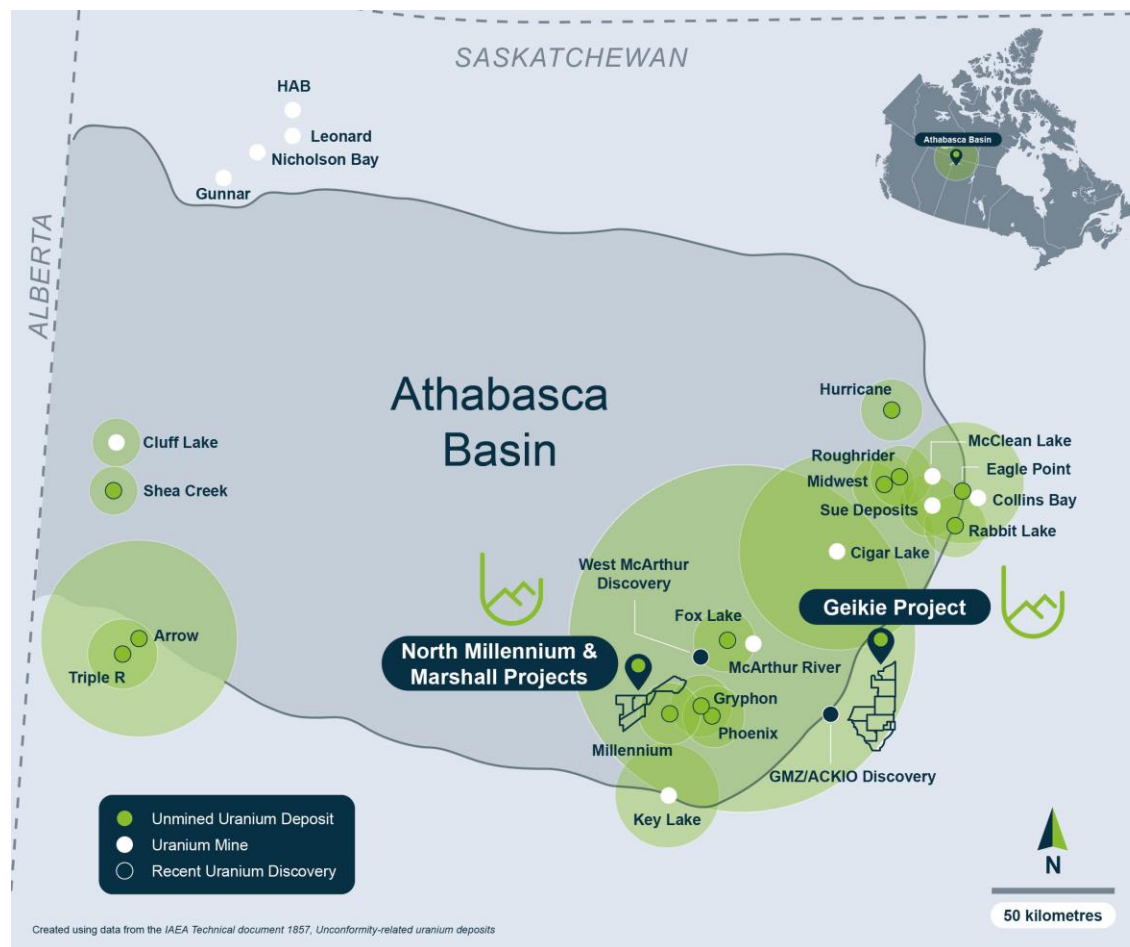
The information included within this release is a fair representation of available information compiled by Odile Maufrais, M.Sc., a competent person who is a Member of the Australian Institute of Mining and Metallurgy. Odile Maufrais is employed by Basin Energy Ltd as Exploration Manager. Odile Maufrais has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves. Odile Maufrais consents to the inclusion in this presentation of the matters based on her work in the form and context in which it appears.

All resource figures shown within this document of deposits within the Athabasca, unless stated are quoted from the International Atomic Energy Agency (IAEA) Tecdoc 1857. Resources are global and include mined resource and all classification of remaining resource. Resource Size (U_3O_8) is the amount of contained uranium (in Mlbs U_3O_8) and average grade (in % U_3O_8) of the deposit/system. This number is presented without a specific cut-off grade, as the cut-off value differs from deposit to deposit and is dependent on resource calculation specifications. Discrepancies between values in this field and other values in the public domain may be due to separate cut-off values used, or updated values since the writing of this document. For system entries, the values for the size were obtained by adding the individual deposits values whereas average grade values were derived using a weighted average of the individual deposits.

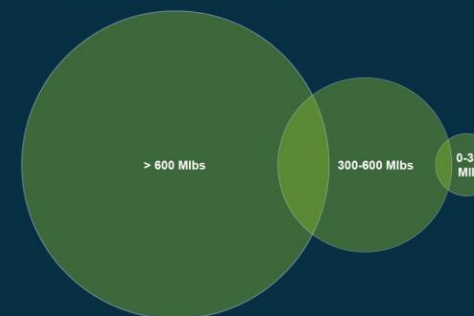




Pureplay uranium in a proven neighborhood



Deposit	Resource Size (U ₃ O ₈ Mlbs)	Resource Grade (%)
McArthur River	674.9	16.99
Cigar Lake	349.3	15.65
Arrow	306.1	4.62
Eagle Point	275.3	0.91
Key Lake	182.3	3.07
Triple R	135.1	1.80
Millennium	104.8	3.76
Shea Creek	95.9	1.47
Phoenix	70.9	19.23
Roughrider	70.8	4.75
Cluff Lake	70.0	1.48
Fox Lake	68.1	7.98
Midwest	49.2	3.55
Hurricane Deposit	48.6	34.5
Sue Deposits	45.9	3.75
Gryphon	43.0	2.30
Rabbit Lake	42.8	0.32



Pureplay uranium exploration company with interests in three projects. Ongoing active exploration



Direct exposure to high grade uranium within the world class uranium mining district of the Athabasca Basin, Saskatchewan, Canada – a top three global uranium producer for over 45 years



Exploring for Athabasca Basin uranium



Exploring for Athabasca uranium style mineralisation, with basement hosted (*Arrow style*) and unconformity hosted targets (*McArthur River style*)



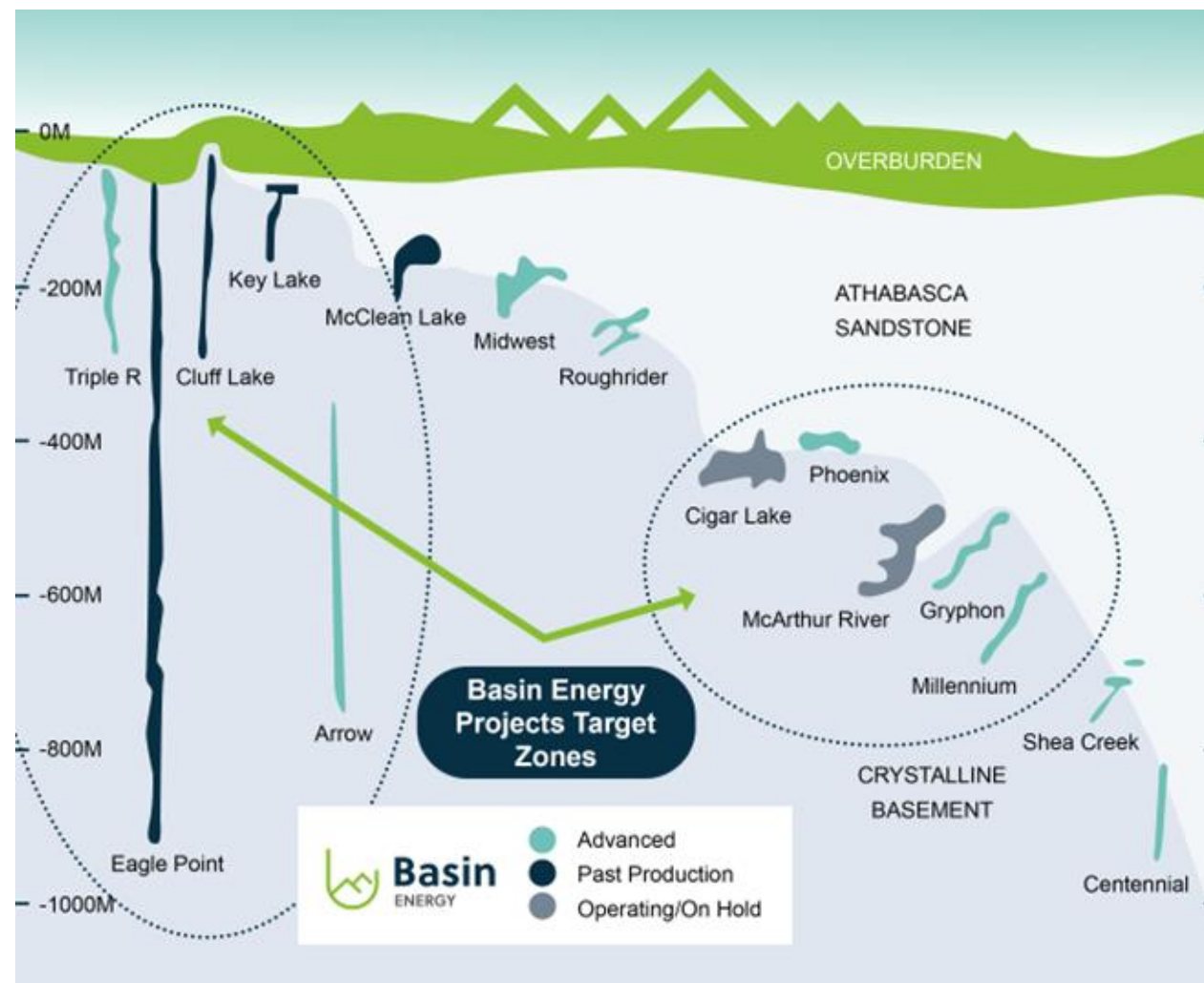
Basin's projects share the same fundamentals;
Geological settings (*lithology, structure*)
Evidence of metals (*uranium, pathfinders*)
Explorable pathway (*depth, targets*)



Strategically located near world-class high-grade uranium discoveries, mining and processing operations with a constant uranium mining industry for 65 years



Experienced team – relevant uranium exploration and development track record, with joint venture partner providing invaluable project specific local knowledge



Data in diagram derived from

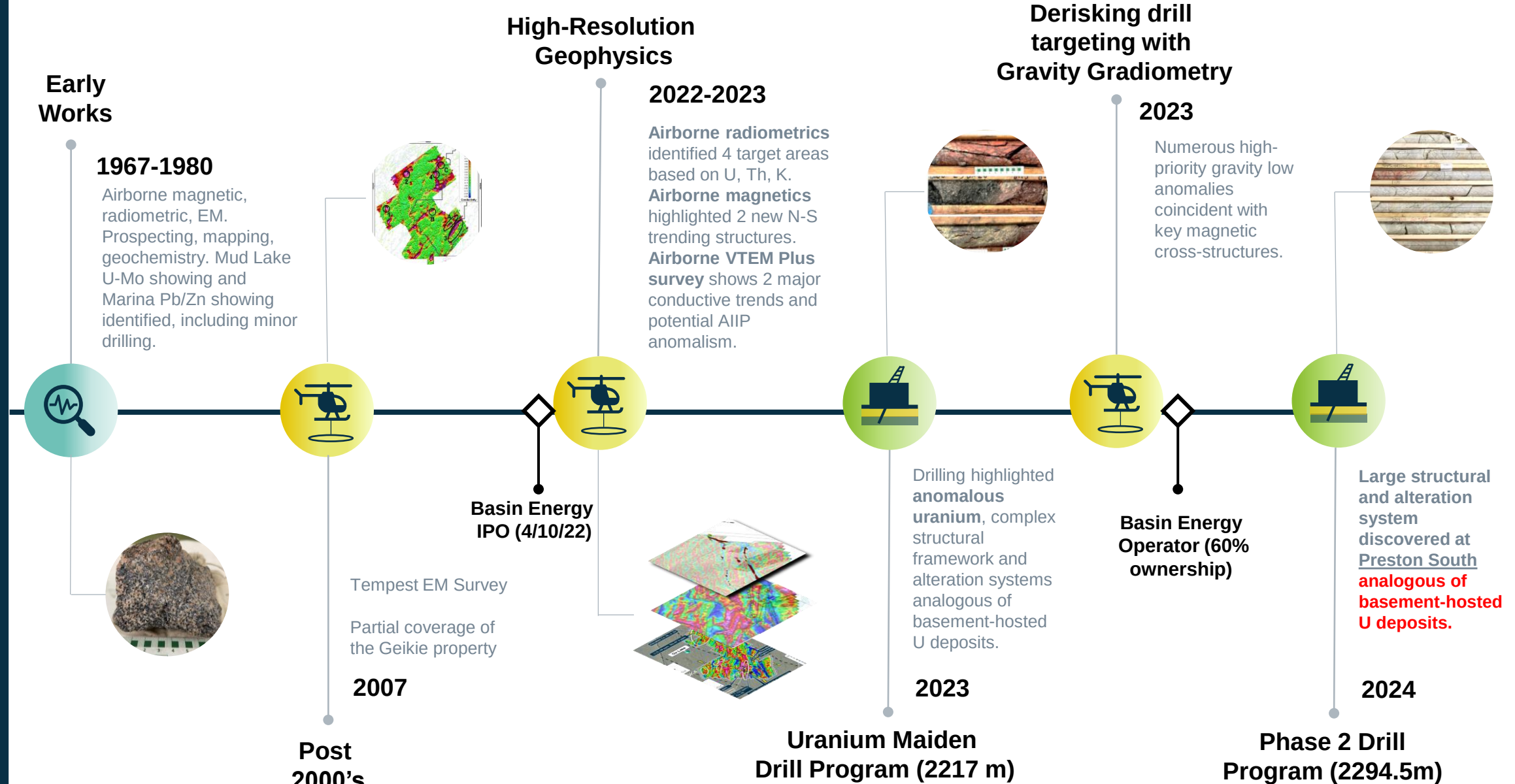
1. IAEA Technical document 1857, Unconformity-related uranium deposits
2. Sources: World Nuclear Performance Report 2021, World Nuclear Association, September 2021; The Nuclear Fuel Report Global Scenarios for Demand and Supply Availability 2021-2040, World Nuclear Association April 2022



Previous Work at Geikie

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ASX: BSN

Geikie 2024 Winter Drilling Technical Discussion

May 2024



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2024 Drill Target Rationale

8 drillholes – 2294.5 m

incl. 1 restart and 1 abandoned hole

Hunter North (new prospect) – 1ddh (282 m)

- Gravity low anomaly coincident with NW mag structures.

Aero Lake –2 ddh (609.5 m)

- Follow-up on 2023 drilling results (alteration, structure, localised anomalous U and Pb isotopes). 0.27% U₃O₈ over 0.5 m.
- “Pearl string” gravity low coincident with NS and NW mag structures.

Preston Creek – 5 ddh (1403 m)

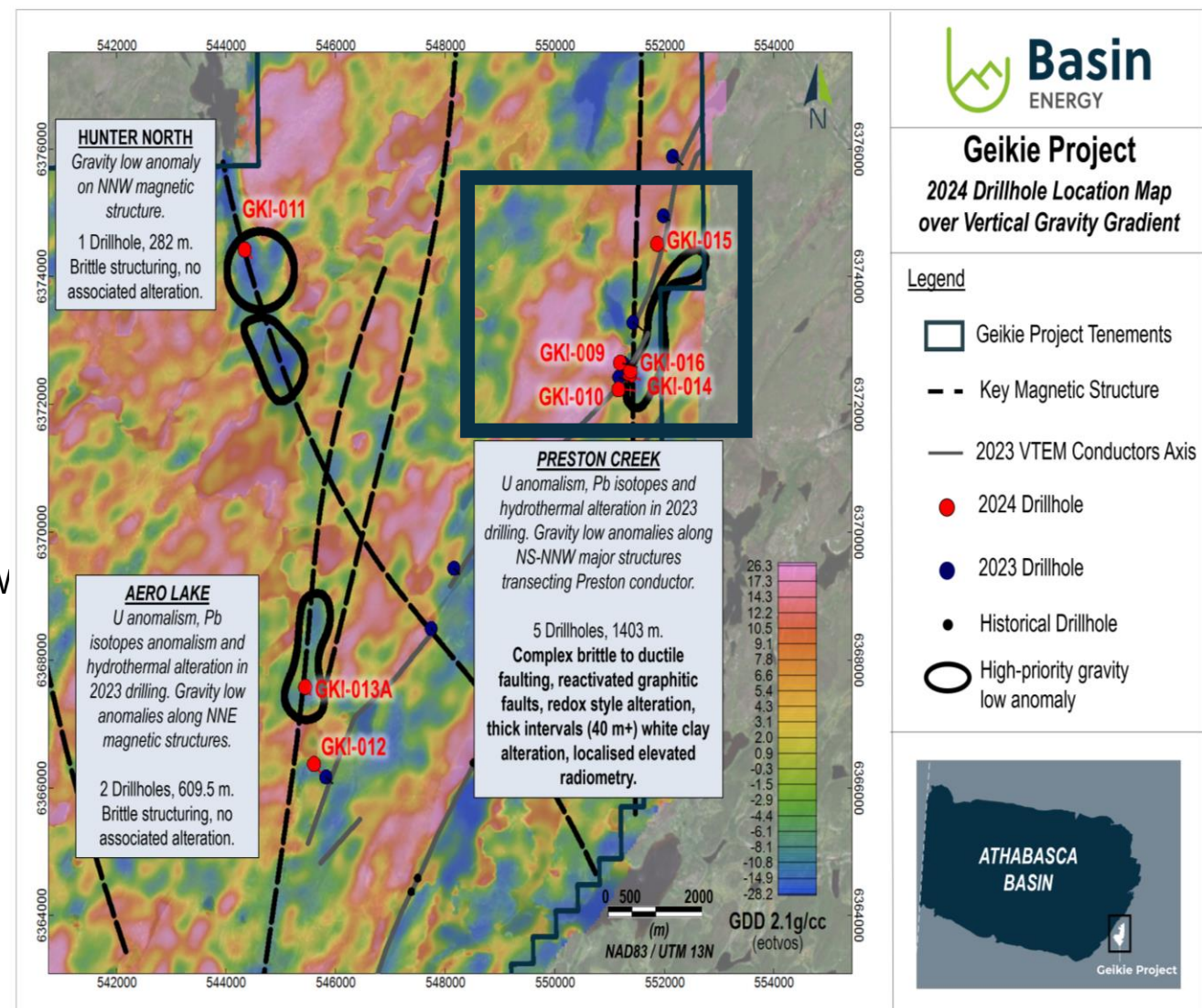
- Follow-up on 2023 drilling results at South Preston (Fe-rich alteration front, structures, localised anomalous U and Pb isotopes ratios).
- Wide gravity low anomaly east of 2023 ddh.

Johnson Lake (new prospect) – up to 2 ddh

Cancelled. Inappropriate ice and lake bottom conditions.

Data in diagram derived from

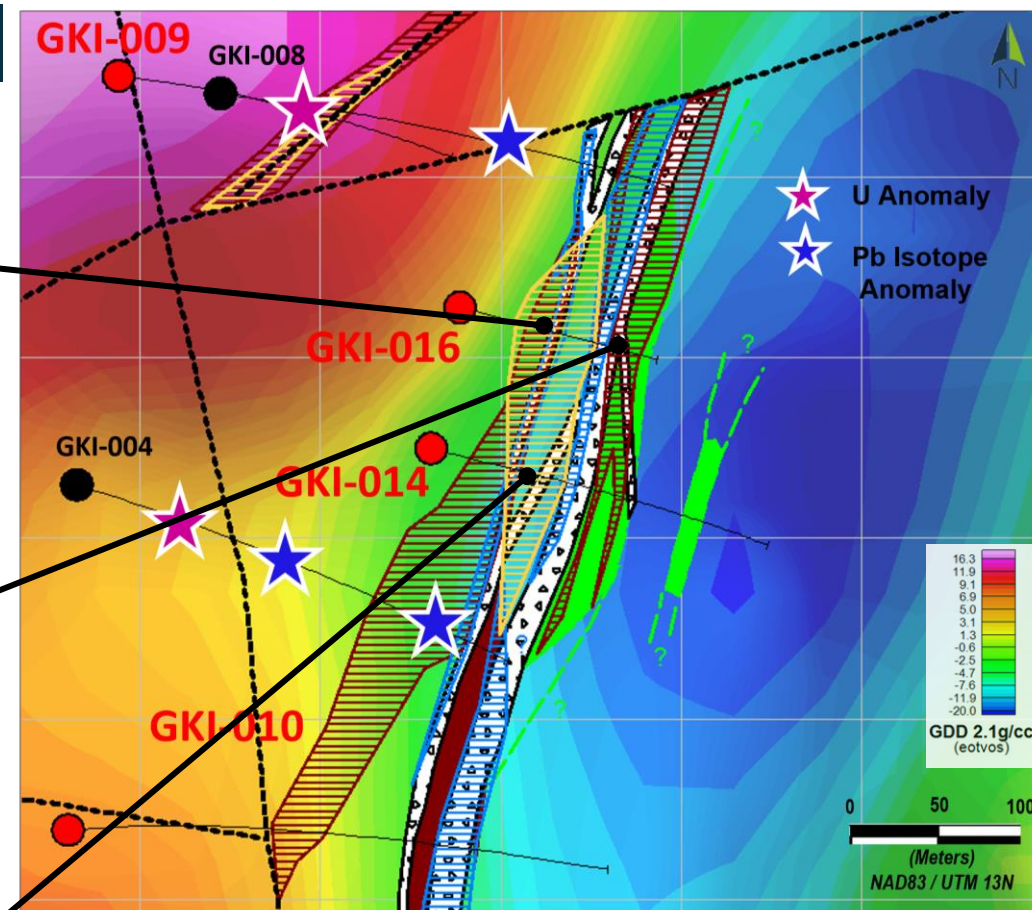
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Preston Creek – Oxidised Fluids

Oxidised fluid circulation in all ddh at Preston South



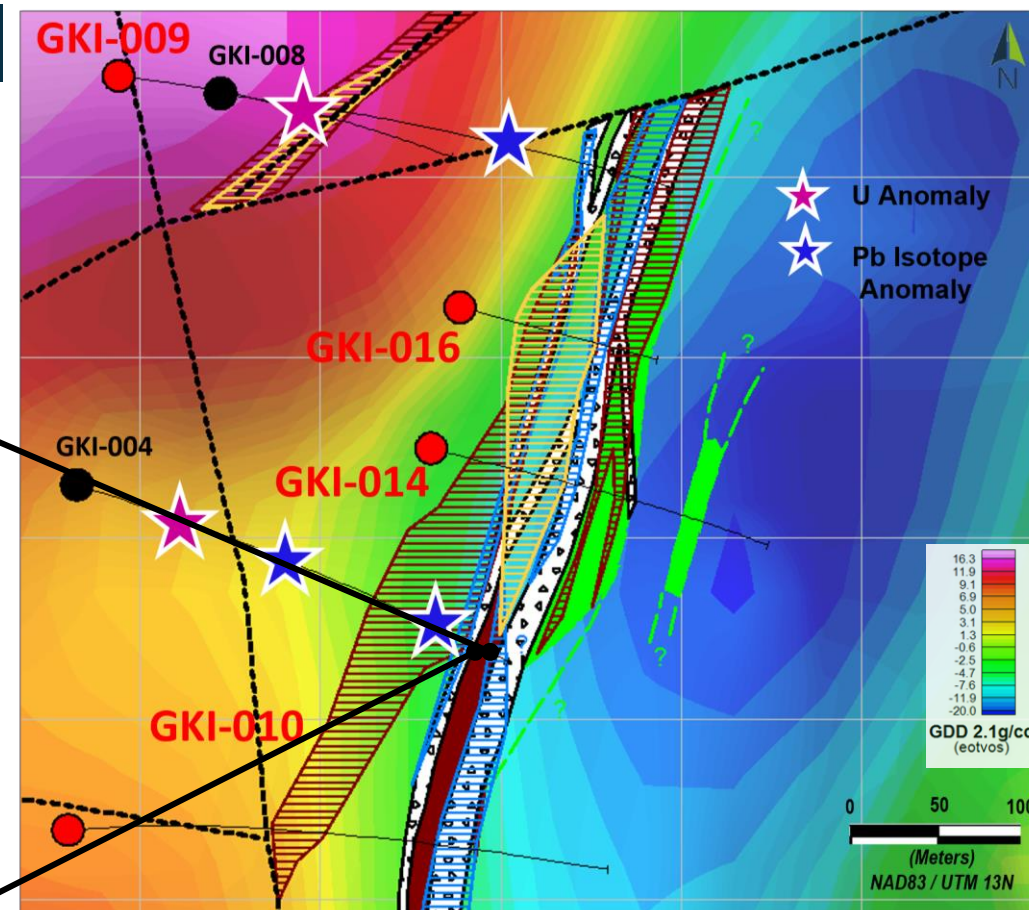
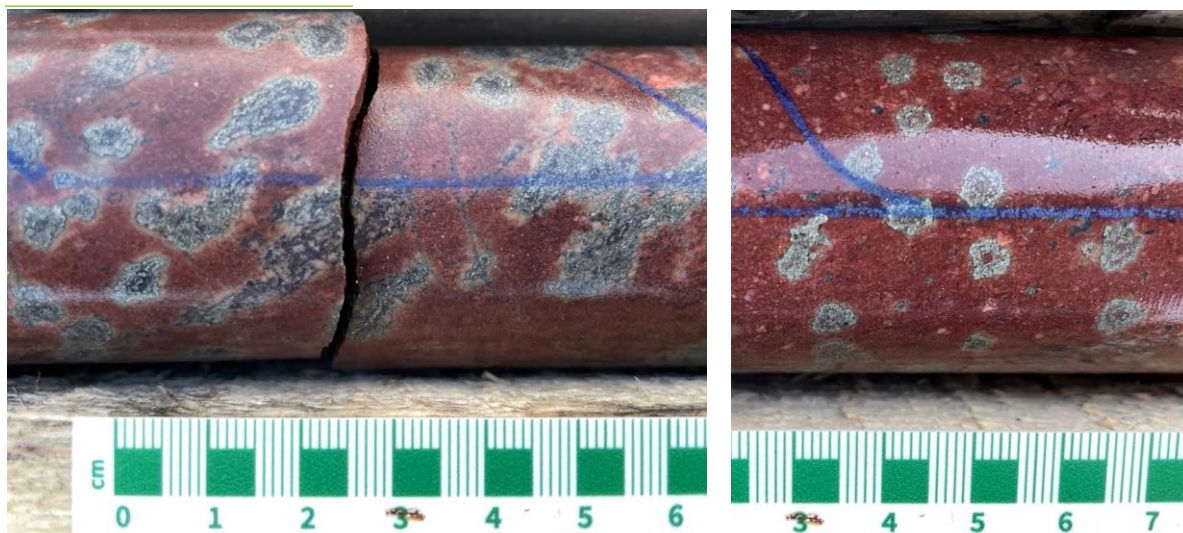
- 2024 drillhole
- 2023 drillhole
- STRUCTURES**
- ▣ Breccia/Cataclasite
- Fault - undefined
- ALTERATION**
- Pervasive argillisation
- Pervasive hematisation
- ▨ Spotty hematisation
- ▨ Spotty limonitisation
- ▨ Pervasive silicification

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Preston Creek – Oxidised faults

GKI-010 – EOH 438.6 m

- Broad quartz-hematite breccia/cataclasite



Data in slide derived from
1. ASX Release, BSN, Drilling at Geikie identifies 1.5km alteration zone typical of basement-hosted mineralisation, 28/05/2024





Preston Creek

Oxidoreduction front?

GKI-016 – EOH 168 m

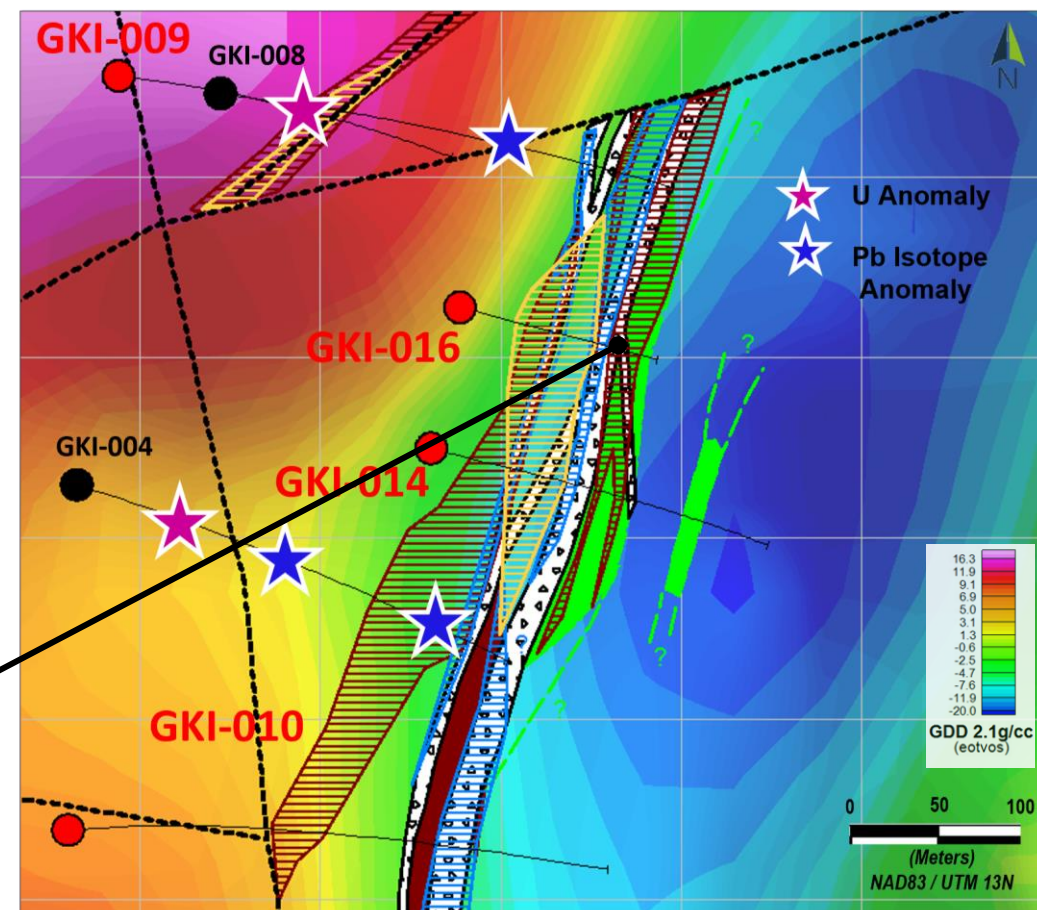
- Complex relationship between fault activity and alteration events

All the key ingredients to uranium precipitation are in this photo!



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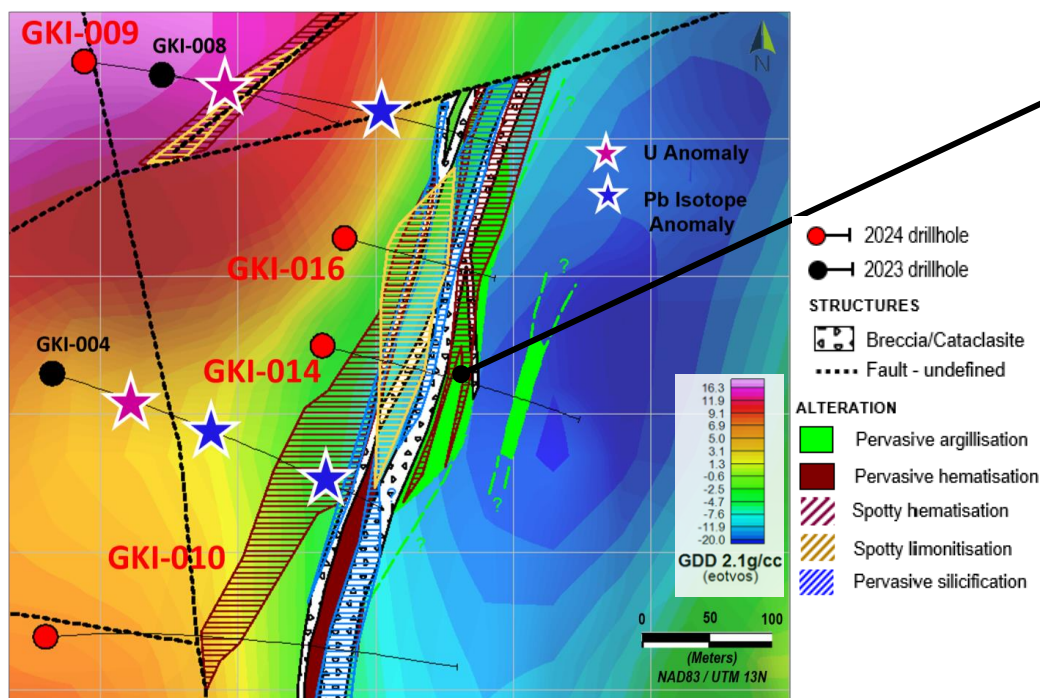


Preston Creek –Pervasive argillisation (GKI-014)

GKI-014

Thick pervasive argillisation (+/- loc. hematite) at footwall of main breccia/cataclasite:

- 143-187.5m
- 227.7-231.3m
- 235-241.5 m



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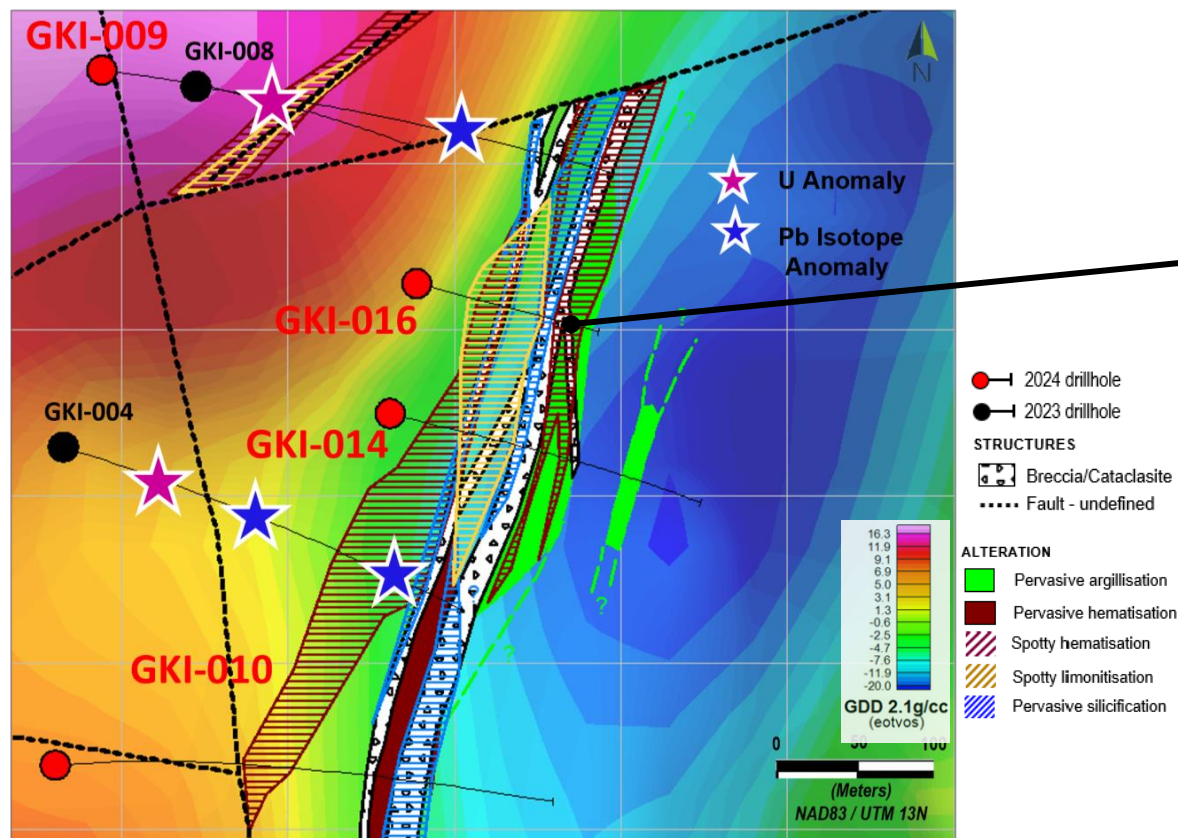


Preston Creek –Pervasive argillisation (GKI-016)

GKI-016

Pervasive argillisation and mottled hematisation at footwall of main breccia/cataclasite:

- 131-163m



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Preston Creek

Pervasive silicification halo

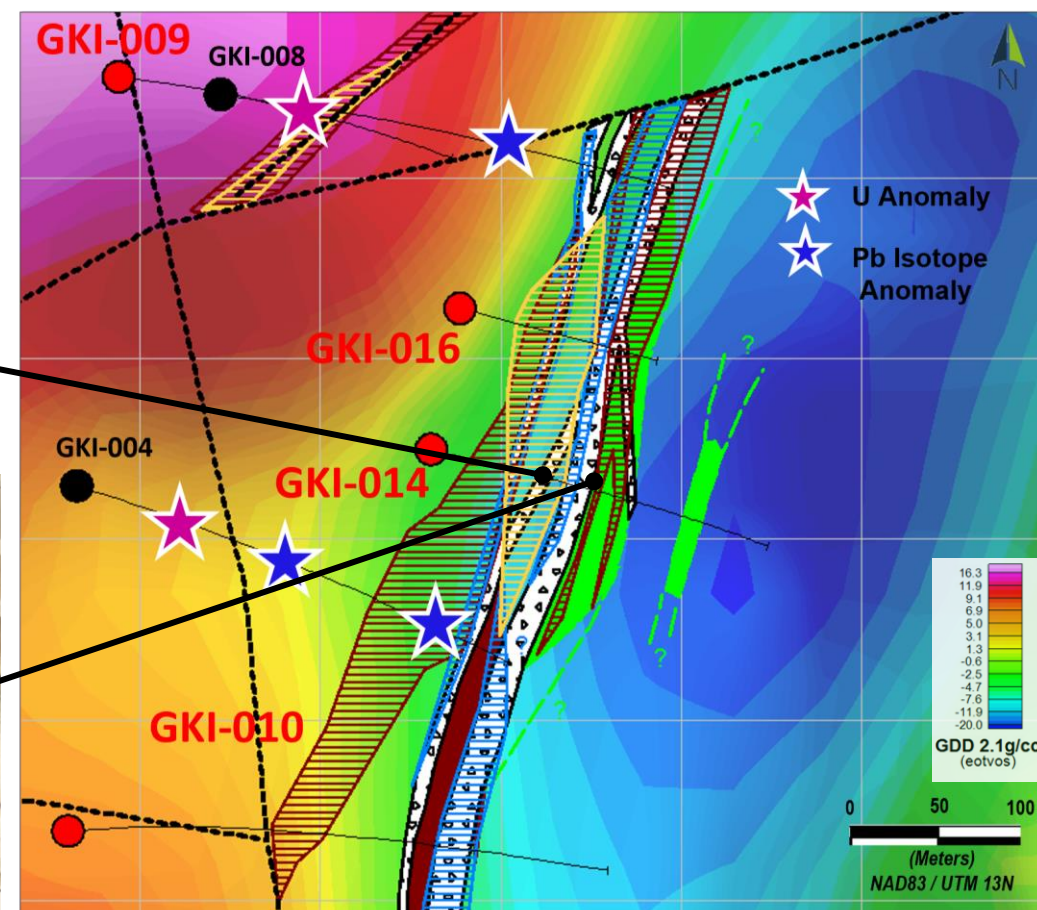
GKI-014 – EOH 303 m

- Quartz-chlorite breccia. Silica-pyrite protobreccia. Silica-rich interval.



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- 2024 drillhole
- 2023 drillhole

STRUCTURES

- Breccia/Cataclasite
- Fault - undefined

ALTERATION

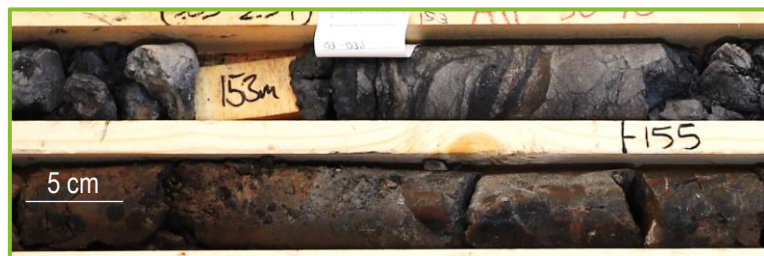
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- Spotty hematisation
- Spotty limonitisation
- Pervasive silicification



Preston Creek – Fault-related, non-granitic anomalous radiometry in GKI-009

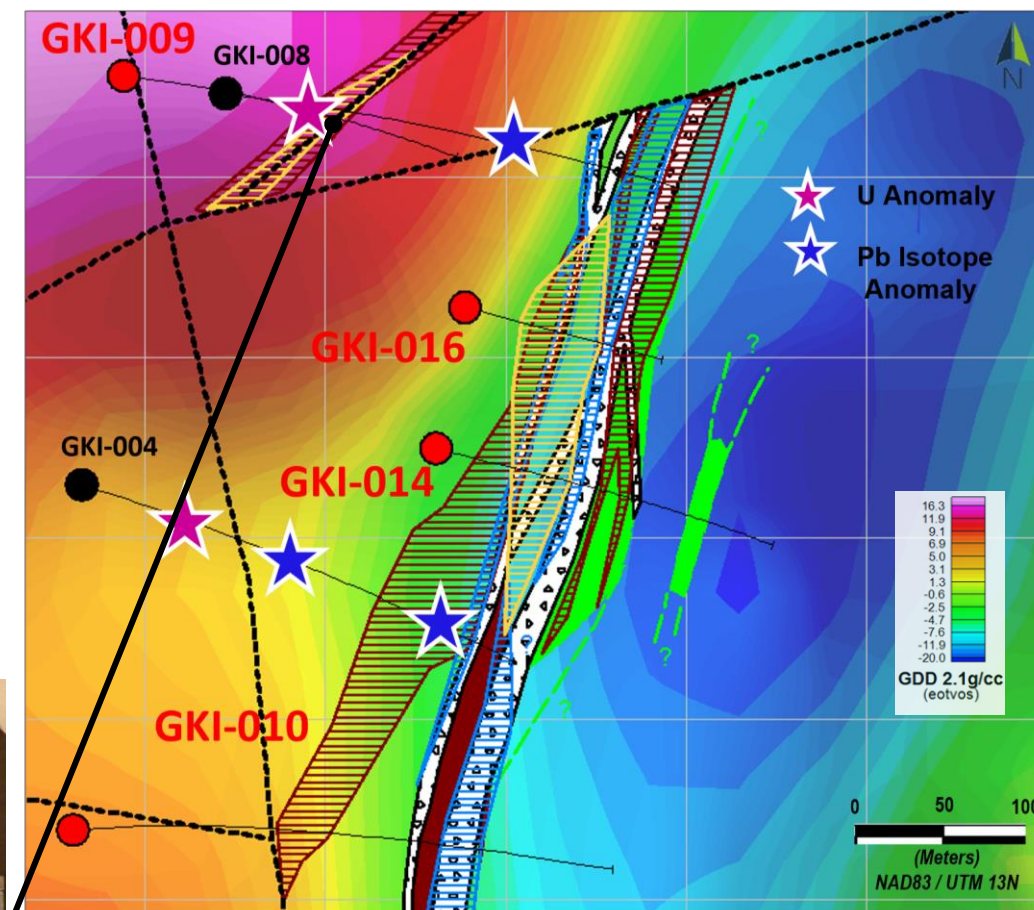
GKI-009 – EOH 264 m

- Elevated radiometry noted in fault footwall exhibiting mottled hydrothermal hematite + chlorite alteration



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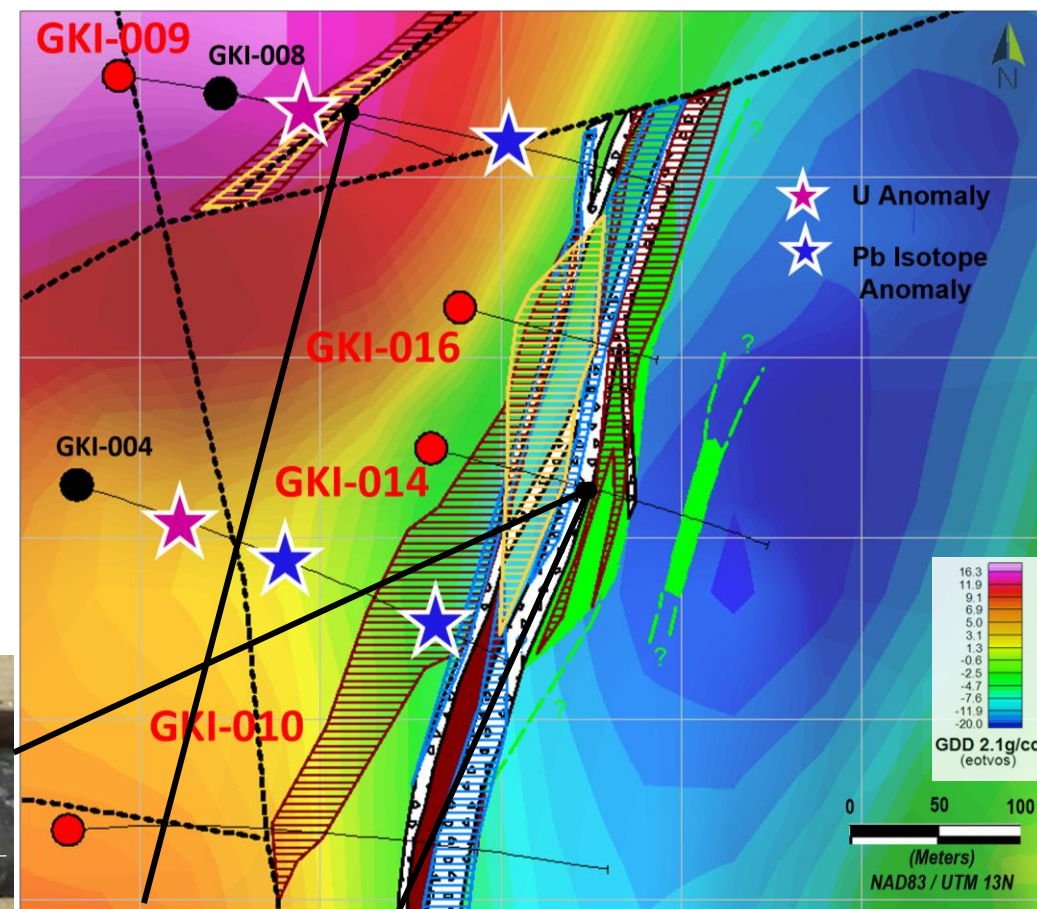
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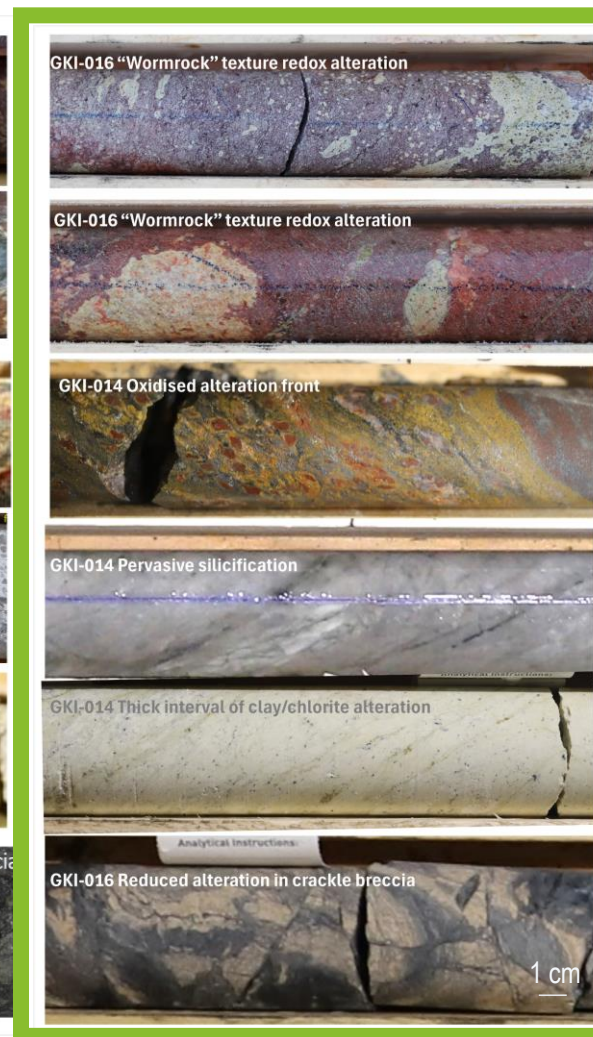
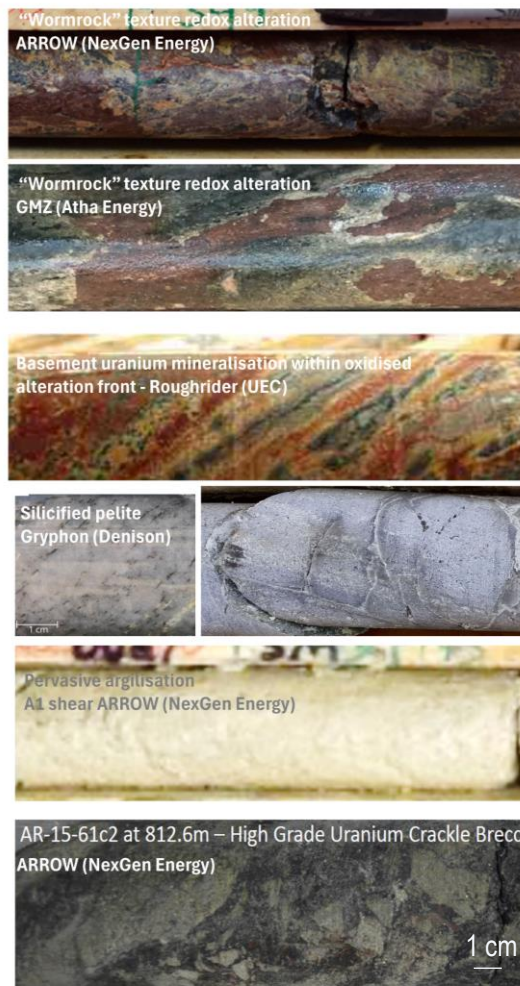
GKI-014 – EOH 303 m

- Main breccia/cataclasite: **structure-related elevated radiometry** at contact between quartz breccia and argillised/graphitic/chloritic breccia/cataclasite (reactivated, fluid circulation: white clay, remobilised graphite, brick red hematite)





Alteration analogy with basement-hosted mineralisation



6 drillholes, 1931.6 m

Incl. GKI-016 abandoned at 168m

Preston South

GEOPHYSICAL ANOMALISM	Key Magnetic Structures	✓ NS, NNW
	Graphitic Conductor	✓ Weak-strong EM response ✓ Structural disruption: bends, splays in conductor trace
	Gravity Low Anomalies	✓ Several wide gravity low anomalies
FLUID PATHWAYS	Host rock permeability	✗ Minimal original permeability
	Brittle Faulting	✓ Complex structural framework ✓ Several stages brittle reactivation overprinting early brittle-ductile structures
	Rheology Contrast	✓ Evidence of fluid circulation along metasediment/granite contact
ALTERATION ASSEMBLAGES	Hydrothermal Alteration	✓ Silica rich fluids (sil,Qtz vng/bx) ✓ Wide oxidized front (hem/py/mgt) ✓ Wide argillised zones
	Reducing Agents	✓ Graphite, Sulfides ✓ Biotite-rich gneiss.
GEOCHEM.	Uranium Anomalism	✓ U-Th rich granites ✗ No ore grade mineralisation (2024 Geochem pending)
	Geochem. Pathfinders	✓ Anomalous Pb isotopes ratios

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- Scibek J. et al, 2021, Permeability Testing of Drill Core from Basement Rocks in the Fault-Hosted Gryphon U Deposit (Eastern Athabasca Basin, Canada): Insights into Fluid-Rock Interactions Related to Deposit Formation and Redistribution, Natural Resources Research.



High-priority drilling areas

Preston Creek Prospect

- **Preston South:**
 - **Drilling at Preston Creek demonstrated the scale and intensity of alteration and structure typical of basement U deposits:** where is the U precipitating in this system?
 - continue drill testing the Preston South gravity anomaly to the NE
- Test other gravity anomalism to the NE, in conjunction with EM picks and mag anomalism

Hunter North

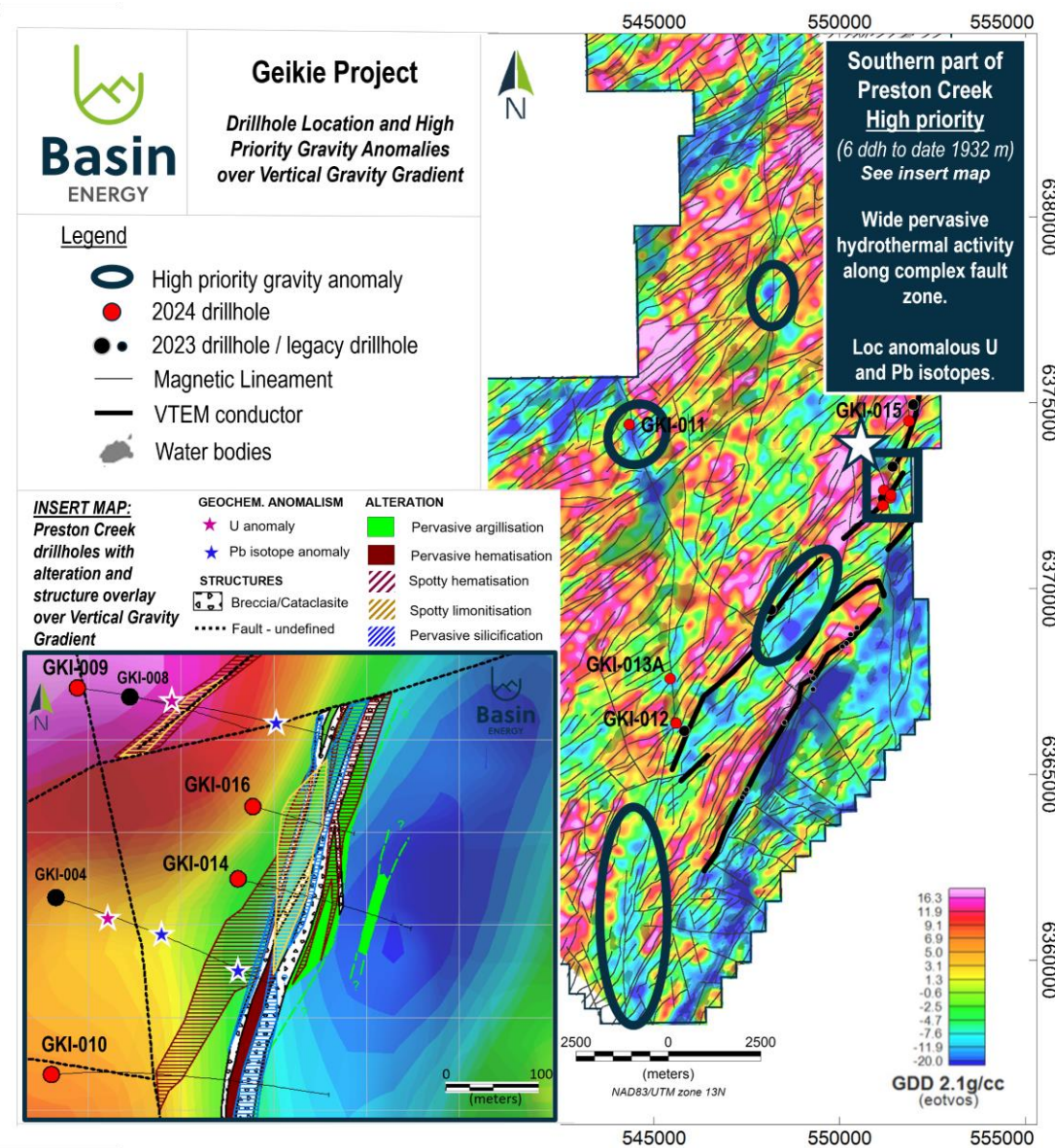
- 1-2 ddh to continue testing the gravity low anomaly coincident with NS-NW mag fault.

Other Areas

- Isolated or “pearl string” gravity low anomalies identified coincident with key regional structures and/or VTEM anomalies

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Further derisk drill targeting

Gravity proving successful at Preston Creek, however regional drilling has produced mixed results elsewhere

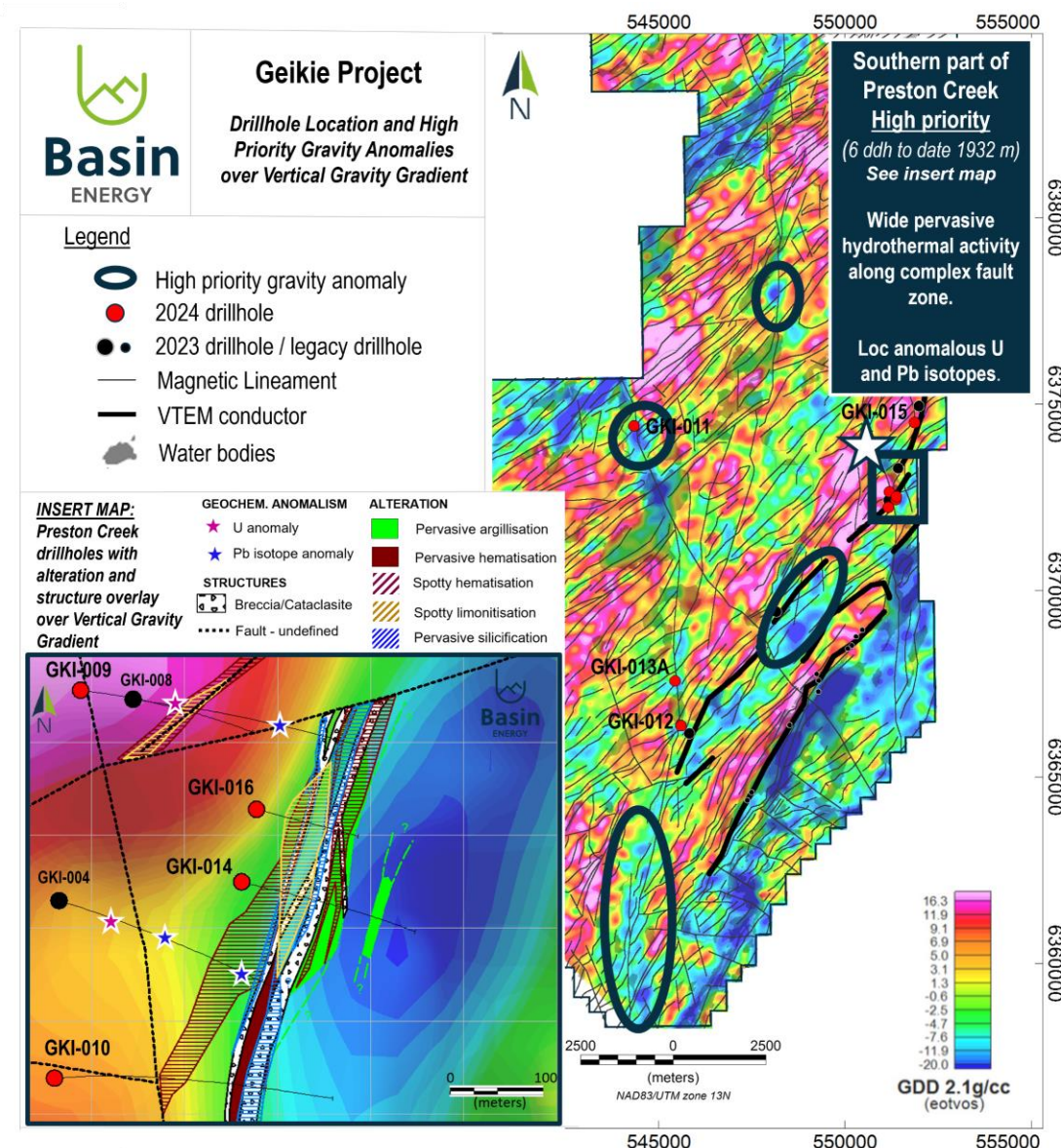
- Regional drilling of gravity lows appears to be correlated to thick glacial cover (up to 70 m)
- How can we further derisk gravity data as a refined targeting tool?

Further constrain current gravity models

- 77 density samples collected this winter from 2023/2024 ddh for petrophysical analysis (esp. density)
- Density measurements coupled with the 2024 drillhole data will further constrain gravity models, particularly in areas of thick glacial coverage
- GKI-014 & GKI-016: ~50 m vertical depth of glacial till and 40+ m pervasive clay alteration.
- Core density analysis may refine the actual gravity model to solely reflect basement alteration at Preston.

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ASX: BSN

2024 Exploration Next Steps

May 2024



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Is Preston South still a high-priority drilling area?



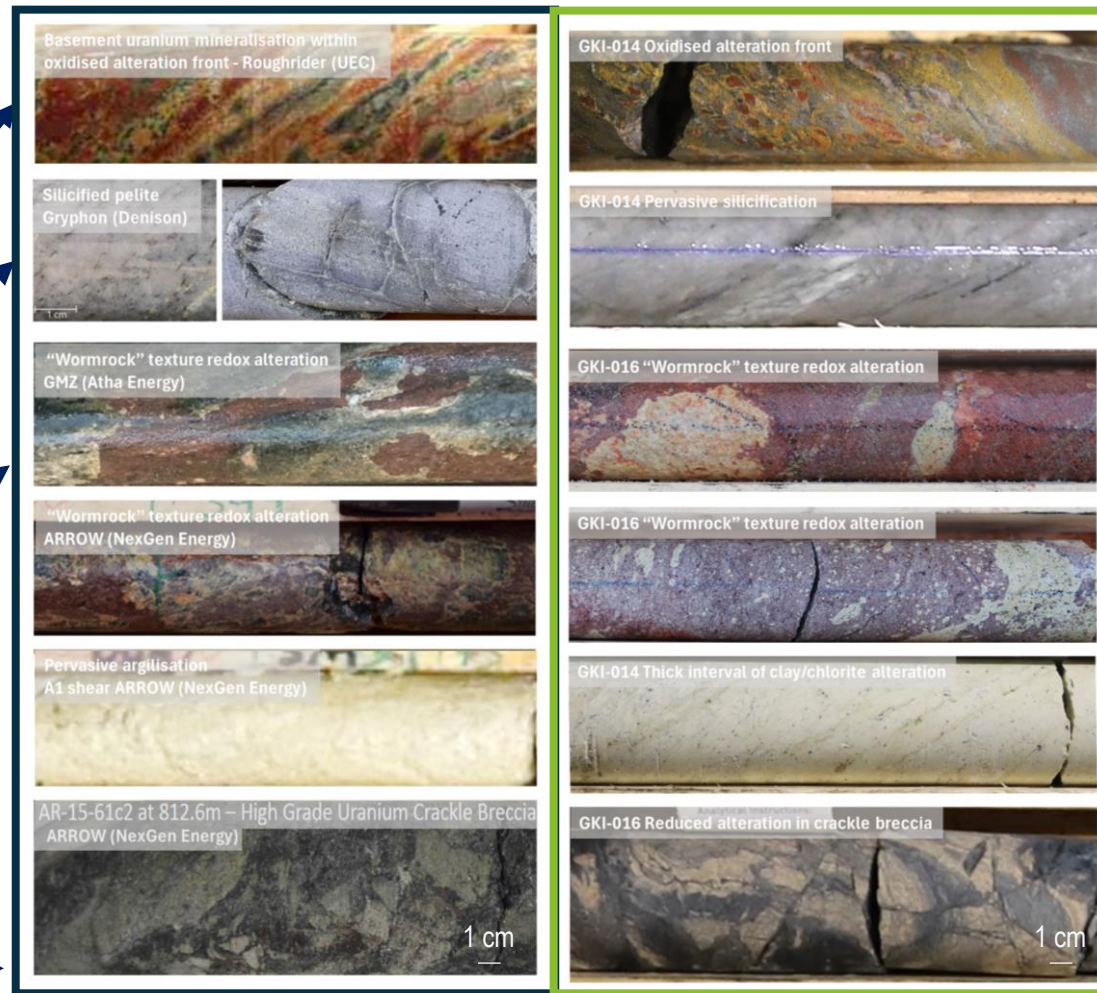
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What to expect next

- 2024 results from ground EM survey at Marshall
- 2024 results from ground EM at North Millennium
- Geochemistry from Geikie drilling
- Geophysical constraining of gravity data using 2024 drilling results from Geikie
- Next phases of 2024 summer field work



Summary

- Basin has identified a system at Geikie showing the hallmark signatures of known Athabasca uranium mineralisation
- Basin holds two additional projects that are located in the heartland of uranium production, for which ground geophysics results are imminent
- Basin remains funded for further field work
- Basin has a Board and Team with direct uranium exploration experience on all uranium deposit styles



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This presentation has been authorised for release by the Basin Energy Board