Basin ENERGY

QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDING 30 SEPTEMBER 2023

Key Highlights

- **Maiden drilling program at Geikie completed;**
  - **Anomalous uranium discovered in four of the eight holes drilled, up to 0.27% U_3O_8**
  - **Elevated lead isotope anomalies and extensive hydrothermal alteration observed in five holes indicate potential for a major uranium mineralising system**
  - **Total of eight (8) drillholes for 2,217 metres completed**
- **Airborne gravity data acquisition completed with final results now pending, as an immediate follow up on drilling success**
- **60% ownership milestone reached at Geikie Uranium Project**
- **3D inversion of North Millennium and Marshall ZTEM data completed**
  - **Multiple anomalies identified above and below the Athabasca unconformity in both sandstone and basement stratigraphy at Marshall**
  - **Five-kilometre target corridor defined at North Millennium located along interpreted fault extension, host of Cameco's Millennium uranium deposit**
- **Continued engagement and consultation with Indigenous and stakeholder groups**
- **U_3O_8 spot price surpasses US$70/Lb[1]; hitting 15-year high**
- **Strong cash balance of $4.2M ensures Basin is well funded for further exploration**

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Basin Energy Ltd (**ASX:BSN**) ('**Basin**', or the '**Company**') is pleased to provide an overview of activities for the period ending 30 September 2023 ("**Quarter**", "**Reporting Period**") and an accompanying Appendix 5B.

Exploration for the Quarter occurred on all of Basin's Athabasca Basin uranium projects (**'The Projects')** (Figure 1), however the primary focus was the completion of drilling, and subsequent follow up geophysics at the Geikie Project **('Geikie')**.

Basin has been advancing exploration targets deemed prospective for high grade uranium mineralisation, using analogies and models derived from neighbouring uranium deposits and discoveries of the Athabasca Basin. Maiden drilling has now been completed at Geikie, and successfully identified uranium mineralisation with assays up to 0.27% U_3O_8. Uranium mineralisation is located proximal to two regionally significant structures at Aero Lake and Preston Creek with associated

[1] *Refer https://tradingeconomics.com/commodity/uranium*

extensive hydrothermal alteration indicative of large uranium mineralising systems. Furthermore, an extensive geochemical pathfinder halo has been identified at Preston Creek, characteristic of uranium mineralising systems seen elsewhere in the district.

Subsequent to the completion of drilling, Basin conducted a Falcon Airborne Gravity Gradiometer survey **('AGG'** or **'gravity survey')**, designed to identify potential areas where alteration intensifies adjacent to the identified prospective structures. This technique has been demonstrated to be successful in identifying uranium bearing alteration systems in the eastern Athabasca Basin, most recently at the nearby uranium discoveries by 92 Energy (ASX: 92E) ("**GMZ**") and Baselode Energy Corporation (TSXV: FIND) ("**ACKIO**").

The completion of drilling satisfied the expenditure requirement for Basin to meet 60% ownership of the Geikie Uranium Project. Basin and CanAlaska Uranium Ltd (TSX-V:CVV) entered into a property Option Agreement (**'Agreement'**) on 22 April 2022 for the Geikie Uranium Property. Basin holds the right to earn up to an 80% interest in three defined earn-in stages on the Project. Basin has now elected to proceed with the Agreement through to 80% ownership status[2]

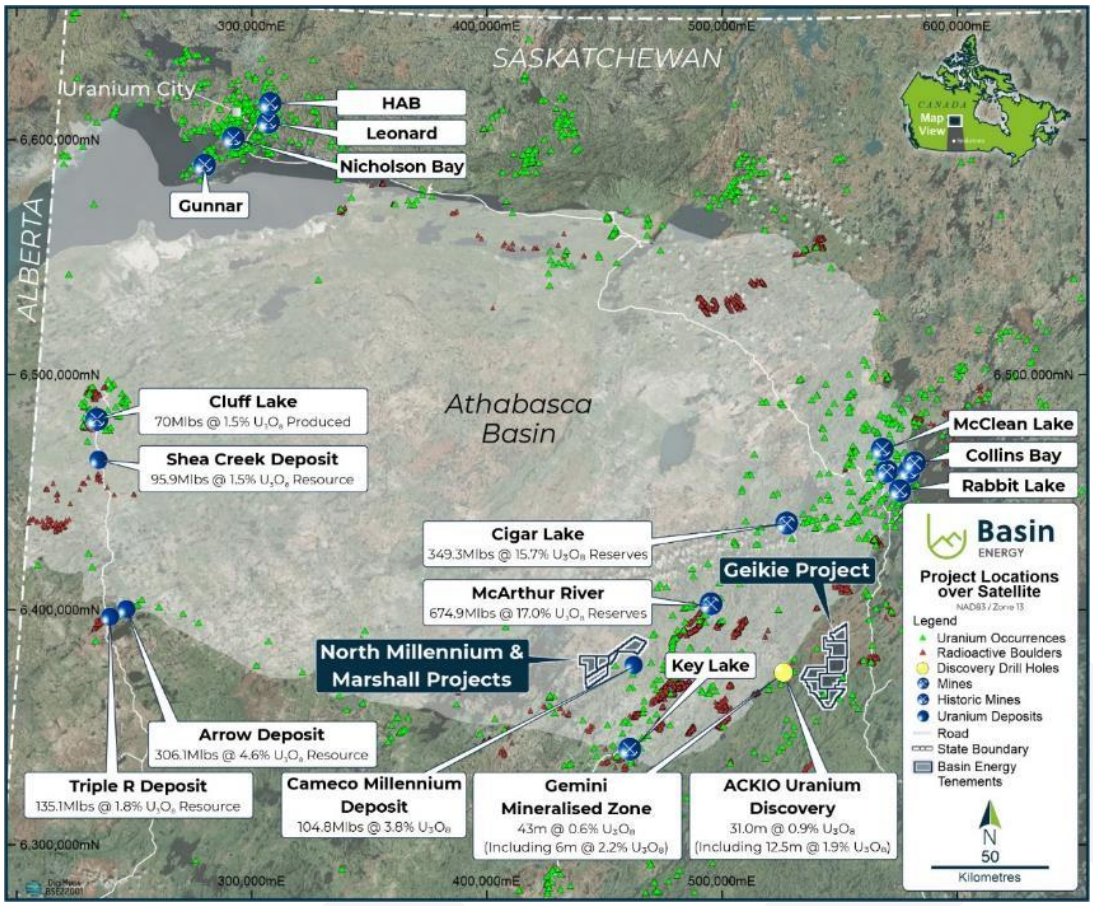

***Figure 1[3]**: Project locations in relation to the Athabasca Basin*

[2] *Refer Basin Energy ASX release dated 29/08/2029 "Basin Reaches 60% Ownership Milestone of Geikie Uranium Project".*

[3] *Refer to Basin Energy ASX Prospectus dated 22/08/2022 for quoted mineralisation, resources figures and background information.*

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Work at the North Millennium and Marshall projects focussed on target optimisation utilising historic data. Modelling and inversions completed of historic Z-Tipper Axis Electromagnetics ("**ZTEM**") data successfully revealed a series of compelling anomalies forming the basis for future exploration work.

Additionally, as part of the Company's broader exploration campaign within the Athabasca Basin, a continued focus has been placed on the engagement and consultation of Indigenous and stakeholder groups within the three exploration Project areas.

Geikie Maiden Drilling [4,5,6,7]

During the Quarter, the Company completed its maiden drilling at the Geikie Uranium Project. This program successfully identified uranium mineralisation, with assays up to 0.27% U3O8. Uranium mineralisation is located proximal to two regionally significant structures at Aero Lake and Preston Creek with associated extensive hydrothermal alteration indicative of large uranium mineralising systems. Furthermore, an extensive geochemical pathfinder halo has been identified at Preston Creek, characteristic of uranium mineralising systems seen elsewhere in the district.

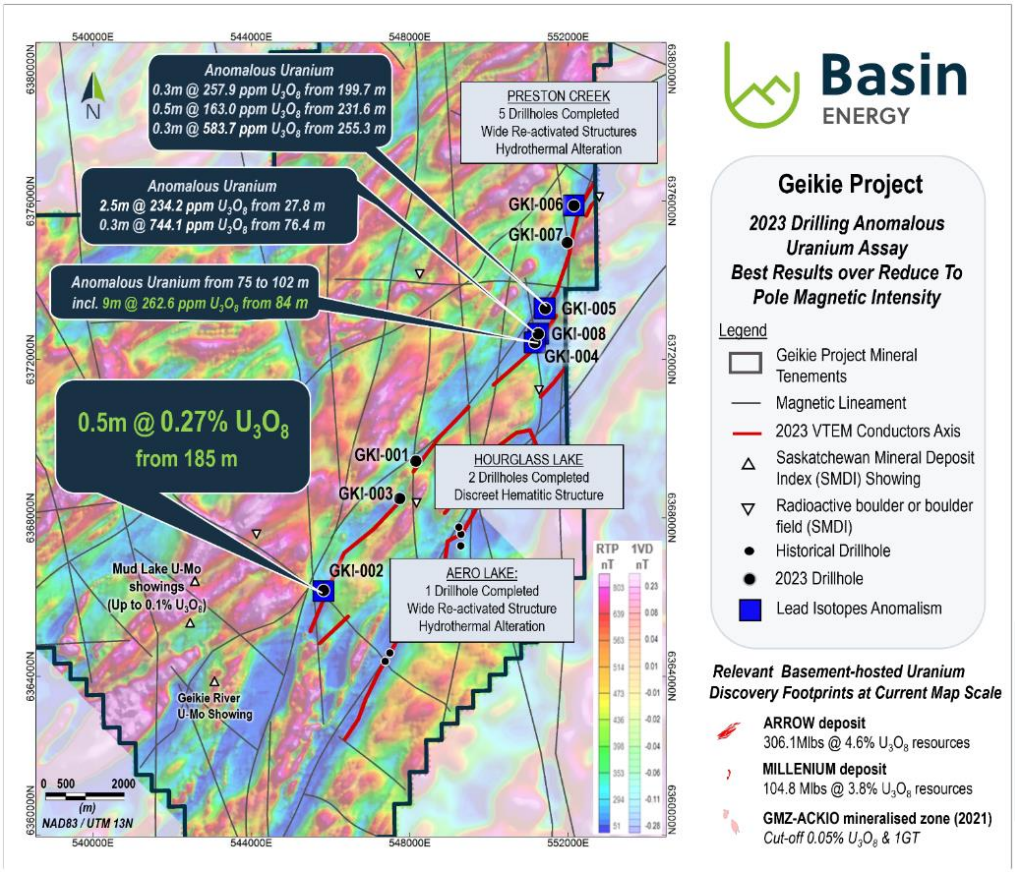

Figure 2: *Geikie Project Plan Map showing Uranium Anomalism from the 2023 Drilling Assay Results*

[4] *Refer Basin Energy ASX release dated 20/09/2023 "Basin Energy Intersects Uranium Mineralisation up to 0.27% in Maiden Drilling at Geikie"*
[5] *Refer Basin Energy ASX release dated 10/08/2023 "Elevated Radioactivity and Significant Hydrothermal Alteration Identified at Geikie"*
[6] *Refer Basin Energy ASX release dated 22/03/2023 "Airborne Electromagnetic Survey Completed at Geikie"*
[7] *Refer Basin Energy ASX release dated 14/10/2022 "Maiden Geophysics Survey Defines Multiple Targets at Geikie"*

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A total of eight (8) drillholes for 2,217 metres were drilled across three prospects. Basin's maiden drilling program targeted potential structural disruption of a 15-kilometre conductive trend visible in the electromagnetic and magnetic data acquired in 2023 and 2022 respectively.

Drilling identified a series of regionally significant alteration patterns associated with the intersection of north-south and northwest trending faults within the Project area. Additionally, multiple localised zones of radiometric anomalies were identified.

Preston Creek – 5 Drill Holes Completed

The Preston Creek prospect is located at the northeastern end of the 15-kilometre prospective zone identified following the acquisition of high-resolution airborne magnetic and electromagnetic data. Basin interprets a series of structures converging along the Preston Creek area, of which the complexity of the structural setting is considered a suitable conduit for uranium-bearing fluids.

Five drillholes (GKI-004 to GKI-008) were completed at the Preston Creek prospect for a total of 1575 metres.

Drilling at Preston Creek identified anomalous uranium concentrations in excess of 100 ppm U3O8 in drillholes GKI-004, GKI-005 and GKI-008 (Figure 2). Drillholes GKI-004, GKI-005 and GKI-008 were drilled in a zone of structural disruption, where a north-south to north-northwest striking Tabbernor Fault is transecting a conductor trend. The drillholes were positioned at a bend in the conductor's axis where the electromagnetic data identified potential fault splays with stacks of electromagnetic plates. Significant zones of hydrothermal alteration were encountered (Figure 3), commonly observed within or at the periphery of major structures.

Each hole intersected re-activated basement faults ranging up to 30 metres in thickness, with additional discreet faults (<1m) noted outside of major structural intervals. Significant localised alteration with composition and patterns typical of uranium mineralising systems were encountered (Figures 3, 4 and 5), consisting mostly of hematite, chlorite, clays and hydrothermal graphite commonly observed within or at the periphery of major structures. Increased sulphide mineralisation was also noted within these intervals.

The characteristics of the fault system identified at Preston Creek are deemed by Basin as highly encouraging for the prospectivity of the broader Project area, where these structures are interpreted to exist. Extensive investigation of fault kinematics and alteration characterisation will form the basis for the next phase of exploration at Geikie.

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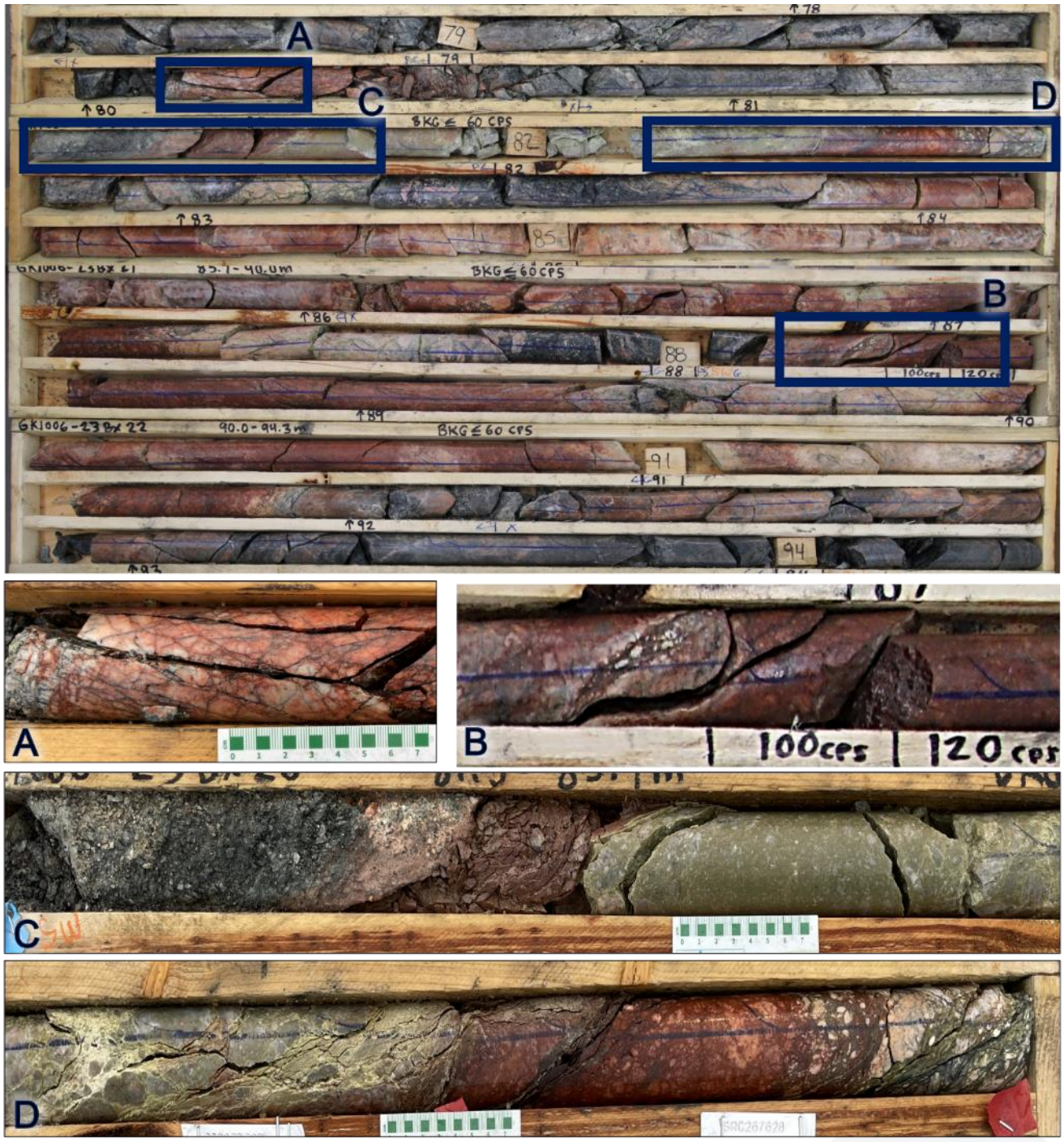

***Figure 3**: Photographs of alteration and deformation style intersected in a major faulted interval (shear zone) in drillhole GKI-006. A. Close-up of a hematised clast-supported crackle breccia with dark chlorite and hematite matrix. B. Close-up of strongly hematised fractured host rock with elevated CT-007-M scintillometer radiometry. Note the 3 cm-thick matrix-supported breccia exhibiting corroded clasts within a friable fine grained hematitic clay matrix. C. Close-up of a strongly altered cataclastic interval consisting of an incohesive gouge with dark grey to light grey clay matrix (left), an incohesive brick-red protobreccia (middle), and an indurated ultracataclasite zone with a sage green chloritic matrix (right). D. Close-up of continued strongly altered brecciated interval with brick red hematite noted overprinting the middle section of the photographed core and a later reactivation stage marked by a pale green-yellow clay matrix supporting chlorite-altered clasts.*

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Figure 4: *Close-up of strongly fractured hematised interval intersected in drillhole GKI-004. Deformation is characterized by an extensive network of microfractures, open fractures, quartz veins, cohesive dark green cataclastic bands and incohesive centimetre scale breccias and gouges. A bleaching halo is commonly observed peripheral to the fractures and microfractures planes and gritty white fine grained clay matrix is noted in the incohesive breccia and gouges.*

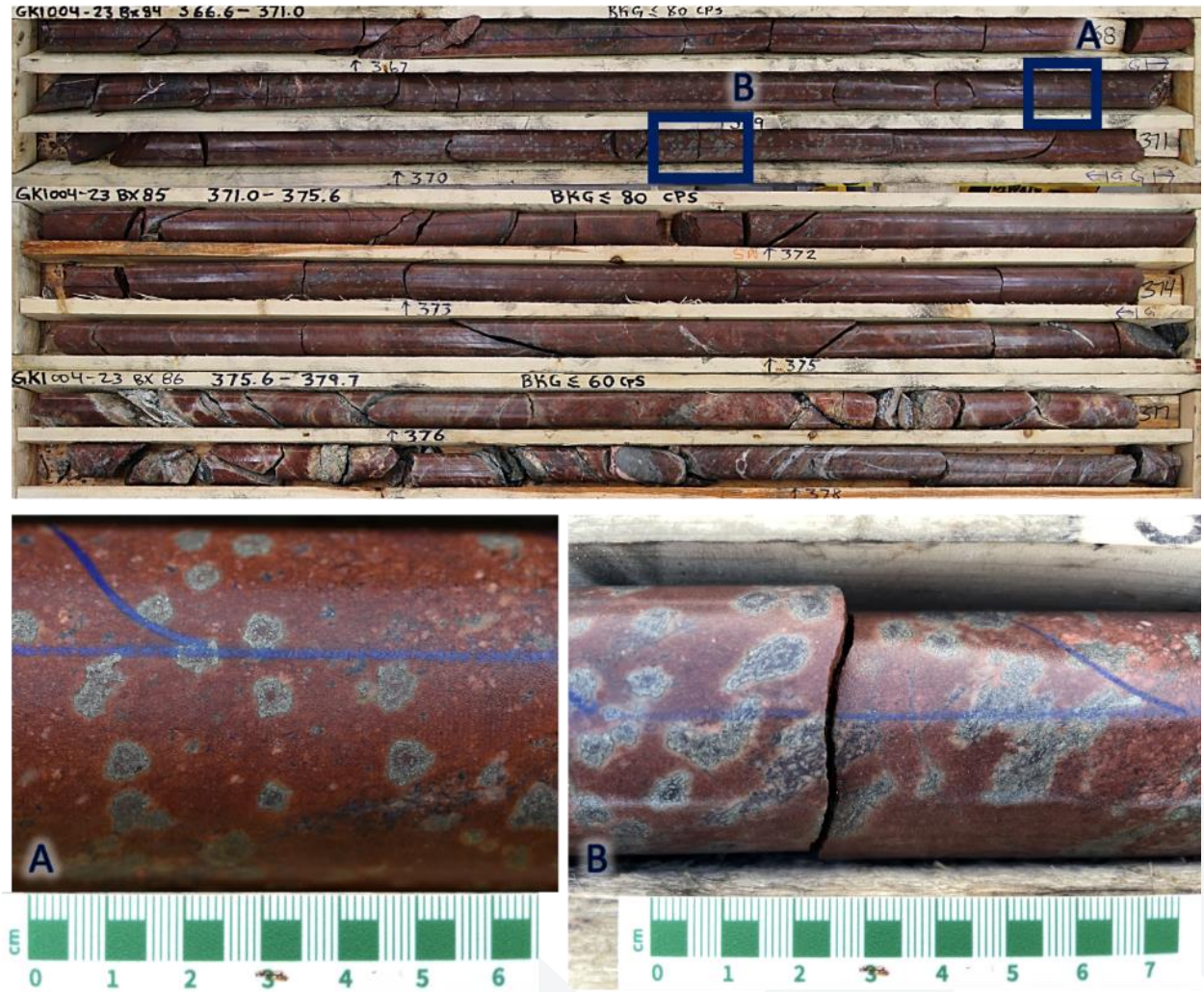

Figure 5: *Interval of strong hematite alteration overprinting the host rock in drillhole GKI-004 at the inferred contact between Wollaston metasediments and the underlying Johnson Lake granite. A. Close-up photograph of the pervasive brick red hematisation overprinting the host rock with fine grained black specular hematite disseminations and zoned pyrite nodules. B. Close-up photographs of pyrite-specular hematite clusters.*

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Aero Lake - 1 Drill Hole Completed

Aero Lake is the western most target area tested, occurring at a confluence of interpreted structural lineaments with a series of geological and geophysical anomalies, refer ASX 13 June 2023 for details.

Drilling at Aero Lake intersected the highest uranium value of the drilling program: 0.27% U_3O_8 over 0.5 metres starting from 185 metres in GKI-002. This drill hole also intersected hydrothermal alteration, consisting of argillization and chloritization spatially associated with large scale brittle-ductile faulting where multiple stages of reactivation were noted.

Drilling intersected a significant structure from 59 to 88 metres downhole, demonstrating large scale faulting characterised by intermittent cohesive breccia and cataclastic faulting and overprinting dark grey clay gouges (Figure 6). As at Preston Creek, multiple stages of reactivation are interpreted.

Hydrothermal alteration spatially associated with the fault zone consists primarily of pale yellow green argillisation and chloritization (Figure 6). Clay minerals within this interval were analysed with the Terraspec. Partial results of the Terraspec samples have been received and confirm the dominant clays to be illite and magnesium chlorite. These clay minerals are commonly found in the hydrothermal alteration of uranium systems in the district.

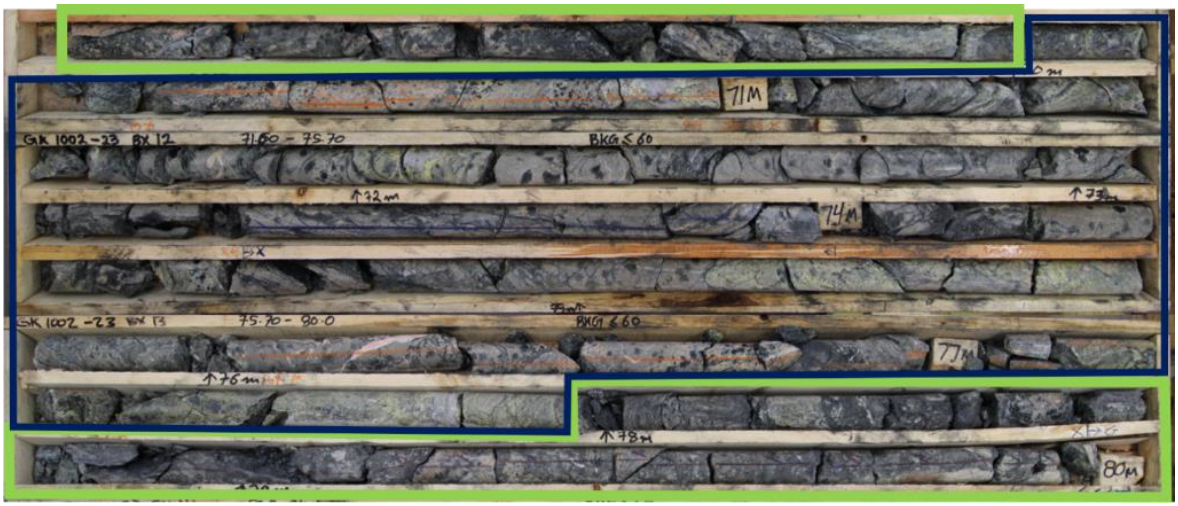

***Figure 6**: Faulted interval in drillhole GKI-002 characterised by successive moderately to strongly chloritized and argillised cataclastic fault cores (green box) separated by a damage zone (blue box)*

Hourglass Lake - 2 Drill Holes Completed

The Hourglass Lake prospect is located midway along the 15 kilometre prospective zone. Drilling has been designed to test an interpreted disruption of the VTEM conductor, where an apparent 500 metre offset is observed in conjunction with a discreet north-south trending magnetic structural lineament deemed suitable as a mineralising fluid conduit.

GKI-001 and GKI-003 were completed at Hourglass Lake for a total meterage of 401 metres (Figure 1). A narrow (< 1m) hematite fault zone was intersected in GKI-001 but initial core observations have downgraded the priority of this prospect due to a notable lack of significant structure and alteration. The inferred offset of the conductor package identified from the VTEM survey has not yet been explained. No radiometric anomalies were noted in these two drillholes.

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Geikie Airborne Gravity Survey [8,9]

The maiden drilling results from the Preston Creek and Aero Lake target areas, specifically the hydrothermal alteration associated with structures, suggest that AGG surveying is an optimal geophysical tool to refine future drill targets. The AGG survey (Figure 8) is designed to identify potential target areas where basement alteration intensifies adjacent to and within drill-confirmed and regional interpreted structures. AGG surveys are focused on identifying gravity lows which are interpreted to be caused by hydrothermal fluids altering basement rocks to clay. The survey method is a proven effective tool in the exploration for basement-hosted high-grade uranium deposits in the Athabasca Basin, specifically in areas where no Athabasca sandstone cover is present. Gravity surveys have been successfully used 10 kilometres west of the Geikie Uranium Project on the 92 Energy (ASX: 92E) GMZ discovery and the Baselode Energy Corporation (TSXV: FIND) ACKIO discovery (Figure 1), which is associated with a well-defined gravity low anomaly.

Once data is finalised, the AGG survey results will be combined with the structural knowledge gained from the recent drilling, along with the high-resolution airborne geophysical data sets previously collected, including electromagnetics, radiometric, and magnetic to validate existing targets and direct the next phase of exploration drilling.

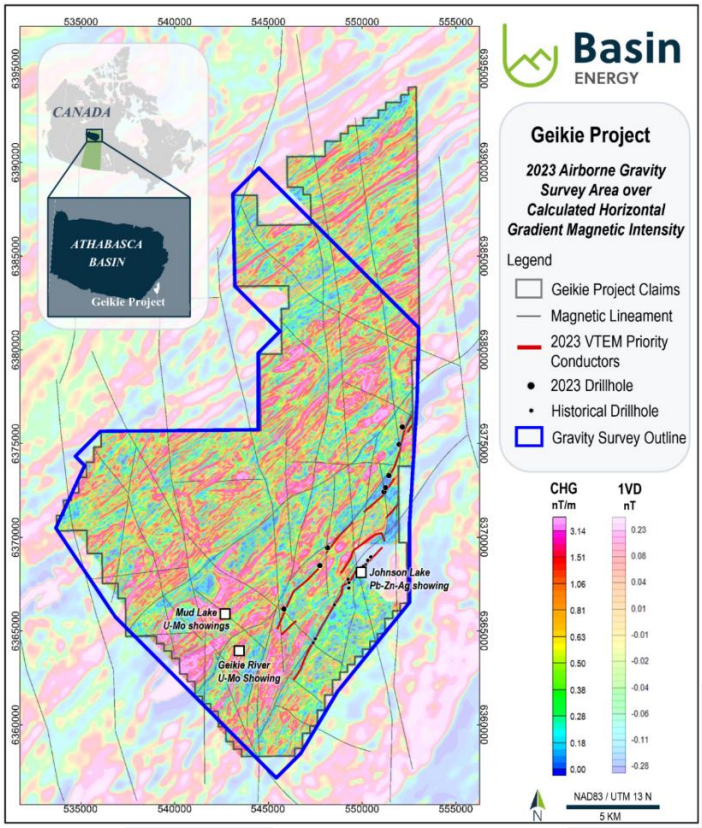

***Figure 8**: AGG Survey Area at Geikie*

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[8] *Refer Basin Energy ASX release dated 10/08/2023 "Elevated Radioactivity and Significant Hydrothermal Alteration Identified at Geikie"*

[9] *Refer Basin Energy ASX release dated 22/08/2023 "Airborne Gravity Survey Commences at Geikie Uranium Project"*

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North Millennium & Marshall Project Updates[10,11,12]

As part of Basin's ongoing assessment of the Projects, geophysical experts Computational Geosciences Inc. and Convolutions Geoscience were engaged to conduct modern 3D inversion and processing works of historic geophysical data at both the Marshall and North Millennium Project areas.

North Millennium

The North Millennium Project is located in the southeastern portion of the Athabasca Basin, and situated 7km north of Cameco Corporation's Millennium deposit (104.8Mlb at 3.8% U_3O_8).

Results of this reprocessing support the interpretation of a 5km structural target corridor that extends continuously to the Mother Fault, which hosts the Millennium deposit 7km to the south. Furthermore, several conductive features identified in the modelling show disruptions caused by this structural corridor (Figures 9 and 10).

The definition of this corridor, known to be the conduit for mineralisation at the world-class Millennium Deposit and the disrupted conductors is highly encouraging, given that little exploration has ever been completed at the Project.

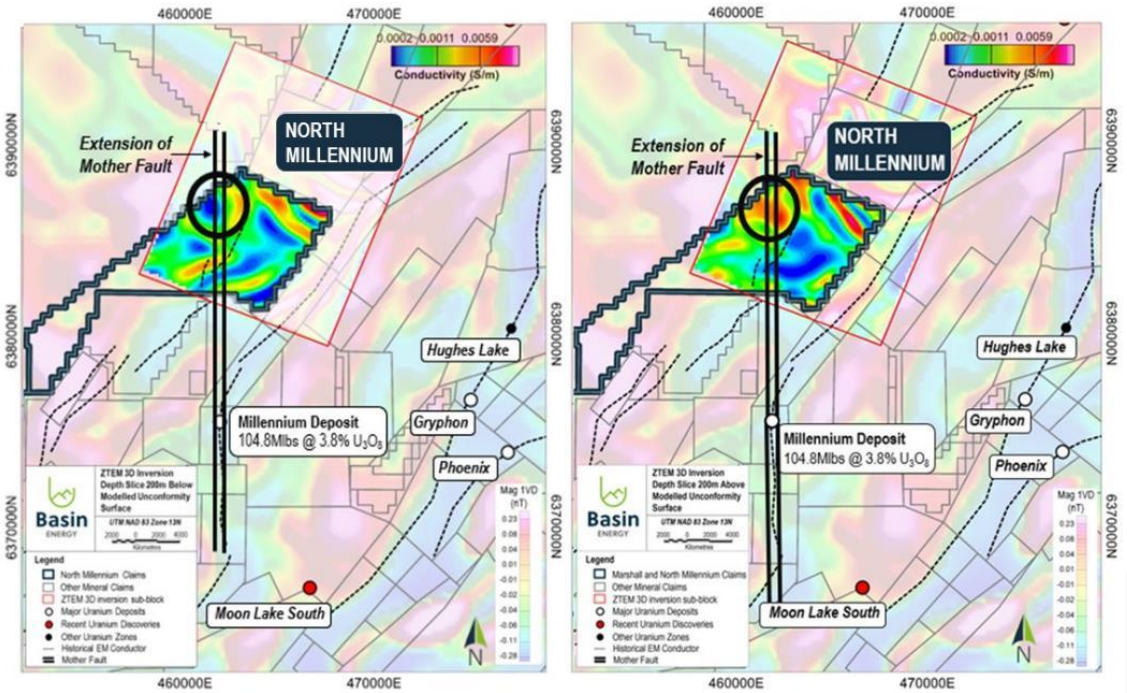

Figure 9 (left), Figure 10 (right): *3D inversion ZTEM depth slice 200m below modelled unconformity surface over first vertical derivative magnetics* ***(and):*** *3D inversion ZTEM depth slice 200m above modelled unconformity surface over first vertical derivative magnetics*

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[10] *Refer to Basin Energy ASX Prospectus dated 22/08/2022 for quoted mineralisation, resources figures and background information.*

[11] *Refer to Basin Energy ASX release dated 28/09/2023 "Priority Targets identified at Marshall Uranium Project"*

[12] *Refer to Basin Energy ASX release dated 18/09/2023 "Unconformity Uranium Targets Identified at North Millennium"*

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Marshall

The 100% owned Marshall Project is located in the southeastern portion of the Athabasca Basin and situated 11km west of the Millennium deposit, around 50 km southwest of the McArthur River Mine.

Modelling reveals strong conductive anomalies along the edge of the magnetic low below the unconformity surface (Figure 11). In addition to this, the data highlights a set of north-northwest conductive anomalies interpreted as possible cross-cutting conductive structures. Modelling above the unconformity (Figure 12) demonstrates various relative conductivity anomalies in the sandstone, including a northeast-southwest structure set, also highlighted by magnetic data. Basin interprets this to represent the potential presence of alteration within the sandstone, which could have been caused by mineralizing fluids breaching the unconformity contact.

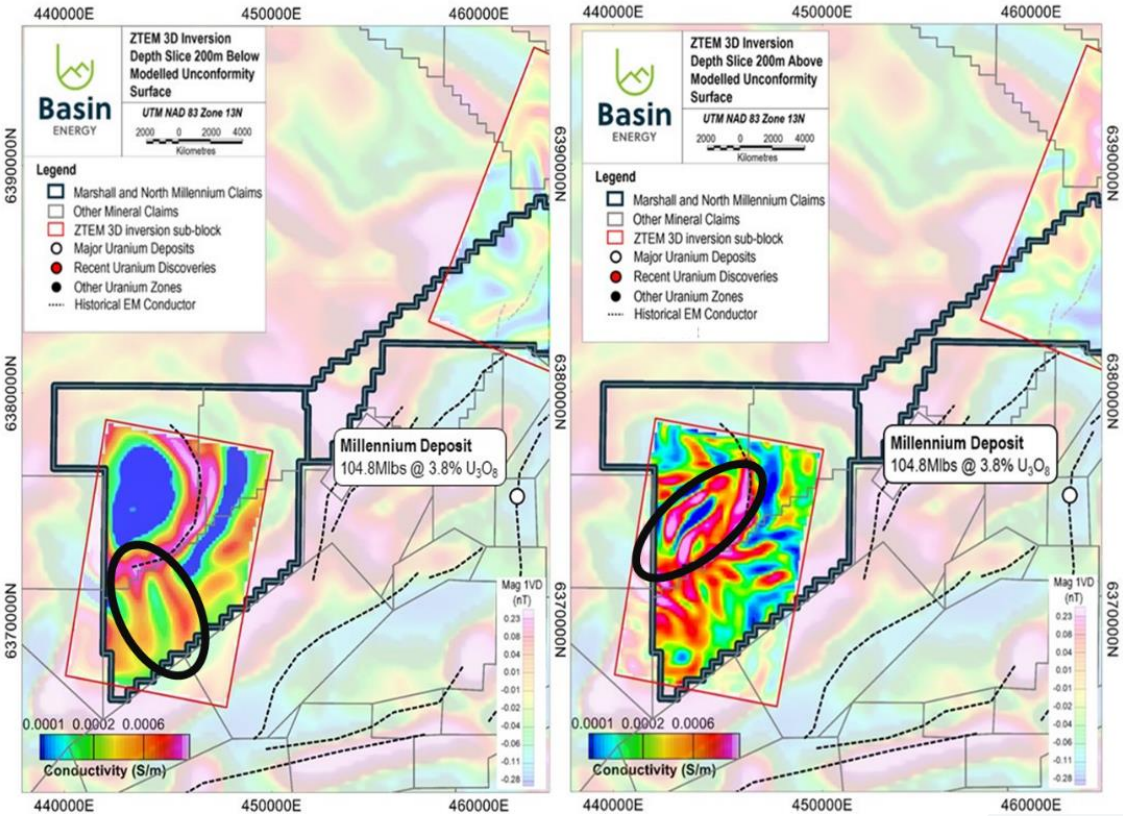

Figure 11 (left), Figure 12 (right): *3D inversion ZTEM depth slice 200m below modelled unconformity surface over first vertical derivative magnetics* ***(and)*** *3D inversion ZTEM depth slice 200m above modelled unconformity surface over first vertical derivative magnetics*

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Upcoming Events

Basin will be attending the following events, and representatives will be available to discuss the Company's exciting progress;

- International Mining and Resources Conference (IMARC), Sydney, 31st October to 2nd November 2023
- Global Uranium Conference (GUC), Adelaide, 15th to 16th November 2023
- Noosa Mining, 15th to 17th November 2023
- RIU Resurgence Conference (RIU), Perth, 22nd to 23rd November 2023

Corporate and Other Business

The Company was successfully admitted to the ASX on 30 September 2022 and commenced trading on 4 October 2022.

- As of 30 September 2023, the Company held A$4.2 million in cash. Full details of the Company's cash movements during the Quarter are detailed in the attached Appendix 5B.
- As per ASX Listing Rule 5.3.1, incurred exploration expenditures were primarily related to geophysical surveys and technical studies at the Geikie and North Millennium Projects, and exploration drilling at the Geikie Project. Exploration expenditures incurred during the Quarter are reported at A$817,000.
- As per ASX Listing Rule 5.3.2, there were no substantive mining production and development activities undertaken during the Quarter.
- In accordance with Listing Rule 5.3.5, the Company advises that payments made to related parties as disclosed in the Appendix 5B for the Quarter were A$136,000 for Director fees and Managing Director salary.
- In accordance with Listing Rule 5.3.4, below is a comparison of the Company's actual expenditure to 30 June 2023 against the estimated expenditure in the 'use of funds' statement:

Use of Funds	Per IPO Prospectus - 2-year period	Total to date - 30 June 2023
Direct Exploration Costs	$7,176,321	$3,727,020
Working Capital	$1,489,960	$1,174,396
Costs of the IPO	$958,367	$834,995
TOTAL	**$9,624,648**	**$5,736,411**

Table 1: *Use of funds*

The Company confirms that the use of funds is consistent with statements made in the prospectus.

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Mining Tenement Status

The Company holds interests in three Projects located within or adjacent to the Athabasca Basin in Northern Saskatchewan, Canada. The following information is provided pursuant of Rule 5.3.3 for the current Reporting Period:

Project	Permit Number	Basin Ownership[1] at 1 July 2023	Basin Ownership[1] at 30 September 2023	Area, ha
Geikie	*MC00015156*	*40%*	*60%*	*3,312*
	MC00015157	*40%*	*60%*	*5,998*
	MC00015158	*40%*	*60%*	*5,548*
	MC00015160	*40%*	*60%*	*5,788*
	MC00015161	*40%*	*60%*	*4,308*
	MC00015162	*40%*	*60%*	*4,468*
	MC00015165	*40%*	*60%*	*4,475*
	MC00017352	*0%*	*60%*	*661*
	MC00017353	*0%*	*60%*	*526*
Marshall	*MC00015073*	*100%*	*100%*	*4,232*
	MC00015074	*100%*	*100%*	*2,417*
	MC00015075	*100%*	*100%*	*4,576*
North Millennium	*MC00014967*	*40%*	*40%*	*5,873*

Table 2: *Basin Energy mining tenement / mineral claim status*

[1]Basin entered a property option agreement for 100% of the Marshall Project, and a joint venture agreement to earn up to 80% of the Geikie and North Millennium Projects on 22 April 2022.

This announcement has been approved for release by the Board of Basin Energy.

Enquiries

Pete Moorhouse
Managing Director
pete.m@basinenergy.com.au
+61 7 3667 7449

Chloe Hayes
Investor & Media Relations
chloe@janemorganmanagement.com.au
+61 458 619 317

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Company Overview

About Basin Energy

Basin Energy (ASX: **BSN**) is a uranium exploration and development company with an interest in three highly prospective projects positioned in the southeast corner and margins of the world-renowned Athabasca Basin in Canada.

Directors & Management

Pete Moorhouse	**Managing Director**
Blake Steele	**Non-executive Chairman**
Cory Belyk	**Non-executive Director**
Jeremy Clark	**Non-executive Director**
Peter Bird	**Non-executive Director**
Ben Donovan	**NED & Company Secretary**
Odile Maufrais	**Exploration Manager**

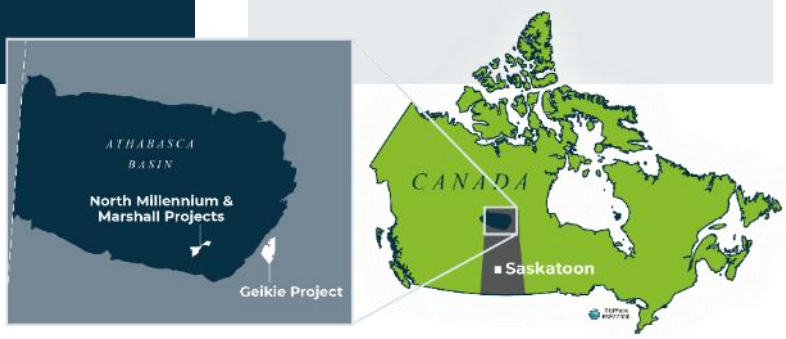
Basin Energy
ACN 655 515 110

Projects
North Millennium
Geikie
Marshall

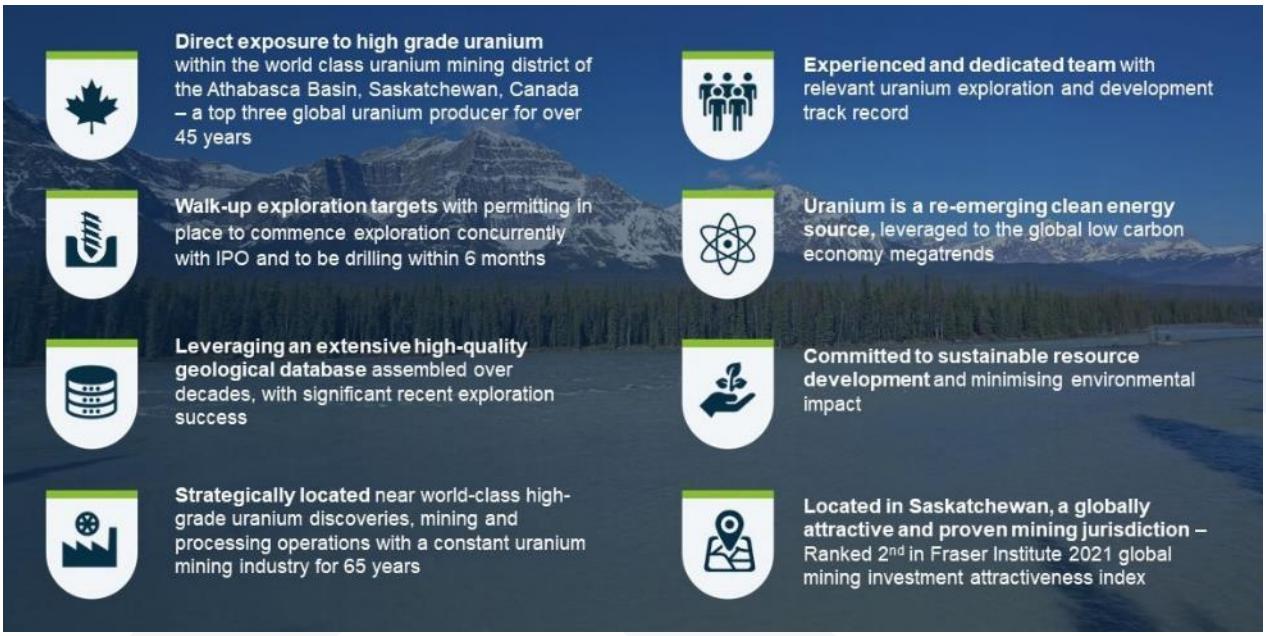
Shares on Issue
83,479,697

Options
13,300,000

ASX Code
BSN



Investment Highlights



Competent Persons Statement, Resource Figure Notes and Forward-Looking Statement

The information in this announcement that relates to exploration results was first reported by the Company in accordance with ASX listing rule 5.7 in the Company's prospectus dated 22nd August 2022 and announced on the ASX market platform on 30th September 2022, and data announced in subsequent ASX press releases by Basin Energy relating to exploration activities. The information included within this release is a fair representation of available information compiled by Odile Maufrais, a competent person who is a Member of the Australian Institute of Geoscientists. 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 his 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 (U3O8) is the amount of contained uranium (in Mlbs U3O8) and average grade (in % U3O8) 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.

This announcement includes certain "Forward-looking Statements". The words "forecast", "estimate", "like", "anticipate", "project", "opinion", "should", "could", "may", "target" and other similar expressions are intended to identify forward looking statements. All statements, other than statements of historical fact, included herein, including without limitation, statements regarding forecast cash flows and future expansion plans and development objectives of Basin Energy involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements.

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