Athabasca Uranium: a high grade super-district

NexGen Energy (NXE CN): Initiating with BUY rating and C$6.00/sh PT *RISK RATING:* **HIGH**
Fission Uranium (FCU CN) Initiating with BUY rating and C$0.75/sh PT *RISK RATING:* **HIGH**
IsoEnergy (ISO CN): Initiating with BUY rating and C$4.00/sh PT *RISK RATING:* **VENTURE**
UEX Resources (UEX CN) Initiating with BUY rating and C$0.50/sh PT *RISK RATING:* **VENTURE**

Our mantra on exploration and development is: stick to well funded companies operating in the most attractive terranes. Think Archean gold, Andean Cu-Au and Mexican Silver. As the ongoing under-supply of uranium flows into equity valuations, we add another to our list of most attractive districts: The Athabasca Basin. The Athabasca's infrastructure stands as a testament to the success of its 50-year uranium mining history: three mills in place, road and grid-power access, and a mature and codified permitting process that has seen mines successfully permitted, operated, decommissioned and rehabilitated. In addition, the prospectively of the district speaks for itself. Since 2011, in the teeth of a decade-long bear market, three world class discoveries have been made and advanced to DFS, and we believe more are on the way making the Athabasca ideal for uranium equity positions.

Size and grade of new discoveries speak for themselves

The rate and quality of new discovery for uranium in the Athabasca has been unprecedented and even more impressive in the context of a bear market. Since 2010, Arrow (348Mlbs at 2.0% U3O8), PLS (135Mlbs at 1.6%) and Gryphon (71Mlbs at 1.9%) have been discovered and advanced through PFS with average reserve conversion of 66%. Dare we use AuEq, these new discoveries equate to 9.0Moz @ 21.7g/t at spot, converting to 5.9Moz @ 26.4g/t of reserves.

Cycle timing couldn't be better for the Athabasca developers/explorers

The knocks on the Athabasca in the past have been high capex, as traditional unconformity-hosted deposits required sophisticated mining methods, and associated rigorous permitting. The new generation of basement-hosted discoveries avoid these hurdles by being amenable to convectional stoping. Further, the silver lining of the recent down cycle is that the two more advanced developers covered here (NexGen/Fission) are at DFS stage with advanced permitting and provide precedent for earlier-stage IsoEnergy and UEX. Belt wide, this is a common theme exemplified by Arrow, PLS, and Gryphon, while Denison's new ISR-approach at Phoenix could lower hurdle rates for unconformity-hosted deposits. We believe these trends will align with a bull market to in a series of green lights for this world-class district.

NexGen Energy: best undeveloped project with SCPe C$1.1bn FCF per year

We think NexGen's Arrow project is the best combination of size and grade globally with a reserve of 204Mlbs @ 3.1% U_3O_8 set to drive >80% cash margins. Arrow should be the next major project to be built in the sector, and is the furthest advanced on permitting of Athabasca peers. With no surprises expected in the imminent DFS, followed by permits as soon as next year, we expect equity momentum to build, underpinning our positive view.

Fission Uranium: good value and a natural consolidation play

Of the advanced Athabasca developers, we believe Fission offers best value, with its substantial 135Mlbs @ 1.8% putting the stock on just US$1.01/lb. Its location ~20km from NexGen's proposed plant offers potential future synergies, whether that be M&A or shared infrastructure, offering the opportunity to significantly reduce capital intensity. Investors should thus focus on the quality of the geology as the shallowest Athabasca asset amendable to conventional stoping.

IsoEnergy: world class Hurricane discovery brings NexGen DNA to eastern Athabasca

Since its 2016 NexGen spin out, Iso has rapidly built an impressive 2,771km^2 land package in the eastern Athabasca, and made what we believe is a world-class discovery at Hurricane. With intercepts such as 7.5m @ 38.8% U_3O_8 and 9.0m @ 12.8% U_3O_8 over a strike of 575m, and with a large corridor of low-resistivity anomalies, we see all the ingredients for Hurricane to shape up as the next world class unconformity find in the eastern Athabasca.

UEX: patient explorer with the largest land package in the district

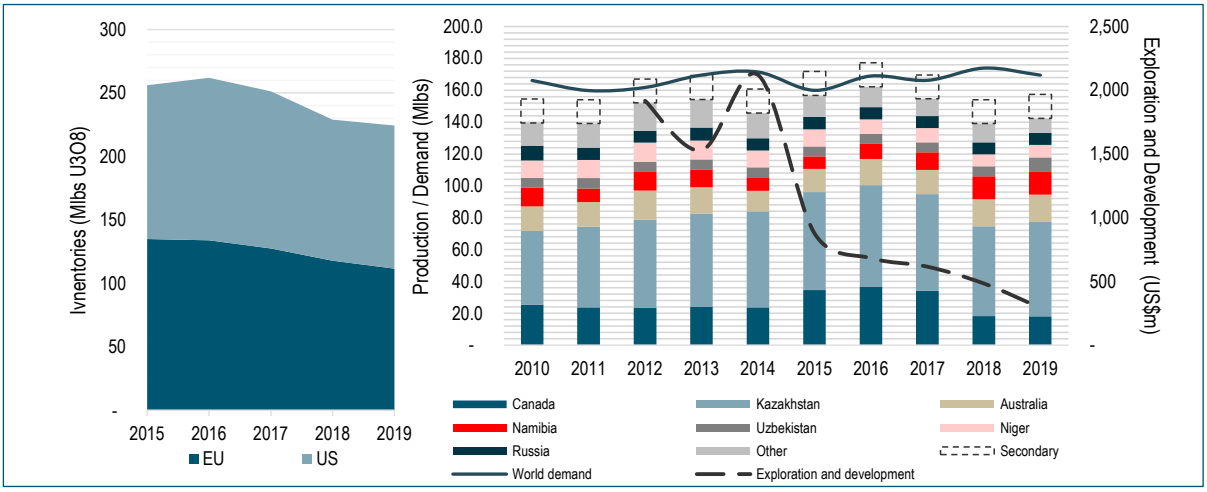
UEX's 2,942km^2 of Athabasca tenements represents the largest holding in the district, with exposure to the key belts in the basin. The existing attributable 99.5Mlbs across three projects provides leverage to exploration, allowing new discoveries to hit scale faster. Geologically, these discoveries also provide a good proof of concept of the endowment of the western basin holdings at the Rabbit Lake Camp and between Cigar Lake and McArthur River.

Uranium equities rally as investors weigh falling inventories and exploration/development spend

Uranium equities have rallied in since November 2020, with the average producer +35% and pre-producers +93% since the start of November. This rally came despite the spot price has remained sluggish at ~US$30/lb, and as reported long-term contract volumes fell to 53Mlbs in 2020 from 96Mlbs in 2019 (per Kazatomprom). We see three reasons why the uranium equity rally is justified.

(1) Demand continues to outstrip supply, causing inventory drawdowns: the uranium market has been undersupplied since 2017, further tightening in 2020 with the closure of Energy Resource's of Australia's 3.5Mlbs pa Ranger operation, a 15% fall in Kazatomprom production, and the COVID-driven suspension of operations at Cameco's Cigar Lake Mine, which remains offline. Combined, we estimate a 25-30Mlb supply deficit from mined/secondary supply in 2020. The steeply downward sloping contracted position of US utilities leaves them with 25Mlbs of uncontracted demand through 2023. We expect these utilities return to the market to drive prices up, a key driver for our positive view on the commodity price.

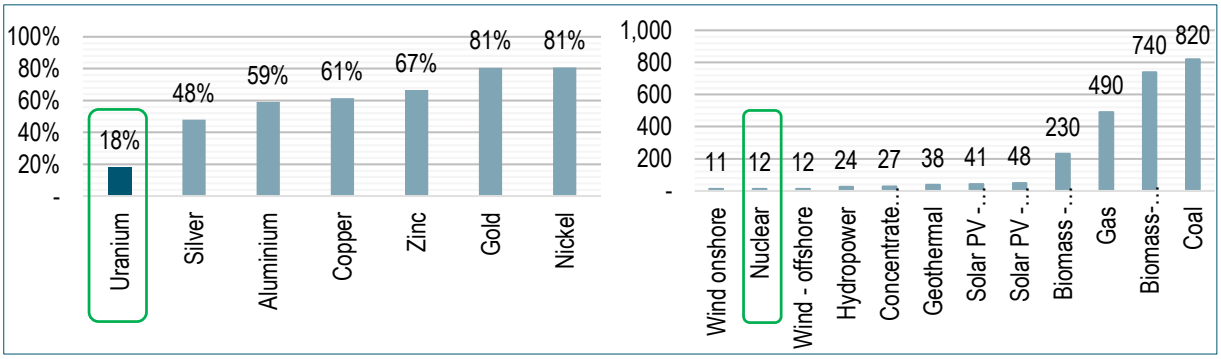
Figure 1. (A) Falling inventory balances; (B) Global supply/demand and falling exploration / development spend



Source: Inventories US EIA and Euratom, global supply and demand from World Nuclear Association, secondary supply SCPe, exploration and development expenditures from OECD NEA and IAEA joint report

(2) Buy low, sell high - uranium one of the best value trades in the commodity space: we measure this in two ways. Uranium is at 18% relative to it's 10-year high/low, among the most attractive (Figure 2A) in the peer group. Against the cost curve, the spot price implies that 30% of producers have less than a 30% profit margin, and we think even this is optimistic for economic breakeven at the current spot price. The lack of price incentive over recent years has created under-supply, providing support for future price rises.

Figure 2. (A) Selected commodities vs their 10-year high/lows (%);
(B) Greenhouse gas emissions in electricity generation by energy source (gCO_2Eq per kWh)



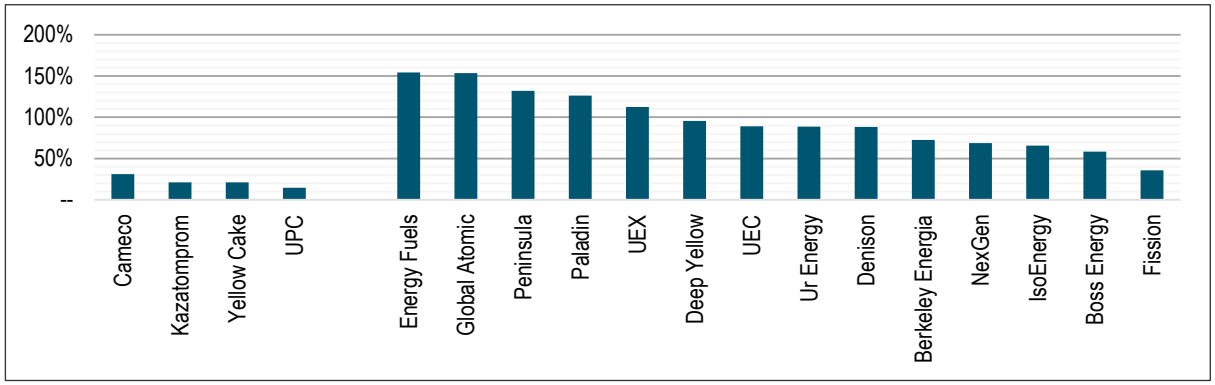
Source: (A) US EIA for GHG emissions; (B) commodity market data from S&P Capital IQ

(3) Nuclear energy is crucial to the decarbonisation thesis and the emerging markets thesis: nuclear energy is, along with onshore wind, the least carbon intensive (full life cycle) source of energy generation and is crucial for keeping overall emissions low while managing intermittency. The importance of this thematic cannot be understated.

Pre-producers have outperformed producers, and offer more leverage to a rising price

Share price movements over the past three months are instructive, as the average pre-producer has more than 3x outperformed Kazatomprom and Cameco. Moreover, we believe in the case of uranium, there is additional benefit to pre-production status as the producers are selling production at below the long-term incentive price, which is NAV-dilutive, a problem that pre-producers do not have. Finally, producers can and have been impacted by Covid-19. Given the currently low spot uranium price and reduced level of contracting activity, we believe pre-producers are the sweet spot.

Figure 3. Selected Uranium companies last-three-month USD share price performance



Source: Bloomberg as at 29 January 2019

Athabasca pre-producers attractively valued relative to peers

Constraining the universe to projects in Tier I jurisdictions, Athabasca producers are now more attractively valued than their ISR and hard-rock peers. This is despite significantly lower study operating costs and more recent economic studies in many cases. Though we just noted that pre-producers offer more torque, in our view Athabasca names offer the 'Goldilocks trade' with more upside due to their preproduction status but with Tier I assets that will sit in the lowest cost quartiles once in operation, offering investors upside but also safe positioning.

Figure 4. Major uranium districts by identified resource endowment (Mlbs) and grade (ppm)

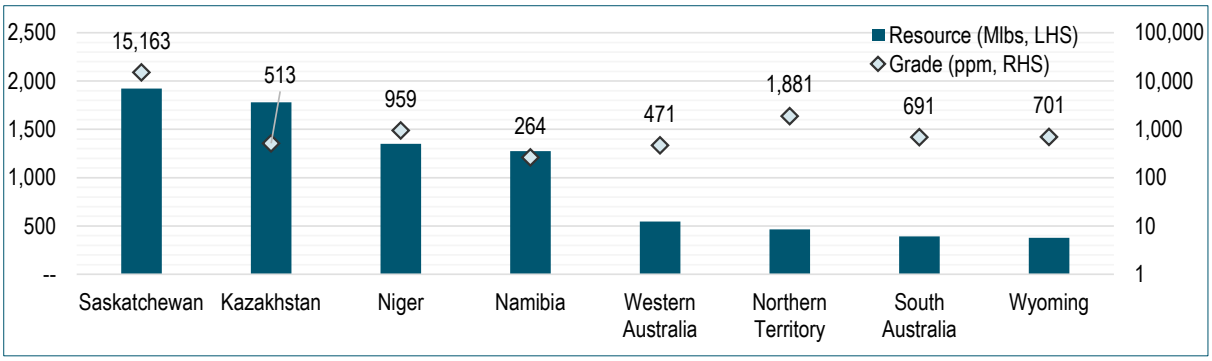
	Paladin	Energy Fuels	Ur Energy	UEC	NexGen	Denison	Boss	Peninsula	Fission	UEX
Asset	Langer Heinrich	Nichols Ranch	Lost Creek	Texas Hub	Arrow	Wheeler River	Honeymoon	Lance	Patterson Lake South	Shea Creek
Location	Namibia	Wyoming	Wyoming	Texas	Saskatchewan	Saskatchewan	South Australia	Wyoming	Saskatchewan	Saskatchewan
Status	C&M	C&M	Small scale prodn	Resource	DFS imminent	DFS study work	C&M	Small scale prodn	DFS study work	PEA
Permits	Permitted	Permitted	Permitted	Various	EA commenced April 2019	EA restarted December 2020	Permitted	Permitted	EA submitted April 2020	Not permitted
Ownership (%)	75%	100%	100%	100%	100%	90%	100%	100%	100%	49%
Study	2020 PFS	2015 PEA	2016 PEA	2010 Resource	2018 PFS	2019 PFS	2020 FS	2018 DFS	2019 PFS	2013 Resource
Deposit type	Surficial	Sandstone	Sandstone	Sandstone	Ingress	Egress / Ingress	Sandstone	Sandstone	Ingress	Egress
Mining	Open Pit	ISR	ISR	ISR	UG	UG/ISR	ISR	ISR	UG	UG
Milling	Mill, NIMCIX	IX	IX	SX	Mill build	McClean Lake Mill	NIMCIX	IX	Mill build	TBD
Reserve grade (% U3O8)	--	--	--	--	3.09%	3.55%	--	--	1.61%	--
Reseves (Mlbs)	--	--	--	--	234.1	109.4	--	--	81.4	--
Resource Grade (% U3O8)	0.044%	0.113%	0.048%	0.086%	2.04%	3.24%	0.062%	0.048%	1.78%	1.30%
Resources (Mlbs U3O8)	119.7	9.0	21.0	19.2	348.3	135.1	71.6	53.6	135.2	95.9
Other projects (Mlbs U3O8)	--	101.8	8.8	74.1	--	35.3	--	--	--	52.4
Recovery (%)	88.5%	70.0%	80.0%	--	97.6%	89.7%	--	90.0%	96.7%	SCPe 95%
Sales Royalty (%)	3.50%	9.50%	6.30%	various	7.25%	7.25%	6.50%	6.30%	7.25%	7.25%
Profit Royalty (%)	--	--	--	--	10-15%	10-15%	--	--	10-15%	10-15%
Tax Rate (%)	37.5%	21.0%	21.0%	21.0%	27.0%	27.0%	30.0%	21.0%	27.0%	27.0%
Annual production (Mlbs)	--	0.6	1.0	--	25.4	7.7	3.2	3.0	10.7	--
LOM total production (Mlbs)	76.1	6.5	13.8	--	228.4	107.6	20.7	33.4	75.2	--
Initial Capex (US$m)	81.0	53.5 - spent	46.5-spent	--	988.7	750	72.2	118.7	933	--
Initial capex intensity (US$/lb LOM)	1.06	8.18 spent	3.37 - spent	--	4.33	6.97	3.49	3.55	12.41	--
Operating cash cost (US$/lb)	27.00	11.36	14.58	--	4.36	7.34	21.07	31.77	7.18	--
AISC (US$/lb)	30.85	29.85	28.58	--	9.08	8.90	28.20	41.00	10.69	--
FD mkt cap (US$m)E	487.5	520.0	136.7	324.7	1,263.8	461.3	136.5	87.6	161.2	90.1
FD EV (US$m)	611.7	500.6	141.0	310.4	1,056.4	423.6	116.0	76.3	136.4	82.2
EV/Reserve (US$/lb)	nmf	nmf	nmf	nmf	4.51	3.87	nmf	nmf	1.68	nmf
EV/Resource (US$/lb)	6.81	4.52	4.72	3.33	3.03	2.70	1.62	1.42	1.01	0.83

Source: SCP, company disclosure, market data from Bloomberg and S&P Capital IQ

Athabasca is the highest grade uranium district in the world

At 1.9 billion pounds of identified resources at grade of 1.6% U_3O_8, the Athabasca boasts the largest endowment of any jurisdiction in the world. In gold equivalent terms at spot, the Athabasca hosts 31Moz AuEq @ 17g/t. Not only does this speak to exploration potential, there are real operating benefits to the scale and high grade of this resource endowment. The size of the endowment ensures the long-life use of processing, power and transportation infrastructure while high grades make transporting ore and/or pregnant solution highly economic.

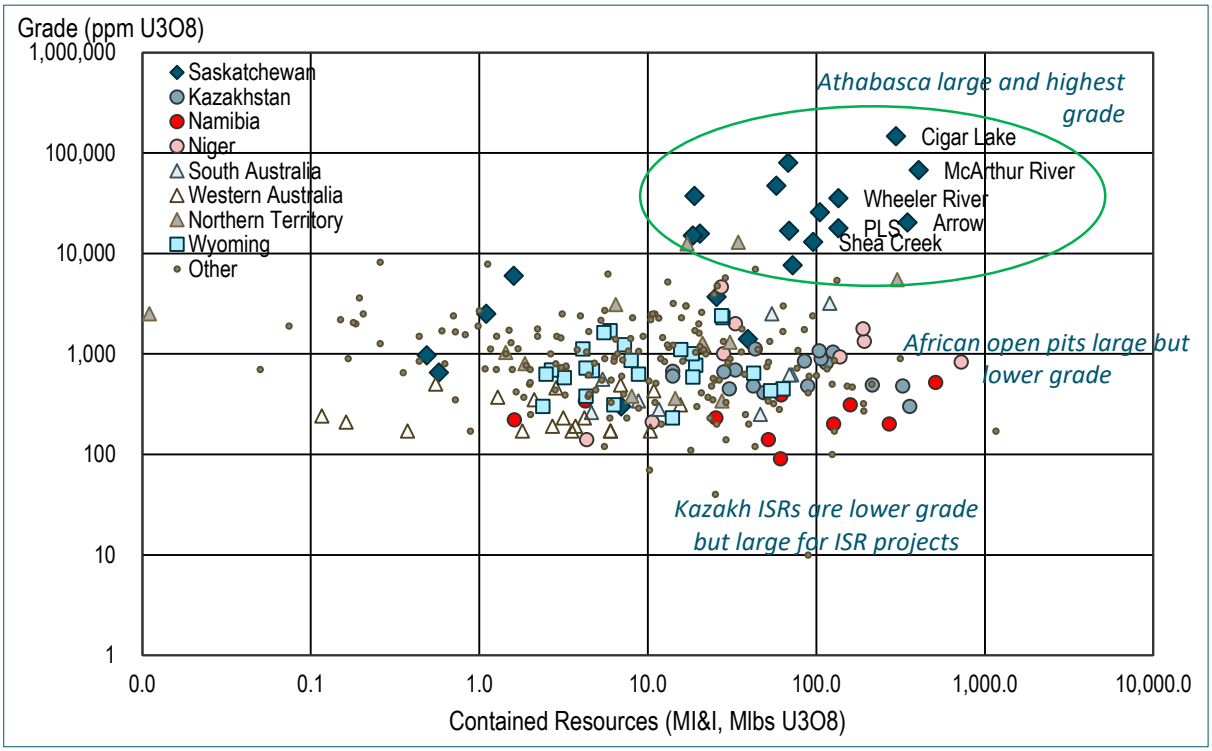
Figure 5. Major uranium districts by identified resource endowment (Mlbs) and grade (ppm)



Source: S&P Market Intelligence; Kazatomprom grades from 2019 IPO prospectus, SCPe

Not only is the district well endowed, the individual projects are among the largest in the world, rivalling the largest open pit projects in Africa or ISR fields in Kazakhstan. Athabasca deposits dominate the top right of the grade-tonnage distribution and even better, three of the five projects were discovered in the 2010s; there are still world class discoveries to be had.

Figure 6. Projects resources (Mlbs U_3O_8) and resource grade (ppm, log scale)

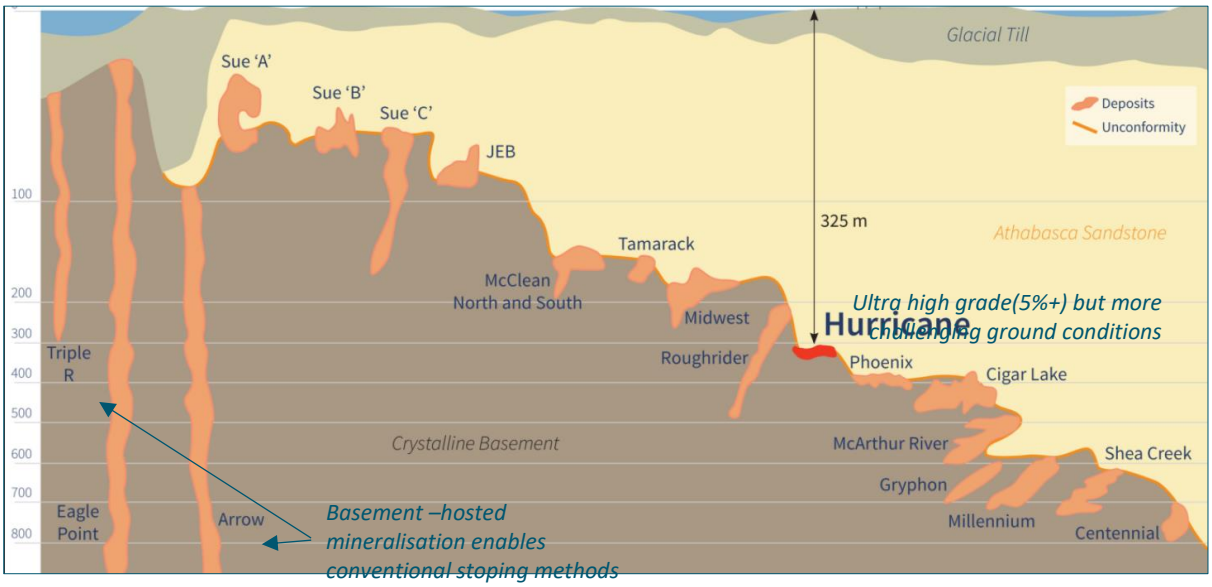


Source: S&P Market Intelligence; Kazatomprom grades from 2019 IPO prospectus, SCPe

Basement hosted mineralisation gives West Athabasca scale and low costs

NexGen's Arrow and Fission Uranium's PLS projects represent a total of 484Mlbs of resources at 2.0% U_3O_8 in adjacent properties less than a 20km haul from each other. Arrow alone represents the best undeveloped (and best overall) uranium project in the world in our view, and we believe the size, grade and host settings of the two deposits present an overwhelmingly clear economic logic for a mill in the Western Athabasca. Moreover, both are basement hosted for significantly lower operating costs than unconformity-hosted deposits like McArthur River and Cigar Lake. We expect a mill in the Western Athabasca to achieve quick capital payback, have a 15+ year regional resource base to draw from, and all this in a relatively unexplored and demonstrably prolific new district. From an exploration perspective, we believe this means that cut-off grades in the Western Basin are likely to come down as toll milling or acquisition becomes a viable development option.

Figure 7: Schematic depicting host settings for Athabasca uranium deposits

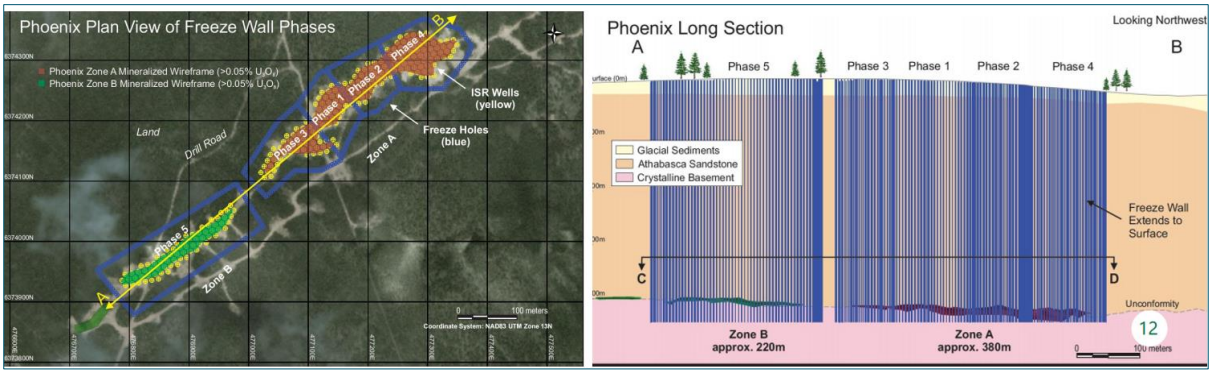


Source: IsoEnergy

Eastern Athabasca benefits from existing mills and new ISR extraction method may lower cutoffs

The Eastern Basin is an established mining district with three licensed mills (Key Lake, McClean Lake and Rabbit Lake), grid power, road connections, and an established airstrip access. The current generation of most-promising development prospects in the Eastern Basin are the ultra-high grade unconformity-hosted deposits, including Denison's Phoenix deposit and Iso's exciting Hurricane discovery, though Dension's Gryphon and Rio Tinto's Roughrider are sufficiently basement hosted to enable conventional stoping. Denison has advanced an ISR-extraction concept at Gryphon with encouraging initial field tests and PFS results. If successful, this could significantly reduce operating costs and would lower development/exploration hurdles for other unconformity hosted deposits and new discoveries in the basin.

Figure 8: Denison proposed Phoenix wellfield configuration and cross section



Source: Denison

Prolonged downturn has enabled new discoveries to shorten lead time vs global peers

While the prolonged uranium downturn has hurt the sector, we believe the Athabasca pre-producers have uniquely benefitted from the opportunity to shorten permitting and exploration lead-times vs their peers in other jurisdictions. Consistent exploration through the downturn has resulted in over 700Mlbs of collective resource delineation. NexGen, Denison and Fission have advanced their flagship projects through to DFS stage, while advancing permitting works through the EA process. We believe NexGen is now in a position to get its permits and commence production this cycle while Fission is to commencing DFS workflows and we believe would benefit from a significant re-rate if NexGen receives mill approval.

Figure 9: Key metrics for selected largest Athabasca pre-producers

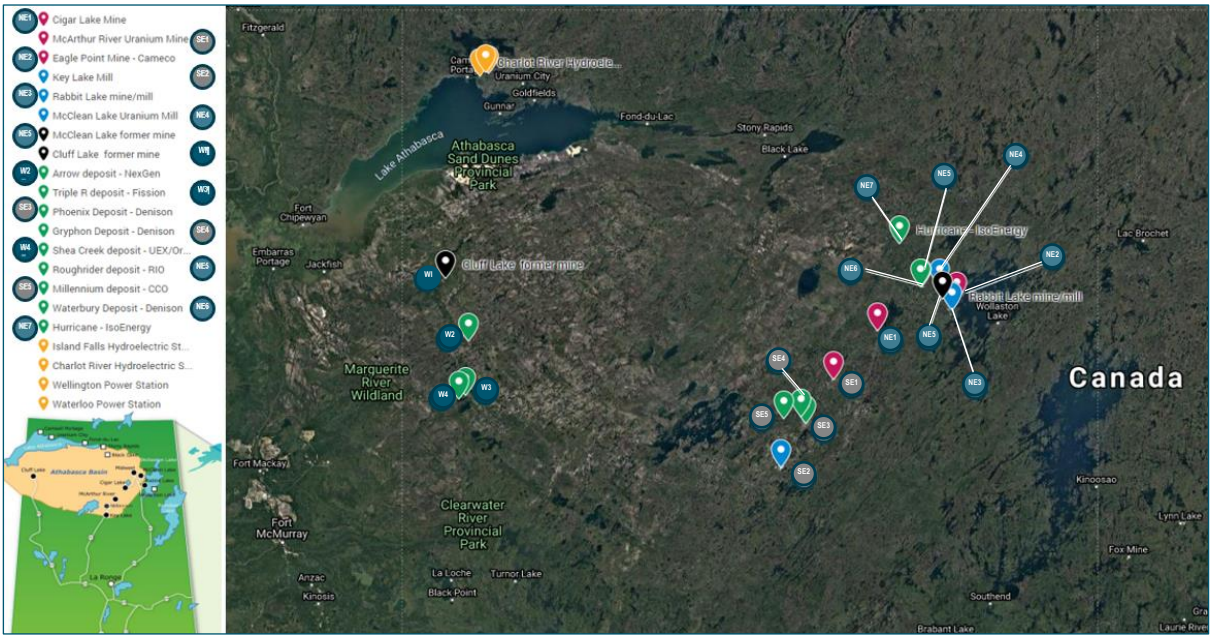
Company	Ticker	Primary Asset Stage	FD Market Cap	EV	Reserves	Resources	P/NAV	EV/Reserves	EV/Resources
			(US$m)	(US$m)	(Mlbs)	(Mlbs)	(x)	(US$/lb)	(US$/lb)
NexGen Energy	TSX:NXE	DFS	1,263.8	1,056.4	234.1	348.3	0.5x	4.51	3.03
Denison Mines	TSX:DML	DFS	461.3	423.6	98.4	156.9	0.8x*	4.30	2.70
Fission Uranium	TSX:FCU	DFS	161.2	136.4	81.4	135.2	0.4x	1.68	1.01
IsoEnergy	TSXV:ISO	Exploration	184.4	164.9	--		0.5x	--	--
UEX Corporation	TSXV:UEX	Exploration	90.1	82.2	--	99.5	0.5x	--	0.83
Average							0.5x	2.10	1.51
Weighted Average							0.6x	3.91	2.30

SCPe, Company disclosure, NAV estimates from SCPe except for Denison, Denison NAV from S&P Capital IQ, market data from Bloomberg

Putting it all together

The Athabasca is a world-class mining district having yielded three major discoveries during since 2011, and we expect more to come. The district offers multiple ways to play the uranium thesis in the pre-producer space. **NexGen** is a world-class development project that offers torque and attractive valuation with size and liquidity. **Fission** is a value play that we believe is excessively discounted relative to its resource endowment and options to reduce capital intensity. The two together form a new producing belt in the West Athabasca that we expect to become a globally significant production centre. **IsoEnergy** has the early appearance of a world-class unconformity discovery at Hurricane in the Eastern Athabasca, while **UEX** offer upside to new discovery success, with its value backstopped, and exploration de-risked by, pounds already in resource at a market-discounted valuation.

Figure 10: Regional map of the Athabasca basin with a regional road map in bottom left



Source: SCPe, Google Maps, Cameco (Map), SaskPower, Company disclosures

Sprott | Equity Research

NEXGEN ENERGY (NXE CN)

World's best undeveloped uranium asset

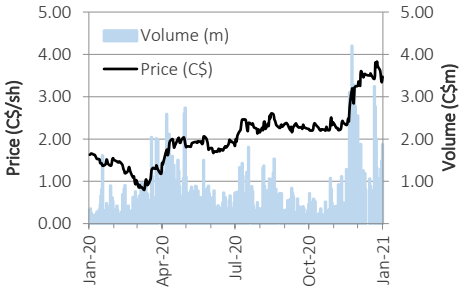
RECOMMENDATION: **BUY** *PRICE TARGET:* **C$6.00** *RISK RATING:* **HIGH**

SHARE DATA	C$3.61/sh
Shares (basic, FD)	377 / 474
52-week high/low	3.83 / 0.8
Market cap (US$m)	US$1021m
Net cash (debt) (US$m)	76
1.0xNAV8% @ US$26/oz (US$m)	1,180
1.0xNAV7% FD (p/sh)	C$2.49
P/NAV (x)	1.45x
Average daily value (C$m, 3M)	3.60

FINANCIALS	CY26E	CY27E	CY28E
U3O8 produced (000lbs)	25,075	29,927	29,949
Revenue (C$m)	865	1,032	1,033
AISC (C$/lb)	10.16	9.30	9.50
Income (C$m)	148.1	283.5	300.5
EPS (C$/sh)	0.24	0.45	0.48
PER (x)	15.2x	8.0x	7.5x
CFPS (C$/sh)	0.72	0.89	0.88
P/CF (x)	3.8x	3.0x	3.1x
EBITDA (C$m)	549.0	684.8	677.5
EV/EBITDA (x)	4.3x	2.8x	2.1x

NAV over time	2021E	2022E	2022E
1xNAV7% FD (C$/sh)	2.00	3.35	2.65
ROI to 1xNAV (% pa)	-45%	-4%	-10%
1.2xNAV7% FD (C$/sh)	2.40	4.02	3.18
ROI to 1.2xNAV (% pa)	-45%	5%	-4%

SOTP 1xNAV8% US$26/oz	US$m	C$/sh
Arrow NPV 4Q20	940	1.98
Other Assets	399	0.84
Central SG&A & fin costs 4Q20	(317.6)	(0.67)
Net cash + options	159.6	0.34
TOTAL	1,180	2.49



Source: S&P capital IQ

Justin Chan +44 7554 784 688 jchan@sprott.com
Brock Salier +44 7400 666 913 bsalier@sprott.com
Brandon Gaspar: +1 204 541 1144 bgaspar@sprott.com

West Athabasca developer with 338Mlb, 30Mlbs per year project

NexGen's 100%-owned Rook I property in the western Athabasca Basin of Saskatchewan hosts the 338Mlb at 2.69% U_3O_8 Arrow deposit. Drilling at Arrow commenced in 2013, and quickly identified a large and extremely high-grade deposit, resulting in a 2015 maiden resource estimate of 202Mlbs at 2.63% U3O8. A PEA quickly followed in 2018 which was followed up by the 2018 PFS which delineated production of 228Mlbs over a 9-year mine life at operating costs of US$4.36/lb and AISC of US$9.08/lb.

Largest and lowest cost project globally

With a reserve of 234Mlbs at 3.09% U3O8, average annual production of 25.4Mlbs, and steady state production of 30.0Mlbs at US$4.63/lb cash costs, Arrow should be the largest and lowest operating cost asset in the world once in production, occupying nearly the entirety of the bottom cost quartile. The combination of high grade (221Mlb at 15.5% U3O8 high grade core) and competent gneissic host rock should result in significantly lower development and operating costs than other Athabasca operations.

Rapid payback perfect for building a west Athabasca mill

We forecast C$635m of free cash flow in year one of production, increasing to C$1,004m in year two, repaying initial capex in 1.6 years. We forecast average annual free cash flow of C$1.1bn over years 2-7 of production with an average FCF margin of 55% and FCF yield of 51%. The cash margins and rapid payback make Arrow the ideal asset to develop a mill in the western Athabasca basin. Given the proximity of other high grade deposits, we believe the mill would be a multi-decade strategic asset anchoring a new producing district.

Most advanced permitting in the Athabasca basin

Arrow's permitting process is nearly 18 months ahead of peers, which we believe is another key advantage that should allow NexGen to secure preferable long term contracts. Arrow's EA commenced in April 2019 and based on the CNSC's guidance of the EA process taking up to 36-months, we estimate that permits could be in place as early as 2022, enabling a 2023 construction start and SCPe first production in 2026.The DFS is expected to be completed in 1Q21 with EIS submission shortly thereafter.

Initiate with BUY rating and C$6.00/sh price target

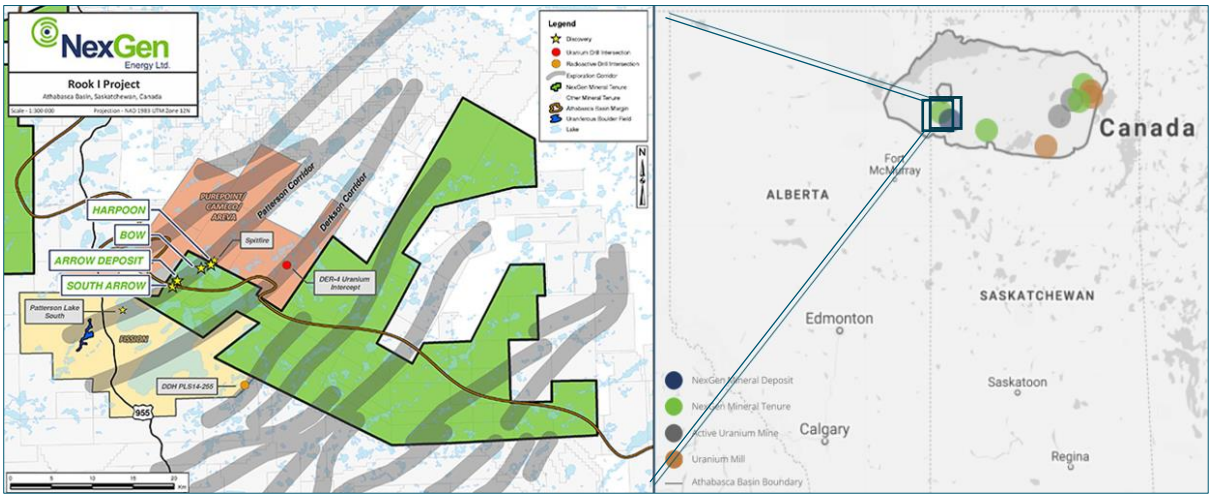
Trading at an EV multiple of 11% of spot in-situ value at an already low uranium price, NexGen is one of the cheapest world class projects in the mining space, despite being the highest grade large project in global mining. We initiate with a BUY rating and C$6.00/sh price target for NexGen based on 0.85x fully diluted $NPV_{8\%\text{-}50/lb.}$ While this is higher than a typical developer multiple, Arrow is a special strategic asset and our target equates to 20% of spot in-situ value, which is reasonable for a world class project in our view, especially as this is calculated off of a low spot uranium price.

Investment thesis

West Athabasca developer with best undeveloped uranium project globally

NexGen 's flagship property is the 350.65km^2 Rook I property in the western Athabasca Basin. The property hosts the Arrow, a 348Mlb at 2.04% U_3O_8, with a high grade core of 221Mlbs at 15.56% U_3O_8. NexGen acquired the property in 2012 and carried out EM, VTEM, gravity and prospecting work in 2013 and discovered Arrow in 2014, with a maiden intercept of 26.2m of highly anomalous radioactivity with intense alteration and pitchblende. Intensive exploration followed, with a maiden resource estimate of 202Mlb at 2.63% U3O8 in 2015. In 2016, NexGen announced a PEA with production of 18.8Mlbs over 15 years, and in 2018 announced a PFS which delineated a 9-year life with average annual production of 25.4Mlbs per year at a head grade of 3.09% uranium (>1oz per tonne AuEq at spot prices), with a 1.2-year payback period. NexGen is led by a strong management team led by CEO Leigh Curyer (ex CFO at Southern Cross Resources), SVP Travis McPherson, Chief Project Officer Tony George (ex Victoria Gold, Lundin Gold, Lucara Diamonds) and VP Ops Troy Boisjoli, who was Chief Geologist at Cameco's Eagle Point Mine, which, like Arrow, is a basement-hosted deposit.

Figure 11: Location Map

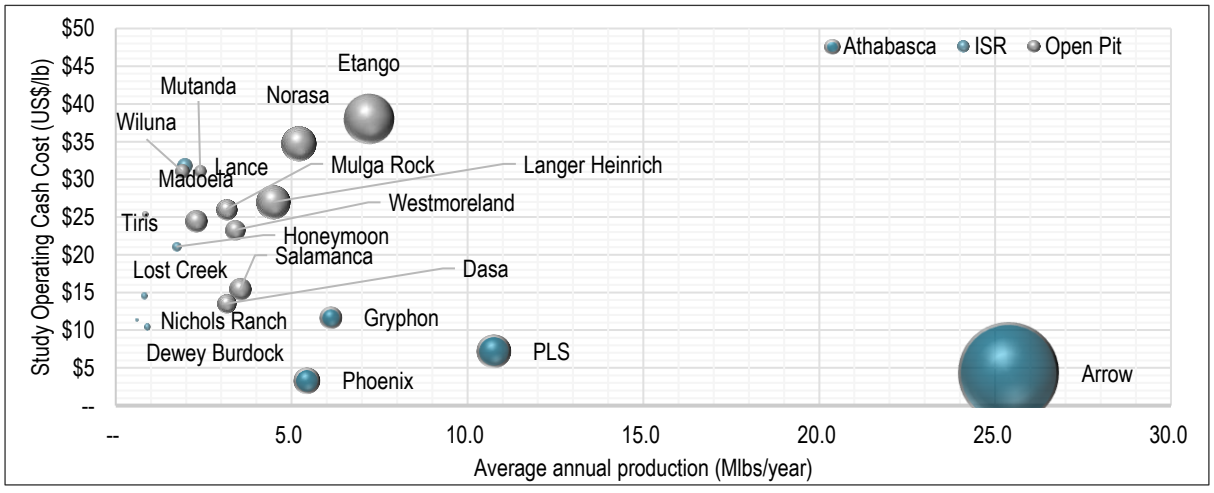


Source: NexGen Energy

Largest and lowest cost project globally

With PFS LOM cash operating costs of US$4.36/lb and annual production of 25.4Mlbs per year for nine years, and 30Mlbs per year at steady state, Arrow is by far the largest and lowest cost undeveloped project globally. Moreover, Arrow is the lowest risk of the undeveloped assets. It is amenable to conventional underground mining and milling methods, and benefits from an exceptional operating jurisdiction in Saskatchewan, with a clear and successful permitting precedents, in a geopolitically stable and secure location.

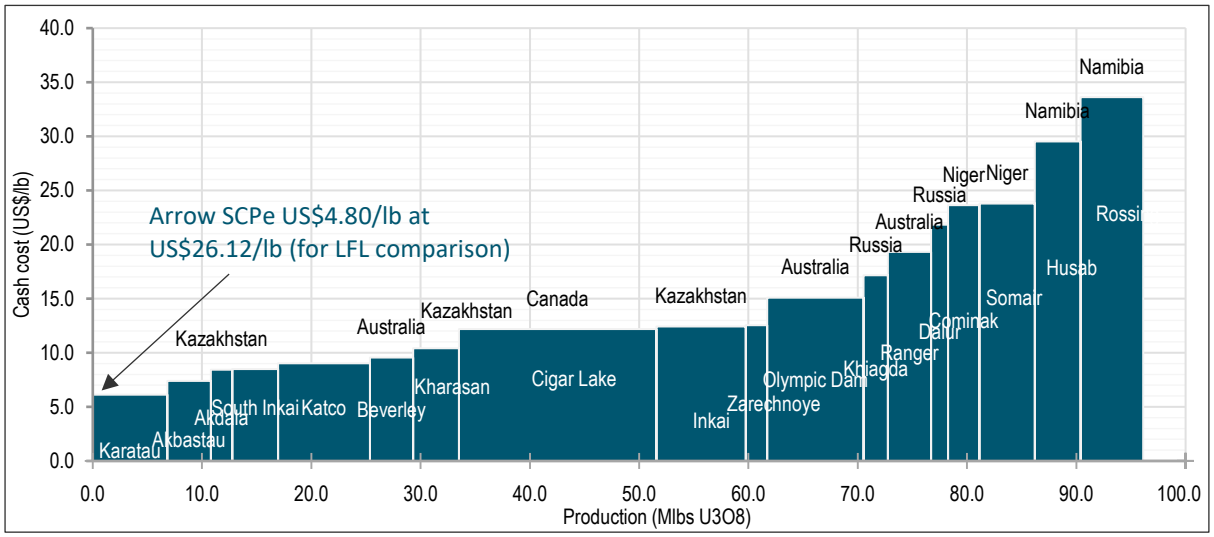
Figure 12: Uranium projects by average annual production and cash costs (bubble size = LOM production)



Source: SCPe, company disclosures

Arrow is comfortably a lowest quartile cost asset, ranking just above Karatau (Kazakhstan ISR, 6.6lbs) at SCPe US$6.52/lb vs US$6.01/lb for Karatau including royalties calculated at US$26.12/lb.

Figure 13: Uranium 2019 mine cash cost curve

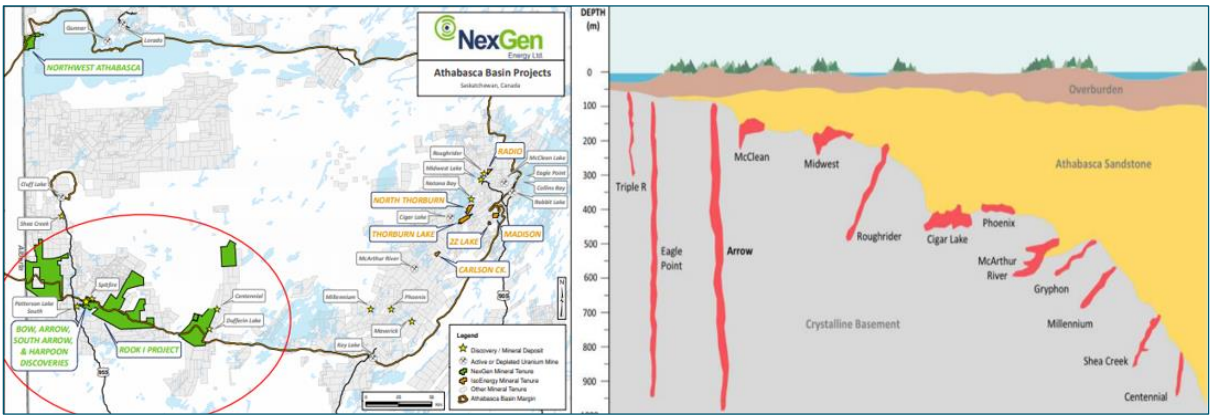


Source: S&P Market Intelligence; 1kt U = 2.6Mlbs U3O8

Rapid payback and asset quality make Arrow and ideal deposit to anchor a West Athabasca Mill

Due to its size, low costs, and favourable deposit setting, one of the very few concerns about NexGen's Arrow project is its location in the western part of the Athabasca basin. The eastern part of the basement hosts the majority of the historic and existing mines with three mills, i) McClean Lake (24Mlbs), ii) Key Lake (25Mlbs), and iii) Rabbit Lake (16.9Mlbs). The implied conclusion is that NexGen is at a disadvantage due to its western location, despite having the best deposit.

Figure 14: (A) Map of NexGen's Athabasca landholdings and (B) schematic of Athabasca uranium deposits

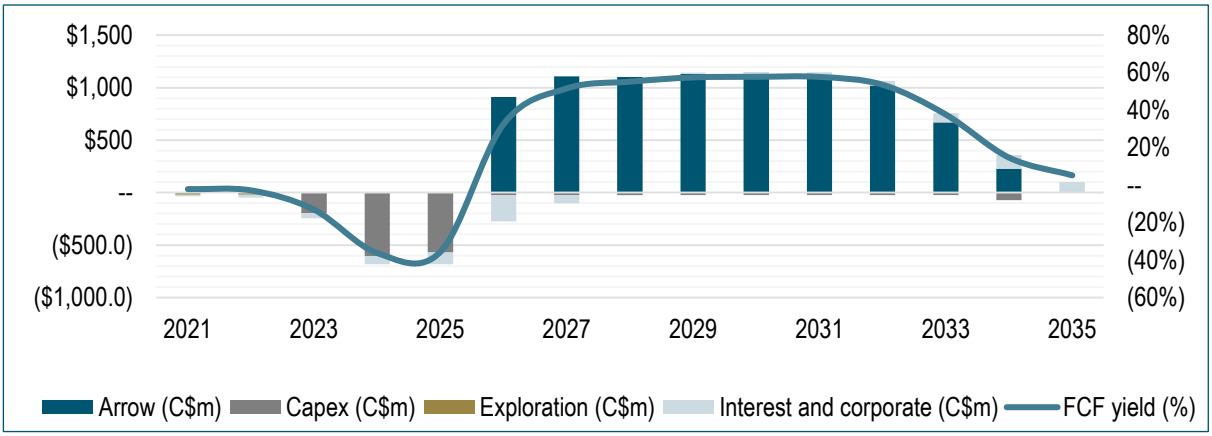


Source: SCPe, company disclosures

We disagree with this conclusion for three reasons: payback period, strategic value, and operating margins.

Payback period: Despite the requirement to build a mill, the limited need for ground freezing (in Arrow's case just for the first 150m of shaft sinking) gives NexGen lower preproduction capex and opex than other Athabasca deposits. This results in a payback period of just 1.2 years at US$50/lb for Arrow (per the PFS), the fastest of the Athabasca projects and world class for any mining project. NexGen can quickly pay back capex and become a >50% FCF yield stock at US$50/lb, with a further 7.5 years of mine life at Arrow to harvest cash.

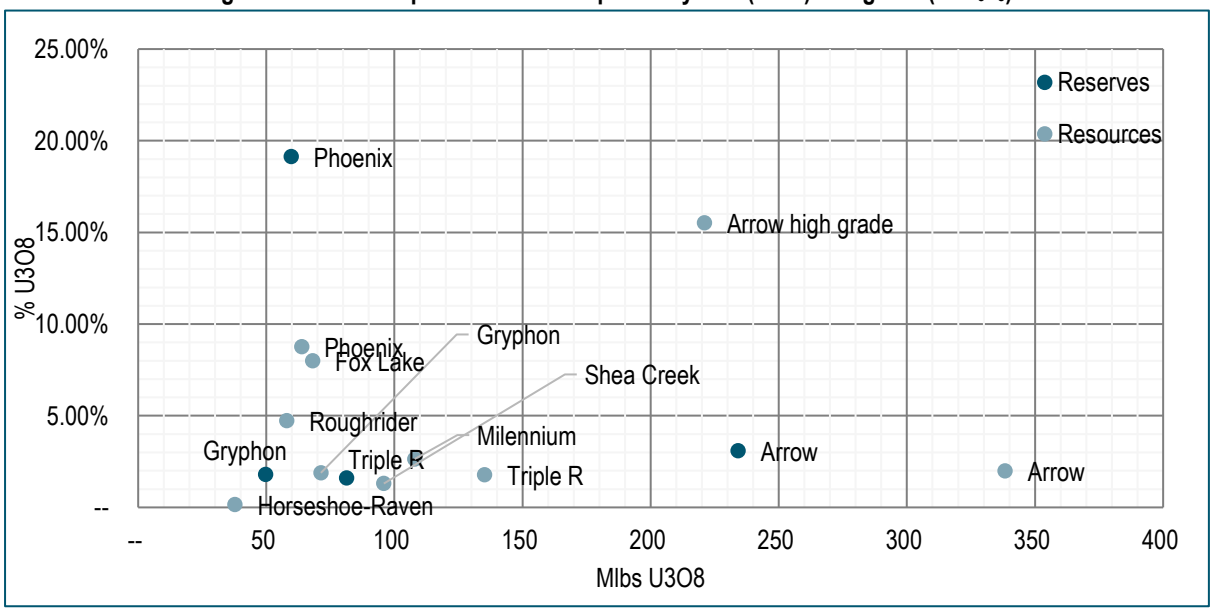
Figure 15: SCPe FCF and FCF yield at US$50/lb – Rapid payback de-risks mill build



Source: SCPe

Strategic value: The western basin now has ~570Mlbs of defined resources between Arrow, PLS and Shea Creek, while Arrow remains open in all directions with other targets on the Rook I property. Adding Fission Uranium's Triple R deposit to the end of NexGen's Arrow mine life, assuming Fission's base case mine plan from the 2019 UG-only PFS with C$300m of assumed development capital (C$220m for mine development plus $50m for a road and C$30m for a TMF expansion) would result in C$540m of additional NPV at T_0, more than 2x Fission's current EV. While we are not implying any corporate action will take place, we believe there is significant strategic value to building a mill at Arrow beyond the economics of the Arrow deposit standalone.

Figure 16: Undeveloped Athabasca deposits by size (Mlbs) and grade (% U_3O_8)



Source: SCPe, company disclosures

Margins: With a Reserve of 234Mlbs at 3.09% U3O8, Arrow is by far the largest of the Athabasca deposits and its high grade core of 221Mlbs at 15.5% U_3O_8 is the second highest grade development project in the basin and by far the largest. Host setting is another decisive factor. Arrow is a basement-hosted deposit with competent granitic gneiss host rock that enables conventional underground stoping methods, significantly reducing mining and development costs. Ground freezing will only need to be employed during shaft sinking through the first 150m, compared to a life of mine operating reality for unconformity hosted deposits. Arrow thus benefits from significantly lower mining costs at C$157/t of ore, compared to C$137/t for Triple R (also Western Athabasca basement-hosted but under a lake) and C$211/t at Wheeler River's Gryphon deposit (East Athabasca LH stoping).

A world class project for any commodity

Table 17: Selected high grade global mining projects by in-situ value and valuation

	Mag Silver	Sabina	NexGen	Greatland	Mincor	Silvercrest
Asset	Juanicipio	Back River	Arrow	Havieron	Cassini	Las Chispas
Location	Zacatecas, MX	Nunavut	Saskatchewan	W. Australia	W. Australia	Sonora, MX
Commodity	Ag	Au	U3O8	Au-Cu	Ni	Ag
Resource date	1Q18 PEA	Apr-19	2018 PFS	Dec-20	June 2020	3Q19 PEA
Global resource (kt)[A]	24,900	35,992	7,726	52,000	5,203	4,600
Reserve or mine inventory (kt)[B]	23,124	15,010	3,433	na	2,303	2,908
Total Resource (million)	**531Moz AgEq**	**9.2Moz Au**	**338Mlbs U3O8**	**4.1Moz AuEq**	**196kt Ni**	**129Moz AgEq**
Total Reserve (million)	**9Moz AgEq**	**3.2Moz Au**	**234Mlbs U3O8**	**0.1Moz AuEq**	**65kt Ni**	**1Moz AgEq**
In Situ Value (US$m)[C]	**14,290**	**16,980**	**10,166**	**7,529**	**3,518**	**3,478**
Reserve Value (US$m)	**0**	**5,991**	**7,035**	**na**	**1,173**	**2,316**
In Situ Grade (US$/tonne)	**574**	**472**	**1,316**	**167**	**682**	**756**
Reserve Grade (US$/tonne)	**0**	**399**	**2,049**	**na**	**509**	**797**
Recovery (%)[D]	92%	93%	~99%	88%	89%	91%
Payability (%)	83%	100%	100%	95%	72%	100%
Ownership (%)	44%	100%	100%	30%	100%	100%
Royalty (%)	0.5%	3.6%	7.3%	3.0%	4.2%	0.5%
In situ - attr payable recoverable (US$m)	**4,743**	**15,151**	**9,306**	**1,824**	**2,150**	**3,153**
Reserve - attr payable recoverable (US$m)	**3,122**	**5,346**	**6,440**	**na**	**717**	**2,100**
Grade - payable recoverable (US$/t)	**433**	**421**	**1,205**	**135**	**417**	**686**
Payable recoverable on in-situ (%)	*75%*	*89%*	*92%*	*81%*	*61%*	*91%*
FD mkt cap (US$m)[E]	1,888	679	1,324	1,365	399	1,364
FD EV (US$m)	1,689	636	1,121	1,328	315	1,202
EV/in-situ payable recoverable (%)	36%	4%	12%	73%	15%	38%
EV/Reserve payable recoverable (%)	54%	12%	17%	na	44%	57%

(A) MAG using 2018 PEA; Sabina using Jan 2020 resource estimate; Nexgen using 2018 PFS; Greatland using Dec 2020 Maiden Resource; Silvercrest Metals 3Q19 PEA; (A) MAG using 2018 PEA; Sabina using SCPe; Nexgen using 2018 PFS; Greatland using Dec 2020 Maiden Resource; Silvercrest Metals 3Q19 PEA; Cassini from June 2020 Reserve update (C) Prices: $1840/oz Au, $24.70/oz Ag, US$30.00/lb U308, US$8,000/t Cu; US$18,000/t Ni (D) Silvercrest Metals, Mag Silver, from PEA; NexGen from PFS; SBB from SCPe, GGP from weighted average resource cut-off, SIL from 2018 PEA, Mincor from 2020DFS; (E) Diluted for ITM options + warrants and post period end equity; (F) cash as last reported plus net cash from post period equity and ITM options.

Source: SCPe, Bloomberg market data, priced 15 January 2021

At US$1322/t in-situ value at spot, NexGen has among the highest in-situ grades of any project in the world, equivalent to 22g/t Au or 1,725g/t Ag but at bulk mineable widths in a leading mining jurisdiction. Moreover, NexGen is trading at just 12% of in-situ value, making it one of the cheapest world class assets in any commodity despite being the highest grade. This is at a US$30.20 uranium price, a much more conservative price level than the rest of the commodity complex. Nor do we see a catch here, 69% of Arrow's in-situ lbs are contained in reserves at ~50% higher grade, giving it a significantly larger payable reserve than the other projects profiled above.

Most advanced along the permitting process of the Athabasca projects

We believe that at least one Athabasca project (between Arrow, Wheeler River and Triple R) is likely to be developed in the next generation of uranium mines, as Cigar Lake's mine life is scheduled to end in 2029 per Cameco and the market will need to replace its 20Mlbs of supply. Arrow is not only the best economic prospect (lowest capital intensity, largest, lowest cost) in the basin, it is also the most advanced Athabasca project with respect to permits. The EA including project description was submitted and accepted in April 2019, while Wheeler River's project description was accepted in December 2020. In addition, we believe that Arrow's submission should face fewer headwinds given the conventional nature of the mining process and fewer groundwater issues to contend with.

Feasibility study expected in 1Q21 with EIS submission shortly thereafter

While our bullish stance on uranium might lead some like-minded investors to seek out of the money option projects (i.e. high tonnage, low grade, cheap pounds in the ground) we believe that NexGen offers the ideal combination of leveraged price exposure as a developer, with permitting and project milestones as sources of value creation independent of the commodity cycle. In our view EA approval is the single largest de-risking catalyst for Arrow, as its grade and amenability to conventional processes all but guarantee economic viability, leaving permitting and funding as the main to-be-confirmed items for investors. The DFS is expected in early 2021 and we expect limited changes, with EIS submission shortly thereafter. As the EA process is now 20 months in, we believe the EA approval could be received as early as in 2021, which in our view should be a major positive catalyst for the shares, and one unique to NexGen (as opposed to a 'lb in the ground' play).

Valuation

Mine Plan and Inventory

We base our valuation on NXE's PFS inputs, with a total inventory of 234.1Mlbs at 3.09% U3O8 producing a LOM total of 228Mlbs over a nine-year mine life at unit costs of C$389/t or C$5.82/lb. At like-for-like inputs of US$50/lb, our NPV8% matches NXE's LOM NPV of C$3.6bn. We then add US$20/year of exploration and evaluation costs from 2020-2022E and conservatively increase operating costs and capex by 10%.

Figure 18 Summary of SCPe mine plan

		NexGen		SCPe		
Category	Unit	2016 PEA	2018 PFS	PFS Inputs	$50/lb	$60/lb
Inventory	*kt*	3,613	3,141	3,414	>>	>>
Grade	*% U3O8*	1.73%	3.09%	0.03	>>	>>
Recovery	*%*	92.8%	97.6%	97.6%	>>	>>
Throughput	*tpd*	1,448	1,039	1,039	>>	>>
Total production	*mlbs*	276	228	228	>>	>>
Average annual	*mlbs pa*	18.5	25.4	25.4	>>	>>
Cash costs	*US$/lb*	6.70	4.36	4.36	4.80	4.80
AISC	*US$/lb*	7.97	9.08	8.67	9.11	9.83
Mine life	*years*	15	9	9	9	20
UG mining cost	*US$/t mined*	131.87	157.31	157.31	173.04	173.04
Mining cost	*US$/t ore mined*	131.87	157.31	157.31	173.04	173.04
Processing cost	*US$/t processed*	110.91	164.65	164.65	181.12	181.12
G&A	*US$/t processed*	63.20	67.11	67.11	73.82	73.82
Total cost per tonne	*US$/t processed*	305.98	389.07	389.07	427.98	427.98
Initial capex	*US$m*	1,188.00	1,246.9	1,246.9	1,371.6	1,371.6
Sustaining capex total	*US$m*	468.0	213.9	213.9	213.9	213.9
Sustaining capex per year	*US$m*	31.2	23.8	23.8	23.8	10.7
Closure cost	*US$m*	64.0	48.0	48.0	48.0	48.0
Uranium price	*US$/lb*	50	50	50	50	60
Discount rate	*%*	8.0%	8.0%	8.0%	8.0%	8.0%
USD/CAD	*1 CAD =*	0.75	0.75	0.75	0.75	0.75
NPV at build start	*C$m*	3,490	3,661	3,613	3,492	4,476
IRR at build start	*%*	56.7%	56.8%	54.6%	50.5%	58.6%
Operating margin	*%*	85.5%	90.6%	91.2%	90.4%	92.0%
Average annual FCF	*C$m*	553.0	866.9	765.0	747.8	423.0
LOM FCF	*C$m*	8,295.0	6,934.8	6,885.4	6,730.5	8,459.2

(1) Including sales royalties but not the provinical profit royalty

Source: SCPe, company disclosure

Timeline and capex

We model a three-year construction period with total initial capex of C$1.37bn (PFS +10%) starting in 2023, with first production from 2026. This assumes EA acceptance in early 2022 with the remaining permits granted through the remainder of the year allowing for construction start in Spring 2023. We model a C$24m per year of sustaining capital, in line with the PFS, and a C$48m closure cost, both in line with the PFS.

Taxes, royalties and fiscal

There are no third party royalties on the property. In line with current legislation, we model a 4.25% provincial revenue royalty (5.0% gross sales royalty minus a 0.75% resource credit), a 3% provincial sales surcharge, and a sliding 10-15% net profit royalty at 10% for profit per kg up to C$23.29/kg (C$10.54/lb) and 15% on profits per kg above that level. We assume a 27% corporate income tax rate, in line with current provincial and federal legislation.

Funding and balance sheet

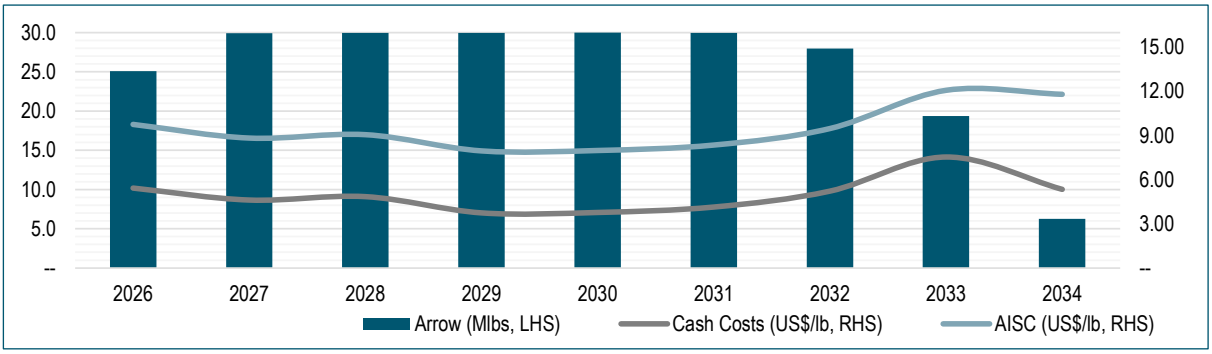
We assume a total funding package of C$1.7bn consisting of C$960m of debt at 12%, C$300m of prepaid offtake at US$50/lb, and C$385m of equity at 0.6x NAVPS in 2022.

Production Profile

We estimate a nine-year mine life at average cash operating costs of C$6.40/lb (US$4.80) and C1 + revenue royalties of C$12.14/lb at US$60/lb. Adding the 10-15% variable provincial profit royalty, we estimate LOM AISC

of C$19.49/lb (US$14.62/lb) at US$50/lb. This generates life of mine FCF of C$5.0bn at US$40/lb, C$6.7bn at US$50/lb and C$8.5bn at US$60/lb. We estimate FCF payback of capex, corporate expenses and pre-production expenses within 1.6 years of first production at US$50/lb.

Figure 19: SCPe production profile



Source: SCPe; AISC includes 7.25% revenue royalty and 10-15% variable royalty calculated at US$50/lb

Other assets

We have included US$2.00/lb for lbs outside the mine plan (C$139m total) and NXE's 52.5% stake in IsoEnergy at current market value (C$139m).

Share count

As at the end of September 2020, NXE had 376.95m shares outstanding with 37.41m options at an average strike price of C$2.23/sh. 33.83m options are in the money at an average price of C$2.11/sh. In addition, NXE has US$60m of 7.5% convertibles due in each of 2021 and 2022 at US$2.326 and US$2.692/sh, with US$15m of convertibles due in 2025 at a conversion price of C$2.34. We have assumed that convertibles are converted into shares as they are all in the money currently. This generates a fully diluted share count of 474m shares. We assume SCPe fully funded share count estimate is 540m.

Figure 20: SCPe NAV breakdown and NAV sensitivity to uranium price

Asset	C$m	C$/sh Fully diluted	C$/sh Fully Diluted + Funded
Arrow NPV 4Q20	2,955	6.24	5.47
Central SG&A & fin costs 4Q20	-118	-0.25	-0.22
Lbs outside mine plan ($2.00/lb)	304	0.64	0.56
IsoEnergy 52.5% stake	95	0.20	0.18
Cash and restr. cash 3Q20	79	0.17	0.15
Debt 3Q20	-3	-0.01	0.00
ITM options	84	0.18	0.15
Equity issued for mine build	385	not included	0.71
Total	***3,395***	**7.17**	**7.00**
Shares outstanding	**(m)**		
Basic Shares (m)	377		
ITM Options (m)	37		
Shares issued for ITM converts (m)	57		
Convert share interest (m)	3		
Fully Diluted Shares (m)	**474**		
SCPe Fully Funded Shares (m)	**540**		
Market Multiples			
Share price (C$/sh)	3.61		
P/NAV fully diluted	0.50x		
P/NAV fully diluted + funded	0.52x		
Target price			
Fully diluted + funded target multiple	**0.85x**		
Target price (C$/sh)	**6.00**		

1xNAV sensitivity to gold price and discount / NAV multiple

1xNAV Arrow (C$m)	$30/lb	$40/lb	$50/lb	$60/lb	$70/lb
10% discount	990	1,704	2,418	3,133	3,847
9% discount	1,121	1,897	2,673	3,449	4,225
8% discount	1,267	2,111	**2,955**	3,799	4,643
7% discount	1,430	2,349	3,268	4,187	5,106
6% discount	1,613	2,615	3,616	4,618	5,620
5% discount	1,817	2,910	4,004	5,097	6,191
Valuation (C$/sh)	$30/lb	$40/lb	$50/lb	$60/lb	$70/lb
0.50xNAV	1.60	2.60	3.50	4.50	5.40
0.70xNAV	2.30	3.60	4.90	6.20	7.60
0.85xNAV	2.70	4.30	**6.00**	7.60	9.20
1.00xNAV	3.20	5.10	7.00	8.90	10.80
1.20xNAV	3.90	6.10	8.40	10.70	13.00

Sources		Uses	
PFS capex	C$1247m	SCPe 3Q20 cash + ITM options	C$122m
SCPe contingency	C$125m	Mine debt @ 60% gearing	C$1028m
SCPe G&A + fin. cost to first Au	C$322m	Build Equity	C$385m
SCPe working capital	C$127m	Offtake	C$300m
Total uses	C$1820m	Total proceeds	C$1835m

Source: SCPe

Initiate with a BUY recommendation and C$6.00/sh price target based on 0.85x $NAV_{8\%\text{-}50/lb}$

Arrow's high margins, rapid payback period, and its advanced permitting status in a tier one jurisdiction give us confidence that the asset will be the next tier I uranium mine. At 0.5x $NAV_{8\%\text{-}50/lb}$ or 11% of spot in-situ value, NexGen remains cheap for a world class project, offers the safety of buying into a world class asset, with the torque in a rising market that investors seek in pre-production assets. We initiate with a BUY rating and C$6.00/sh price target based on 0.85x fully funded $NAV_{8\%\text{-}50/lb}$. We believe Arrow is a special project and deserves a higher rating than we would normally assign a pre-production project; our target price equates to 20% of spot in-situ value at the current uranium price and we believe there is significant upside to this as the cycle turns.

Why we like NexGen

1. Best undeveloped uranium asset – largest and lowest cost
2. Most advanced permitting process of the Athabasca developers
3. Still undervalued relative to world class development projects in other commodities
4. Catalyst rich: DFS expected imminently and EA approval in SCPe next 12-18 months provide upside beyond leverage to the uranium price

Catalysts

- 1Q21: Arrow DFS
- Mid-2021: EIS submission
- SCPe 2021-2022: Potential EA approval

Risks

Permitting: We view this risk as moderate. While uranium mine permitting is a thorough process, the process is well underway, Saskatchewan is regarded as an excellent jurisdiction with constructive regulatory authorities, and the project itself benefits from its remote location and small tonnage footprint.

Development: We view this as a moderate risk. At 450ktpa, the project itself is modest in tonnage which should reduce scope for overruns. In our view the highest risk item in the capital build is the shaft sinking, especially in the initial 125m, as this presents the greatest ground condition challenge.

Geology: We view this as a relatively low risk. The deposit is well drilled with over 300,000m supporting the Resource estimate and large consistent grades encountered in the A2 and A3 high grade zones.

Mining: We view this risk as moderate but below peers in uranium. The deposit is hosted in competent basement rock which enables conventional stoping methods.

Processing: We view this risk as low. The deposit is high grade and is not polymetallic, while the flowsheet is conventional for an Athabasca uranium deposit.

Logistics: We view this risk as low, due to the limited tonnage of the operation. While the project is in the west rather than eastern Athabasca, it is still proximate to a region with a well-developed supply chain and skilled labour force for uranium mining.

Environmental: We view this risk as moderate. Tailings are non-mineralised and non-asset forming. The underground tailings deposition method occurs well below the unconformity in stable ground conditions. The company has put in place provisions to treat process water.

Ticker:	NXE CN	**Price / mkt cap:**	C$3.61/sh, C$1,361m	**Market P/NAV:**	0.50x	**Assets:**	Arrow
J Chan / B Salier / B Gaspar		**Rec / PT:**	BUY / C$6.00	**1xNAV$_{2Q20}$ FD:**	C$7.17/sh	**Country:**	Canada (Saskj)

Group-level SOTP valuation	3Q20	**4Q20**			
		C$m	**O/ship**	**NAVx**	**C$/sh**
Arrow NPV 4Q20		2,954.9	100%	1.0x	6.24
Central SG&A & fin costs 4Q20		(118.1)	--	1.0x	(0.25)
Lbs outside mine plan ($2.00/lb)		304.0	100%	1.0x	0.64
IsoEnergy 52.5% stake		94.9		1.0x	0.20
Cash and restr. cash 3Q20		78.6	--	1.0x	0.17
Debt 3Q20		(2.6)	--	1.0x	(0.01)
ITM options		83.6	--	1.0x	0.18
1xNAV8% US$50/lb		**3,395**			**7.17**
Assumed build equity issuance		385.2			0.71
1xNAV fully funded8% US$50/lb		**3,780**			**7.00**
P/NAV (x):					**0.52x**

Target multiples	**Multiple**	**C$/sh**
Target P/NAV Multiple	**0.85x**	**6.00**
Target price		**6.00**

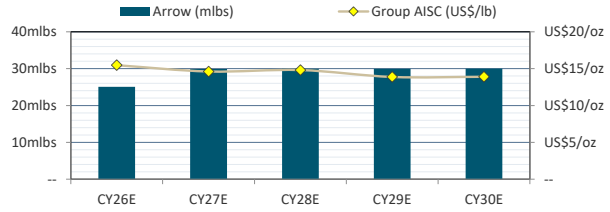
Sources		**Uses**	
PFS capex	C$1247m	SCPe 3Q20 cash + ITM options	C$122m
SCPe contingency	C$125m	Mine debt @ 60% gearing	C$1028m
SCPe G&A + fin. cost to first Au	C$322m	Build Equity	C$385m
SCPe working capital	C$127m	Offtake	C$300m
Total uses	C$1820m	Total proceeds	C$1835m

1xNAV sensitivity to gold price and discount / NAV multiple					
1xNAV Arrow (C$m)	$30/lb	$40/lb	$50/lb	$60/lb	$70/lb
10% discount	990	1,704	2,418	3,133	3,847
9% discount	1,121	1,897	2,673	3,449	4,225
8% discount	1,267	2,111	**2,955**	3,799	4,643
7% discount	1,430	2,349	3,268	4,187	5,106
6% discount	1,613	2,615	3,616	4,618	5,620
5% discount	1,817	2,910	4,004	5,097	6,191
Valuation (C$/sh)	$30/lb	$40/lb	$50/lb	$60/lb	$70/lb
0.50xNAV	1.60	2.60	3.50	4.50	5.40
0.70xNAV	2.30	3.60	4.90	6.30	7.60
0.85xNAV	2.80	4.40	**6.00**	7.60	9.30
1.00xNAV	3.30	5.20	7.10	9.00	10.90
1.20xNAV	3.90	6.20	8.50	10.80	13.10

Valuation over time	**1Q21E**	**1Q22E**	**1Q23E**	**1Q24E**	**1Q25E**
Mines NPV (C$m)	3,213	3,492	3,792	4,307	5,305
Cntrl G&A & fin costs (C$m)	(119)	(110)	(89)	(44)	37
Net cash at 1Q (C$m)	51	701	477	(191)	(867)
Other Assets + Options	179	179	179	179	179
1xNAV (C$m)	3,323	4,260	4,359	4,250	4,654
P/NAV (x):	0.5x	0.4x	0.4x	0.4x	0.4x
1xNAV share px FD (C$/sh)	7.01	8.99	8.48	8.14	8.73
ROI to equity holder (% pa)	*94%*	*58%*	*33%*	*23%*	*19%*

Resource / Reserve	**kt**	**% U3O8**	**Mlbs**	**EV/lb U3O8**
Measured, ind. & inf. - Arrow	7,726	2.04%	348.1	3.26
Reserves (2P)	3,433	3.09%	234.1	4.85
SCPe Mine inventory - Arrow	3,433	3.09%	234.1	4.85

Production (100%)	**CY26E**	**CY27E**	**CY28E**	**CY29E**	**CY30E**
Arrow (000mlbs U3O8)	25.1	29.9	29.9	30.0	30.0
Arrow cash cost (US$/lb)	5.44	4.62	4.86	3.75	3.78
Arrow AISC (US$/lb)	15.47	14.61	14.81	13.87	13.89



Share data					
Basic shares (m): 376.9		FD + options (m):	473.8	FD + FF	540.0
Commodity price	**CY23E**	**CY24E**	**CY25E**	**CY26E**	**CY27E**
Uranium price (US$/lb)	50.0	50.0	50.0	50.0	50.0
Ratio analysis	**CY23E**	**CY24E**	**CY25E**	**CY26E**	**CY27E**
FD shares out (m)	514.2	522.4	533.3	540.0	540.0
EPS (C$/sh)	(0.093)	(0.150)	(0.212)	1.113	1.534
CFPS before w/c (C$/sh)	(0.00)	(0.00)	(0.01)	1.67	2.05
FCFPS pre growth (C$/sh)	(0.09)	(0.15)	(0.21)	1.18	1.86
FCF/sh (C$/sh)	(0.47)	(1.31)	(1.28)	1.18	1.86
FCF yield - pre growth (%)	(3%)	(4%)	(6%)	33%	52%
FCF yield (%)	(13%)	(36%)	(36%)	33%	52%
EBITDA margin (%)	--	--	--	70%	72%
FCF margin (%)	--	--	--	38%	51%
ROA (%)	(3%)	(5%)	(6%)	26%	37%
ROE (%)	(7%)	(13%)	(22%)	53%	42%
ROCE (%)	(1%)	(1%)	(1%)	71%	55%
EV (C$m)	915	1,605	2,311	1,725	753
PER (x)	(38.7)	(24.0)	(17.1)	3.2x	2.4x
P/CF (x)	nmf	nmf	nmf	1.6x	1.3x
EV/EBITDA (x)	nmf	nmf	nmf	1.5x	0.5x
Income statement	**CY23E**	**CY24E**	**CY25E**	**CY26E**	**CY27E**
Revenue (C$m)	--	--	--	1,663	1,985
COGS (C$m)	--	--	--	(483)	(549)
Gross profit (C$m)	**--**	**--**	**--**	**1,180**	**1,436**
G&A & central	(10)	(10)	(10)	(10)	(10)
Depreciation	--	--	--	(186)	(222)
Impairment & other (C$m)	--	--	--	--	--
Net finance costs (C$m)	(38)	(68)	(103)	(114)	(48)
Tax (C$m)	--	--	--	(268)	(328)
Minority interest (C$m)	--	--	--	--	--
Net income attr. (C$m)	**(48)**	**(78)**	**(113)**	**601**	**828**
EBITDA	*(10)*	*(10)*	*(10)*	*1,170*	*1,426*
Cash flow	**CY23E**	**CY24E**	**CY25E**	**CY26E**	**CY27E**
Profit/(loss) after tax (C$m)	(48)	(78)	(113)	601	828
Add non-cash items (C$m)	48	78	109	302	276
Less wkg cap / other (C$m)	--	--	--	(127)	(21)
Cash flow ops (C$m)	**(0)**	**(0)**	**(4)**	**776**	**1,083**
PP&E (C$m)	(196)	(605)	(571)	(24)	(24)
Other (C$m)	--	--	--	--	--
Cash flow inv. (C$m)	**(196)**	**(605)**	**(571)**	**(24)**	**(24)**
Debt draw (repayment) (C$m)	257	257	257	(128)	(902)
Equity issuance (C$m)	20	15	8	--	--
Other (C$m)	(48)	(78)	(109)	(149)	(87)
Cash flow fin. (C$m)	**229**	**194**	**157**	**(278)**	**(989)**
Net change post forex (C$m)	33	(411)	(419)	475	70
FCF (C$m)	*(244)*	*(683)*	*(684)*	*637*	*1,006*
Balance sheet	**CY23E**	**CY24E**	**CY25E**	**CY26E**	**CY27E**
Cash (C$m)	994	582	164	639	709
Accounts receivable (C$m)	--	--	--	64	76
Inventories (C$m)	--	--	--	121	137
PPE & exploration (C$m)	516	1,121	1,692	1,530	1,332
Other (C$m)	1	1	1	1	1
Total assets (C$m)	**1,510**	**1,704**	**1,856**	**2,354**	**2,255**
Debt (C$m)	517	774	1,031	902	--
Other liabilities (C$m)	321	321	301	326	300
Shareholders equity (C$m)	848	863	892	892	892
Retained earnings (C$m)	(197)	(276)	(388)	213	1,041
Minority int. & other (C$m)	22	22	22	22	22
Liabilities+equity (C$m)	**1,510**	**1,704**	**1,856**	**2,354**	**2,255**
Net Cash	477	(191)	(867)	(263)	709
Net Debt to NTM EBITDA (x)	*nmf*	*nmf*	*0.7x*	*0.2x*	*(0.5)*

Arrow (100%-owned Rook I property, West Athabasca, Saskatchewan, Canada)

Site location and access

Arrow is located on NexGen's 100% owned Rook I Project, located 40km east of the Alberta-Saskatchewan border, 150km north of the town of La Loche and 640km NW of Saskatoon. In total the claims cover 350.65km^2. Arrow is not subject to any third-party royalties or encumbrances; other claims within the overall property are subject to a 2% NSR and 10% free carried interest. The site can be accessed via all-weather gravel Highway 955 which travels N-S approximately 8km west of the Arrow Deposit and is maintained by the provincial government, with the final stretch from 955 to site on a private all-weather access road built by NexGen. The nearest population centre is La Loche, Saskatchewan, while Fort McMurray, Alberta, is located 180km SW of Rook I and can be reached from La Loche by winter road from December through April. An airstrip is planned as part of the mine site design. Mean temperatures are below freezing for seven months of the year with freeze-up typically commencing in October and break-up in May. Mining activities are expected to operate year-round. The current mine plan is based on generator power but there is a power line 70km south of the property.

Figure 21: Asset location within the wider basin

Source: NexGen Energy

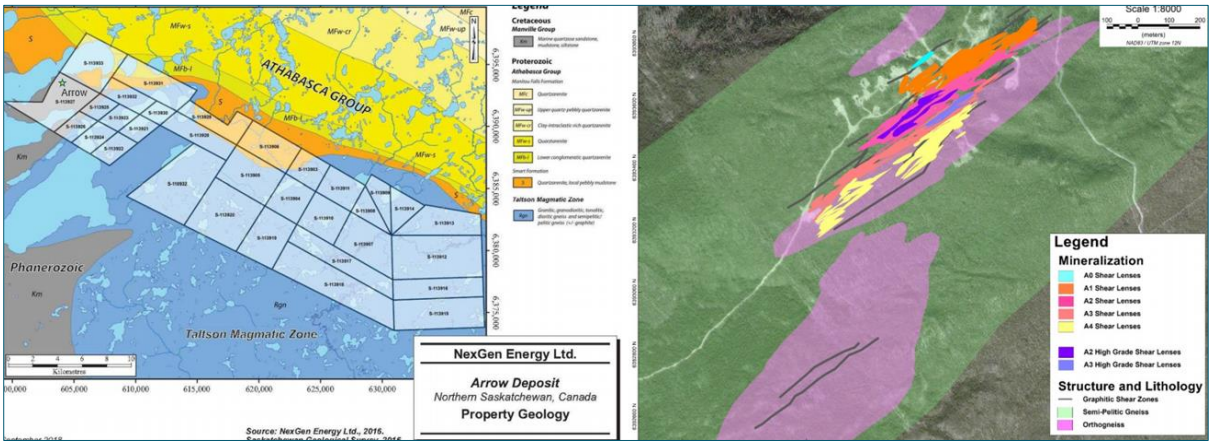
History

Exploration commenced on the property with airborne magnetic and radiometric surveys from 1968-1970. EM work in the 1970s uncovered conductors but drilling from 1977-1982 did not encounter radioactivity despite promising alteration. NexGen acquired the Rook I property from Mega Uranium in 2012 and commenced VTEM and target selection in 2013. Early drilling yielded immediate >20m results with off-scale radioactive readings and a maiden resource estimate of 202Mlbs at 2.69% in 2015 confirmed Arrow as the premier deposit in the Athabasca basin.

Geology

The Athabasca Basin is located in Northern Saskatchewan and into NE Alberta, and is a Paleoproterozoic-aged flat-lying fluvial sedimentary basin characterised by surficial sandstones unconformably overlying the basement gneiss and granitoid complexes. Arrow is considered to be an example of basement-hosted ingress style mineralisation formed by the mixing of reducing brine from the Athabasca sandstones interacting with fluids coming up from faults in the underlying basement gneiss. At Arrow no mineralisation has been encountered at or above the unconformity with massive veins from just below the unconformity to 700m below. Alteration is largely conformed to structures in the basement, typical of this style of mineralisation, with intensive hydrothermal alteration and shearing in the host gneissic basement rock.

Figure 22: (A) Rook I property geology (B) Arrow deposit geology



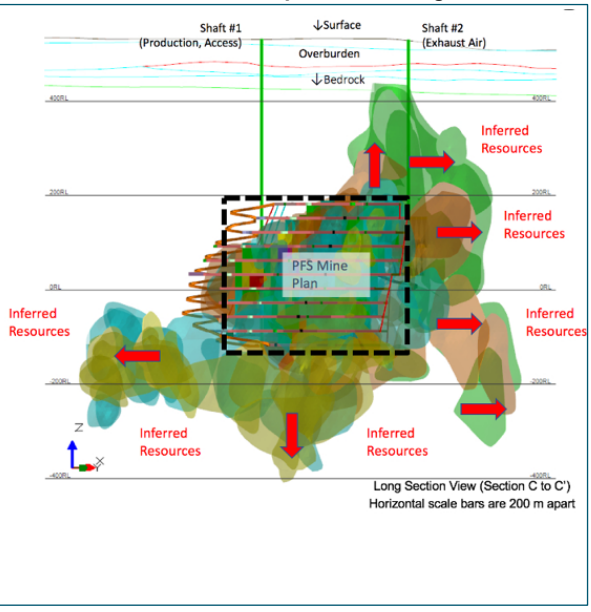
Source: NexGen Energy

Arrow consists of several stacked lenses (named A1 through A5) within a 308m wide zone with a strike length of 970m starting at 110m below surface extending to 980m, and is open at depth and to the west. Mineralisation is closely associated to narrow, strongly graphitic, politic, and graphitic semipelitic gneiss lithologies thought to represent discrete shear zones. The deposit is currently interpreted as being hosted chiefly in semipeltic gneiss. Each shear panel is ~50m wide and contain narrow graphitic shear zones oriented parallel to foliation and striking at 050° to 060°. The A2 and A3 shears host higher grade, thicker and more continuous mineralisation than the other shears.

Reserves and Resources

Figure 23: (A) Arrow NI 43-101 R&R statement (B) Resource cross section with planned mining area

Shear	Category	Tonnes (kt)	% U3O8	klbs U3O8
A2	Probable	2,058	4.13%	187,346
A3	Probable	1,376	1.54%	46,700
Total Reserves		**3,433**	**3.09%**	**234,046**
A1	Indicated	--	--	--
	Inferred	1,510	0.72%	23,900
	Total	**1,510**	**0.72%**	**23,900**
A2 High Grade	Indicated	460	17.85%	181,000
	Inferred	5	12.70%	1,400
	Total	**465**	**17.79%**	**182,400**
A2	Indicated	1,240	0.79%	21,700
	Inferred	1,290	0.70%	19,900
	Total	**2,530**	**0.75%**	**41,600**
A3 High Grade	Indicated	180	9.68%	38,400
	Inferred	1	9.07%	200
	Total	**181**	**9.67%**	**38,600**
A3	Indicated	1,010	0.70%	15,500
	Inferred	1,230	1.11%	30,000
	Total	**2,240**	**0.92%**	**45,500**
A4	Inferred	800	0.92%	16,300
Total Resources	**Indicated**	**2,890**	**4.03%**	**256,600**
	Inferred	**4,836**	**0.86%**	**91,700**
	Total	**7,726**	**2.04%**	**348,300**
High Grade	**Indicated**	**640**	**15.55%**	**219,400**
	Inferred	**6**	**12.10%**	**1,600**
	Total	646	15.52%	221,000



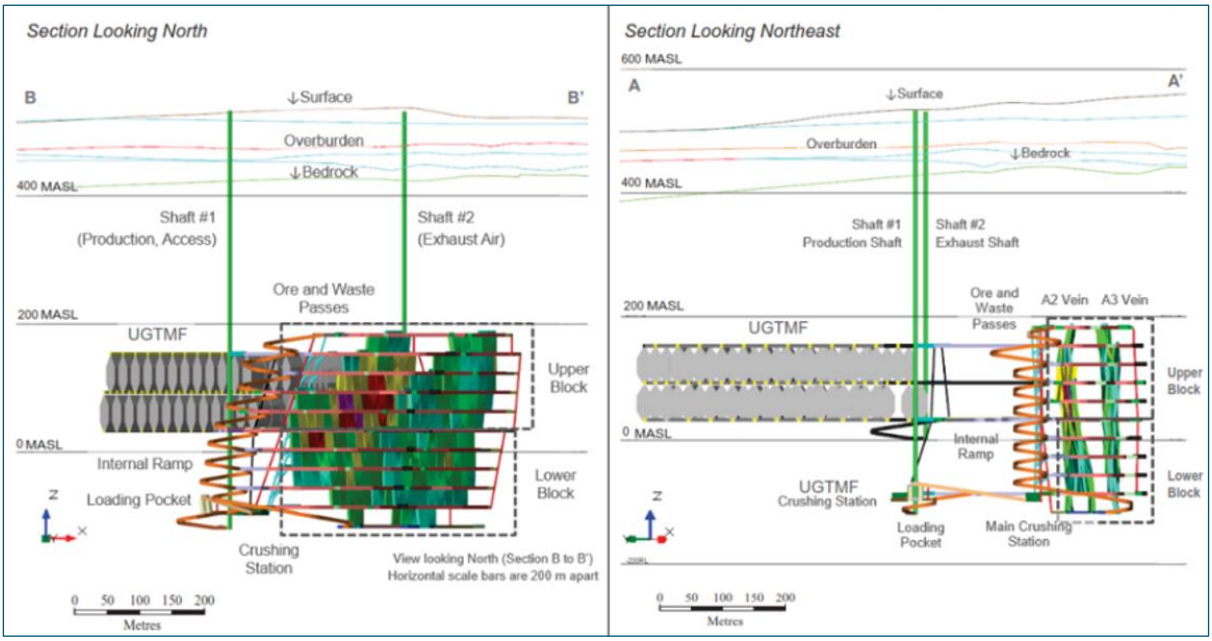
Source: NexGen Energy, Cut-off grade is 0.25%U3O8 for reserves and resources, resources calculated at US$50/lb and minimum mining width of 1m, reserves are calculated at US$45/lb and a cut-off of 0.25% U3O8.

The resource incorporates 302,021m of drilling in 593 core holes of which 555 holes for 296,681m were conducted by NexGen. Grades were interpolated using ordinary kriging and inverse distance squared using a minimum of 2-3 to up to 50 composites per block. The reserves extend from 355m to 655m below surface and 31% dilution was applied to longhole stopes with an additional 13% fill dilution applied to secondary stopes. An extraction recovery factor of 95% was applied. In 2019, following the PFS, NexGen commenced a 125,000m drilling programme with 71,000m budgeted for upgrading indicated material to measured, 54,000m to upgrade inferred material to indicated, and 12,500m of geotechnical drilling.

Mining

Arrow is planned to be mined as an underground long-hole stoping operation with primarily transverse stoping in higher grade areas with wider stopes (generally >10m) and longitudinal retreat stoping in thinner and lower grade areas (generally 3m widths). The Reserve profile extends from 355m to 655m below surface and is access via two-planned shafts. The shallowest mine excavation is 250m below the unconformity and thus risk associated with the crown pillar is expected to be minimal. The first 125m of shaft sinking is expected to be through poorer quality rock masses, however these domains are to be frozen to ensure stability during sinking to manage groundwater issues. Shaft #2, to a depth of 533m, is expected to be the first completed and much of the lateral development will be from Shaft #2. Shaft #1 will be sunk to 658m and will be equipped with a skip hoist.

Figure 24: Mine sections looking (A) north and (B) NE; the UG TMF should handle 100% of process waste



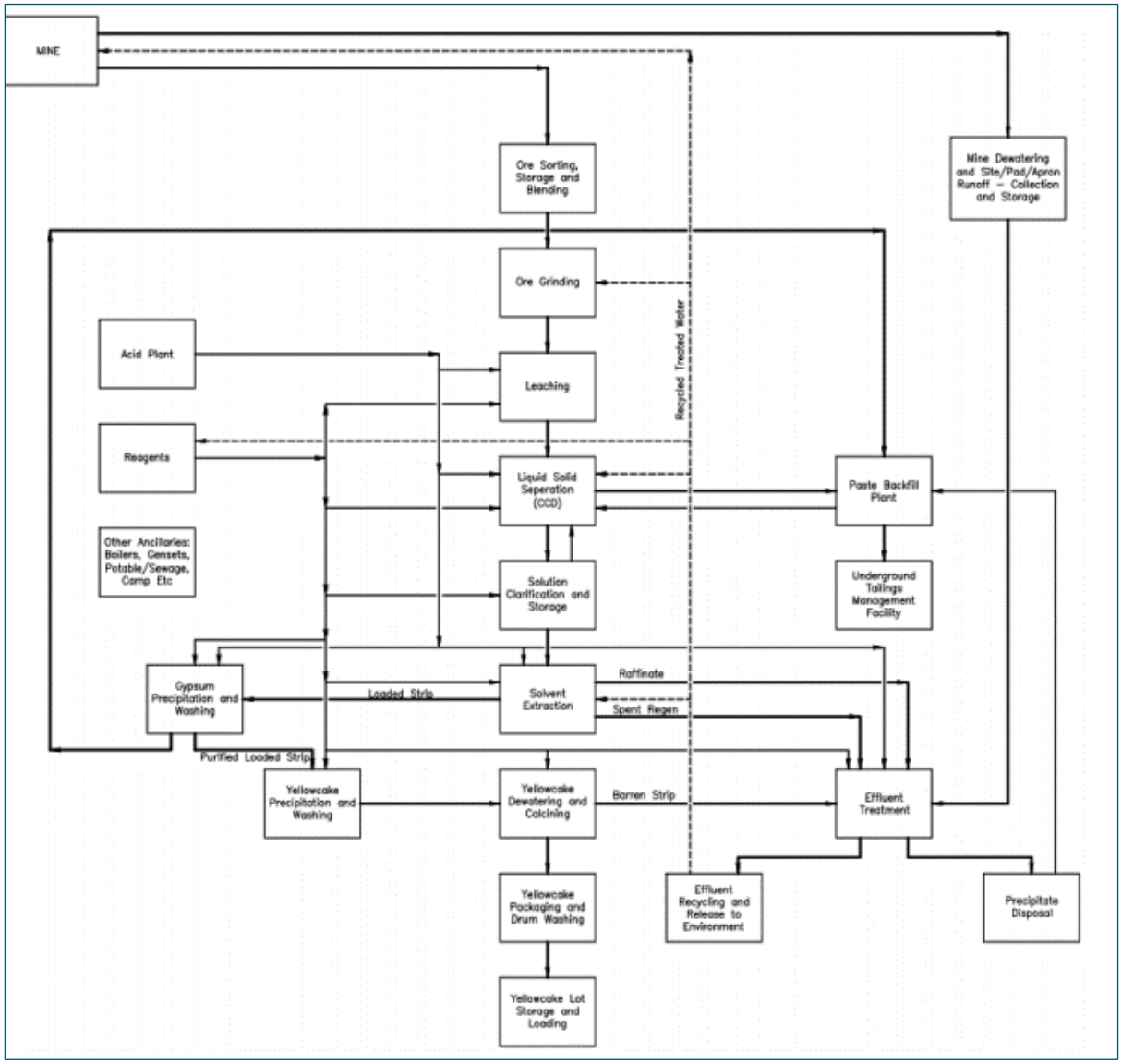
Source: NexGen Energy 2018 PFS

Mine development dimensions are 5x5m for longitudinal stoping areas and 6x6m for transverse. 11 main levels are planned at 30m intervals. Ramps are to be driven at 5.0m wide by 6m high with a maximum gradiant of 15%. The mine is expected to produce a maximum of 456kt in a given year. Once in operation, the mine is to be mined primarily via transverse stopes of 10-15m wide by up to 15-30m length (depending on hanging wall stability) with planned 30m stope heights. A smaller number of longitudinal retreat stopes are planned with minimum widths of 3m. Development into stopes will be shotcreted to ensure stability. Radiation exposure will be carefully managed, and ventilation is designed so that air that has come in contact with high grade ore will not be recycled. Ore will be scoop trammed to centrally located ore and waste passes. The bottom of the orepass will be located on 620ml where ore will be directed into the underground ore crush to be crushed to <120mm underground and then loaded by conveyor to the skip for hoisting. Process waste is to be mixed with cement to create paste to backfill mined out stopes. Waste rock is considered to be non-acid forming and non-mineralised. C$303m of initial capital costs are estimated for the underground mine, with LOM average operating mining costs or C$157.31/t, US$2.35/lb; or C$59.7m per year.

Processing

The processing plant uses a standard flowsheet for uranium. Crushed ore hoisted by the skip will be trucked to storage pads. Grinding is a standard SAG to ball mill configuration followed by six agitated leach tanks for a total 10-hour residence time. Six counter-current decantation units will wash the dissolved uranium from leached residue solids, followed by four extraction mixer-settler units to load the uranium onto organics, followed by a stripping, precipitation, centrifuge, and calcining, to create a finished yellowcake product in 55 gallon drums (~100 per day once in commercial production). Overall process recovery is expected to be 97.6%.

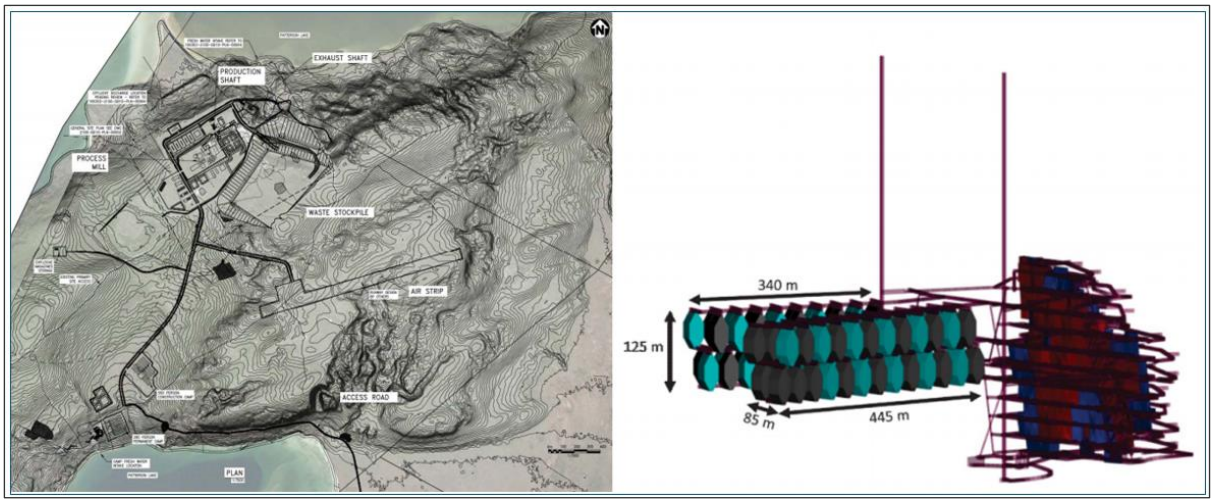
Figure 25: Process Flow Diagram



Source: NexGen Energy

Site Infrastructure

Figure 26: (A) Proposed surface layout and (B) Schematic showing UG TMF design



Source: NexGen Energy, BPA

Water: Feed water is to be pumped from Patterson lake. Feed water will be treated and discharge to a surface feed settling pond. A separate water intake south of the existing camp will supply potable water for the camp facilities.

Power: Power: Currently an onsite power plan is considered in the design due to the capital costs associated with running a power line to site; site power requires are estimated at 14MW (7.0 mine, 6.3 process, 0.7 G&A) to be supplied by nine LNG generators. There is a 14.4kV power line 95 km from site but is deemed to be of insufficient capacity. The nearest sub-station with sufficient capacity for the project is 200km away.

Waste disposal: Solid effluent will be slurry pumped to the paste plant and used for stope backfill or pumped to the underground tailings management facility. Process tailings are to be stored underground in an underground tailings management facility (UG TMF), the first of its kind in the Athabasca. The UG TMF is planned to consist of 88-diamond shaped excavations approximately 25m long by 60m high, arranged in a regular pattern. The top of the excavations will be ~250m below the unconformity to avoid concerns about groundwater or stability. Effluent water will be contained in a surface feed settling pond. Waste rock will be stored in the waste rock disposal facility; 99% is considered to be non-acid forming and not mineralised. Mineralised waste rock will be stored in a contained area dual lined with high-density polyethylene with a leak detection system also installed.

Camp and civil infrastructure: The proposed site includes a 290-person permanent camp, regular traffic roads around the site, and generators. There is an existing 8km access road from Highway 955 to site.

Other Assets

Rook I: There are a number of other promising targets on the Rook I property along the Patterson corridor. South Arrow is located 400m south of arrow and encountered basement hosted mineralisation in uranium veins that occur near or within chloritic to graphitic shears. Mineralisation has been traced over a strike length of 290m with 185m of vertical extent. Harpoon is located 4.7km NE of Arrow and traced over a strike of 340m and is currently exclusively basement hosted within a chloritic and graphitic shear zone. Bow is located 3.7km NE of arrow, with anomalous uranium values at or just below the unconformity. Cannon is located 1.3km NE of Arrow with similar gneissic basement lithologies, however mineralisation intersected to date has been lower grade.

IsoEnergy: is a 52.5%-owned spin-out company with extensive tenement holdings in the Eastern Athabasca. The company is focused on two strategies: i) unfollowed up anomalies where funding was inadequate post-2011, and ii) below the unconformity for Arrow-style basement-hosted mineralisation, noting that the majority of exploration in the Eastern Athabasca has traditionally focused on unconformity hosted deposits that were not tested below the unconformity. Iso's Hurricane Deposit appears to be a potential world-class unconformity hosted deposit and is located 40km from the McClean Lake Mill.

Appendix I: The Athabasca Basin

The Athabasca basin is located in north-western Saskatchewan, and stretches into north-east Alberta, covering ~100,000km^2. It is home to some of largest current and former uranium mines in the world, including Cameco's operating Cigar Lake mine (18Mlbs pa) and McArthur River Mines (20Mlbs pa), which is on care and maintenance. The basin is a Paleoproterozoic (2,500-1,600 Ma) flat-lying red-bed sedimentary basin with the overlying sandstone unit varying from 100-1000m in thickness. The majority of the uranium deposits found in the basin are at the contact between the sandstone and the underlying basement units, which are the Hearne (Paleoproterozoic granitoid gneisses) to the east, the Taltson Magmatic Zone (Paleoproterozoic) and the Rae to the West (metasedimentary supracrustal sequences as well as granitoids). Uranium was discovered in the 1940s and the first mine built was the Rabbit Lake Mine, which was discovered in 1968 and opened in 1975. The basin has consistently been one of the most important uranium producing regions, at 23% of global production from 2015-2017 and 13% in 2019.

Uranium operations

Table 27: (A) Athabasca uranium projects and mines and (B) Current milling facilities

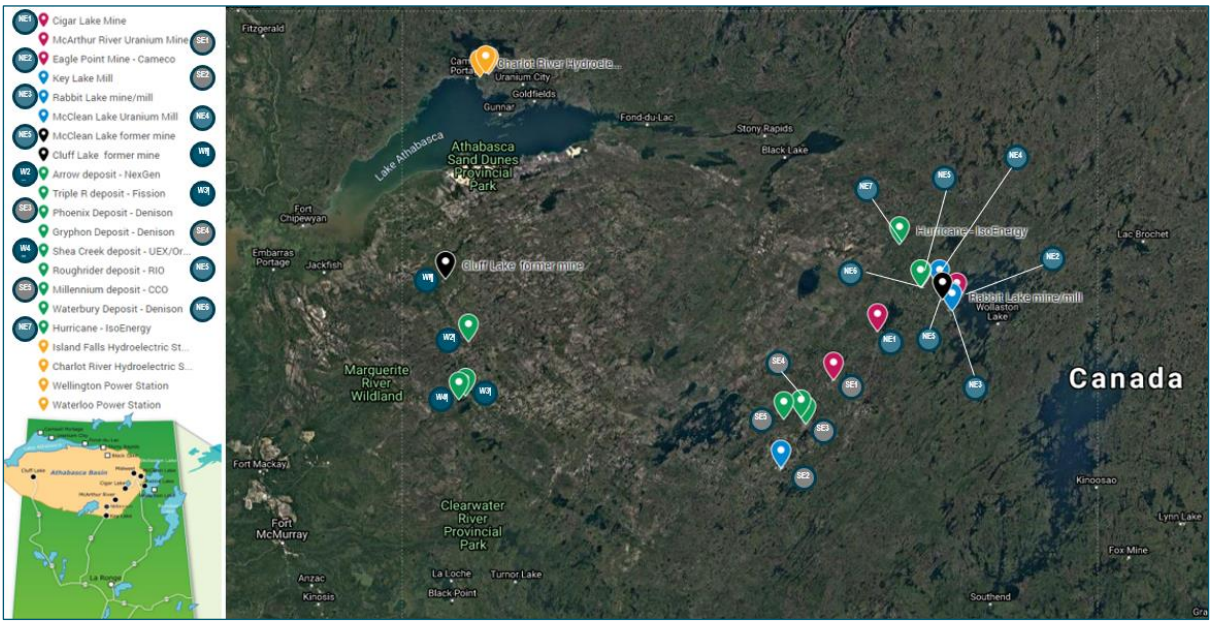
	Projects								Producing	Care and Maintenance	
	NexGen	Denison	Denison	Fission	Rio Tinto	Cameco	UEX	Denison	Cameco	Cameco	Cameco
Project	Rook I	Wheeler River		Patterson Lake South	Roughrider	Millennium	Shea Creek	Waterbury Lake	Cigar Lake	McArthur River	Rabbit Lake
Deposit	Arrow	Phoenix	Gryphon	Triple R	Roughrider	Millennium	Shea Creek	Tthe Heldeth Tué	Cigar Lake	McArthur River	Eagle Point
Location in basin	W	SE	SE	W	NE	SE	W	NE	NE	SE	NE
Ownership	100%	Denison 90%, JCU 10%		100%	100%	69.9% CCO / 30.1% Orano	50.1% Orano, 49.9% UEX	DML 66.9%, Korean 33.1%	CCO 50.025%, AREVA 37.1%, Japanese 12.775%	CCO 69.805%, Orano 31.895%	100%
Permits	EA commenced April 2019	EA restarted December 2020		EA submitted April 2020	Exploration	Exploration	Exploration	Exploration	Producing, permitted to 2029	C&M, permitted to 2042	C&M, permitted to 2023
Study	2018 PFS	2019 PFS	2019 PFS	2019 PFS	2011 PEA (Hathor)	2019 YE R&R	2013 Resource	2020 PEA	2015 Tech Report	2018 Tech Report	2019 YE R&R
Deposit type	Ingress	Egress	Ingress	Ingress	Ingress	Ingress	Egress	Egress	Egress	Egress	Ingress
Hosted	Basement	Unconformity	Mostly Basement	Mostly Basement	Mostly Basement	Mostly Basement	Unconformity	Unconformity	Unconformity	Unconformity	Basement
Depth (m)	110-980m	390-420m	520-850m	50-330m	250-350m east zone 190-290m west zone	650m	650-800m	195-230m	410-450m	500-640	5-360m below bedrock (under Collins Bay)
Reserves (kt)	3,433	141	1,257	2,298	732	--	--	178	553	2,573	--
Reserve grade (% U3O8)	3.09%	19.13%	1.79%	1.61%	1.72%	--	--	2.48%	14.48%	6.91%	--
Reseves (Mlbs)	234.1	59.7	49.7	81.4	27.8	--	--	9.7	176.6	391.9	--
Resources (M,I&I)	7,726.0	330.3	1,716.0	3,437.0	555.8	1,855.0	3,340.1	559.0	1,053.9	2,796.3	4,297.4
Grade (% U3O8)	1.99%	8.76%	1.88%	1.78%	4.73%	2.64%	1.30%	1.50%	12.99%	6.55%	0.76%
Contained (Mlbs U3O8)	338.3	63.8	71.3	135.2	57.9	107.9	95.9	18.5	301.9	404.0	72.3
Mine type	UG	ISR	UG	UG	UG	UG	UG	UG	UG	UG	UG
Mine method	LH stoping	Freeze wall ISR	LH Stoping	LH stoping	Freeze wall, raise bore	--	--	Freeze wall ISR	Freeze wall, jet boring	Freeze wall, raise boring	Vertical longhole stoping
Mill	Build	truck to McClean Lake		Build	Build	--	--	McClean Lake	McClean Lake	Key Lake	Rabbit Lake
Throughput (tpd)	1,300	n/a	n/a	1,000	193	--	--	111	126	306	Mill up to 1500tpd
Annual production (Mlbs)	25.4	5.4	6.1	10.7	5.0	--	--	1.6	20.0	18.0	4.2 [3]
LOM total production (Mlbs)	228.4	58.8	48.8	75.2	52.0	--	--	9.7	229.9	397.2	n/a
Initial Capex (C$m)	1,318	341	659	1,244	567.0	--	--	111.6	2,900.0 [2]	n/a	n/a
Initial capex intensity (C$/lb LOM)	5.77	5.80	13.49	16.55	10.90	--	--	11.51	12.61	n/a	n/a
Operating cash cost (C$/lb)	5.81	4.44	15.60	9.57	14.40	--	--	16.27	18.57	14.97	22.5 [4]
AISC (C$/lb)	12.11	11.10	22.23	14.25	21.80	--	--	22.0	31.6	27.8	n/a

(1) Mine inventory used, as no compliant reserve estimate currently. (2) Reported by CCO in its 2016 Cigar Lake Technical Report (3) 2015 actual. (4) From S&P Market Intelligence, converted from USD to CAD at 0.75

Mill	Owners	Capacity	Commentary
Key Lake	Cameco 83.33% / Orano 16.67%	25.0Mlbs	Processes ore from McArthur River, currently idled along with the mine
McClean Lake	Orano 70%, Denison 22.5%, OURD Canada (Japanese) 7.5%	24.0Mlbs	Toll treats ore from Cigar Lake Mine
Rabbit Lake	Cameco 100%	16.9Mlbs	Treats ore from the Eagle Point Mine, idled since 2016

Source: SCP, company disclosures

Figure 28: Regional map of the Athabasca basin with a regional road map in bottom left



Source: SCPe, Google Maps, Cameco (Map), SaskPower, Company disclosures

Cigar Lake Mine (Cameco 50.025%, Orano 37.1%, Idemitsu 7.875%, Tepco 5%): Cigar Lake commenced production in 2015 and produces 18Mlbs per year at a cash cost of ~$15/lb. Ore is crushed at Cigar Lake and trucked as a slurry in special containers to the McClean Lake Mill for leaching, purification and yellowcake production and packaging. The deposit is a high grade tabular orebody hosted at the uniformity, (current reserve of 177Mlbs at 14.5%$U_30_{8)}$. Ground conditions are very challenging due to the weak sandstone, and high water pressures. The hanging wall is frozen prior to mining (freeze wall), and the deposit is accessed using an undercut, and mined by remote hydro jets (jet boring), with ore and broker rock carried pumped to surface in a slurry. The mine has two levels – 480m and 500m and the mine is accessed using two shafts. During its development, water flooded the partially completed shaft and mine workings, which were remediated in 2010-2011, enabling commercial production in 2015. Cigar Lake is expected to have 9 years of remaining mine life.

McArthur River Mine (Cameco 69.805%, Orano 30.195%): McArthur River has produced 323Mlbs since 1999, with 1.27Mt at 11.72% mined from 1999-2018. The mine and the Key Lake Mill were placed on care and maintenance in late 2017 for economic reasons, with C$75-80m ($6.5m/month) of C&M costs. The deposit is a high grade tabular shaped orebody hosted at the unconformity. The hanging wall is frozen prior to mining and accessed by over and undercuts, and mined using a reaming head (raise bore mining). Ore is milled underground, slurried, thickened and trucked to the Key Lake Mill for precipitation, calcining and yellow cake packaging. McArthur River is estimated to have

Rabbit Lake Mine (100% Cameco): Opened in 1975, this was the first mine in the area and was mined out in 1984. The mill continued to process ore from other deposits, produced 203Mlbs over 41 years and was placed on care and maintenance in 2016 due to low prices. The Eagle Point mine, which had been feeding the mill, has a current resource estimate 38.6Mlbs at 0.95% U_30_8. The operation is licenced until 2023 to produce up to 16.9Mlbs per year.

Historic Mines

Cluff Lake Mine: Was operated by COGEMA (now Orano) from 1980-2002 and was the first mine in the western basin. The mine and mill produced 62Mlbs over from 1980-2002 and have been decommissioned and reclaimed. The mine was serviced by its own airport. Mining was a combination of open pit and underground mining.

Key Lake: Mining occurred from 1983 to 1997, fed by two open pit orebodies, Gaertner and Deilmann at ~2% U3O8. The mill has processed ore from Cameco's McArthur River mine since 1997 and is licenced for 25Mlbs per year, but was idled in 2018 along with the McArthur River Mine.

McClean Lake: Developed in 1994 by Orano and was mined from five open pits until 2008. The mill now treats ore from Cameco's Cigar Lake mine and was upsized (including its licenced capacity) from 13 to 24Mlbs per year to accommodate Cigar Lake.

Infrastructure

Access: The main roads going north through the basin are north-south from the populated communities. Regional highway 914 moves north from Pinehouse, past the Key Lake Mill, and terminates at the McArthur River Mine. The Cigar Lake Mine connects to the Rabbit and Key Lake mills to the NE, which are connected by regional highway 905 that proceeds north-west to community of Black Lake and onto the communities north of Lake Athabasca. Highway 955 runs up the western edge of the basin from La Loche and terminates just north of the former Cluff Lake mine. There is an airstrip at Collins Bay, near the Rabbit Lake and McClean Lake mills, with another at Cigar Lake and one at Cluff Lake. Both NexGen and Fission have proposed airstrips as part of their mine developments.

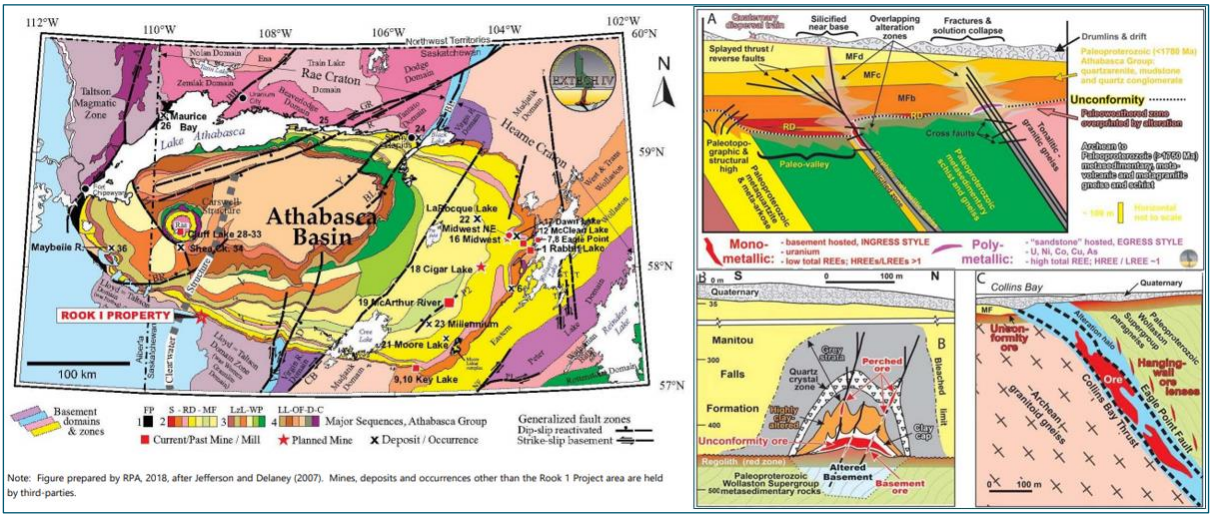
There is a proposed connector extension of highways 905 to 914 to join the McArthur River and Cigar Lake mines to enable ore to be transported from the Phoenix, Gryphon (both Denison) and Millennium deposits (Cameco) to the McClean Lake or Rabbit Lake mills. The Government of Saskatchewan has agreed to fund half the road construction cost subject to a positive development decision.

Power: Grid power is supplied to the eastern Athabasca by a 138-kv overhead power line. The nearest power generation stations are a 111MW hydroelectric facility at Sandy Bay to the SW of the basin and there are three hydroelectric stations totalling 23MW on the northern shores of Lake Athabasca.

Deposit Types

The deposits in the Athabasca occur below, across and/or immediately above the unconformity. Monometallic generally basement-hosted uraninite fills beings, breccia fillings and replacements in fault zones caused by fluid-rock reactions between oxidising sandstone brine entering basement fault zones. Notable examples of this *ingress*-type deposit include Rabbit Lake and Eagle point, which were mined as underground mines with relatively stable ground conditions thanks to the basement hosted setting. Poly-metallic sub horizontal deposits form just above or straddling the unconformity with variable amounts of uranium, Ni, Co and As. These *egress*-type deposits were formed due to the mixing of oxidising sandstone fluids mixing with relatively reduced fluids issuing from the basement into the sandstone.

Figure 29: (A) Geological map of the Athabasca Basin, (B) General features of unconformity deposits: Egress type – Cigar Lake, Ingress Type – Eagle Point



Source: NexGen 2018 PFS, RPA,

Exploration Techniques:

Egress: Since the discovery of the Key Lake Mine in 1975, the Key Lake exploration model emphasized airborne and EM surveys to map conductive pelite units, targeting locations where basement graphitic pelite units in the basement met the Athabasca Sandstone. The McArthur River emphasized basement quartzite units which are more competent than other sedimentary basement rocks and therefore control major thrust, reverse and strike slip faults. Due to a lack of conductivity and magnetic susceptibility, this exploration model instead targets the large alteration halos typical of this deposit through ground resistivity surveys and changes in minerologies. Both models target egress style deposits in which alteration tends to appear in the sandstone units, and not the underlying basement, therefore drill depth is generally to or just below the unconformity.

Ingress**:** The development of Eagle Point and the discoveries of Arrow, Triple R and Millennium have increased the importance of this exploration style. Exploration targets recognition of significant fault zones within basement metasediments (often associated with graphite) with associated basement clay and geochemical alteration halos. Airborne magnetic and radiometric can be useful in identifying basement faults, shear zones and areas of complexity. Mineralisation may be spatially associated with gravity lows that could indicate clay alteration.

Royalties and Taxation

All uranium mining in Saskatchewan is subject to a 5% gross sales royalty, less a 0.75% Saskatchewan Resource credit. In addition, there is a profit royalty of 10% of profits up to C$23.29/kg (C$10.54/lb) U3O8 plus 15% on profits per kg in excess of that. Profits are determined as net of certain operating, exploration, reclamation and capital costs. Resource corporations in Saskatchewan also pay a corporate sales surcharge of 3.0% (revenues net of transportation costs). The applicable income tax is 27% (15% federal and 12% provincial).

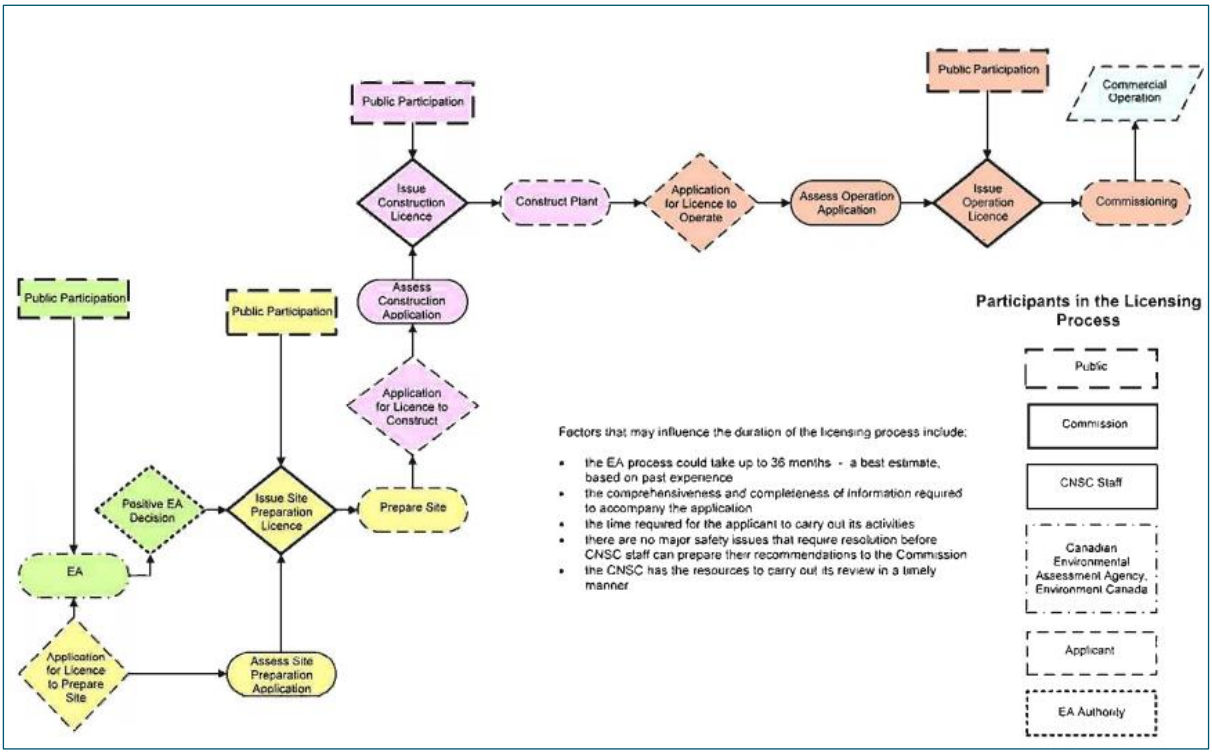
Figure 30: CNSC new mine licensing process

Royalty (C$/lb) - Uranium price vs Op Costs	Price: US$30/lb	Price: US$40/lb	Price: US$50/lb	Price: US$60/lb	Price: US$70/lb
Pre-tax costs: C$10.00/lb	$6.87	$9.84	$12.81	$15.77	$18.74
Pre-tax costs: C$20.00/lb	$5.37	$8.34	$11.31	$14.27	$17.24
Pre-tax costs: C$30.00/lb	$3.90	$6.84	$9.81	$12.77	$15.74
Pre-tax costs: C$40.00/lb	$2.90	$5.34	$8.31	$11.27	$14.24
Pre-tax costs: C$50.00/lb	$2.90	$4.20	$6.81	$9.77	$12.74

Source: SCPe

Permitting

Figure 31: CNSC new mine licensing process



Source: CNSC, March 2007

Uranium mines are overseen by the Canadian Nuclear Safety Commission. The permitting process includes a series of licences, but the key permit is the Environmental Assessment (EA), which confirms that the project conforms with the applicable environmental and safety regulations. Guidance is that the process could take up to 36-months from EIS submission, which was in line with Cigar Lake's timeline when it was granted approval in 2004. In parallel, the CNSC undertakes a review of the application and if the EA is approved, the project moves to a two-day public hearing process. Assuming any issues are resolved, the project is then advanced to a document decision and licences are distributed. For precedent, Cigar Lake's FS was completed in 2001, followed by EA submission. The EA was approved by in April 2004, and the Licence to Construct was granted four months following EA approval.

Precedents

Cigar Lake: An Environmental Impact Statement (EIS) was submitted to the joint Federal-Provincial review panel in 1995. In 1997, the panel recommended the project should proceed, subjected to identification of a suitable waste rock disposal location. In 1998 the project was approved in principle. In August 2001 a waste rock EIS was submitted and it was approved in August 2003. In February 2004, Cameco submitted an environmental assessment study report (EASR) investigating the impacts of construction, operation and decommissioning of the mine, which was accepted by the CNSC. The construction licence was received in December 2004.

McArthur River: Cameco filed an EIS for McArthur River in 1992 that was approved in 1993. In 1995 Cameco submitted an EIS that covered proposed mining activities at McArthur River and milling activities at Key lake. Federal and provincial EIS approval was granted in 1997 and construction approval was granted in 1997.

DISCLOSURES & DISCLAIMERS

This research report (as defined in IIROC Rule 3400) is issued and approved for distribution in Canada by Sprott Capital Partners LP ("SCP"), an investment dealer who is a member of the Investment Industry Regulatory Organization of Canada ("IIROC") and the Canadian Investor Protection Fund ("CIPF"). The general partner of SCP is Sprott Capital Partners GP Inc. and SCP is a wholly-owned subsidiary of Sprott Inc., which is a publicly listed company on the Toronto Stock Exchange under the symbol "SII". Sprott Asset Management LP ("SAM"), a registered investment manager to the Sprott Funds and is an affiliate of SCP. This research report is provided to retail clients and institutional investors for information purposes only. The opinions expressed in this report are the opinions of the author and readers should not assume they reflect the opinions or recommendations of SCP's research department. The information in this report is drawn from sources believed to be reliable but the accuracy or completeness of the information is not guaranteed, nor in providing it does SCP and/or affiliated companies or persons assume any responsibility or liability whatsoever. This report is not to be construed as an offer to sell or a solicitation of an offer to buy any securities. SCP accepts no liability whatsoever for any loss arising from any use or reliance on this research report or the information contained herein. Past performance is not a guarantee of future results, and no representation or warranty, expressed or implied, is made regarding future performance of any security mentioned in this research report. The price of the securities mentioned in this research report and the income they generate may fluctuate and/or be adversely affected by market factors or exchange rates, and investors may realize losses on investments in such securities, including the loss of investment principal. Furthermore, the securities discussed in this research report may not be liquid investments, may have a high level of volatility or may be subject to additional and special risks associated with securities and investments in emerging markets and/or foreign countries that may give rise to substantial risk and are not suitable for all investors. SCP may participate in an underwriting of, have a position in, or make a market in, the securities mentioned herein, including options, futures or other derivatives instruments thereon, and may, as a principal or agent, buy or sell such products.

DISSEMINATION OF RESEARCH: SCP's research is distributed electronically through email or available in hard copy upon request. Research is disseminated concurrently to a pre-determined list of clients provided by SCP's Institutional Sales Representative and retail Investment Advisors. Should you wish to no longer receive electronic communications from us, please contact unsubscribe@sprott.com and indicate in the subject line your full name and/or corporate entity name and that you wish to unsubscribe from receiving research.

RESEARCH ANALYST CERTIFICATION: Each Research Analyst and/or Associate who is involved in the preparation of this research report hereby certifies that:

- The views and recommendations expressed herein accurately reflect his/her personal views about any and all of the securities or issuers that are the subject matter of this research report;
- His/her compensation is not and will not be directly related to the specific recommendations or view expressed by the Research analyst in this research report;
- They have not affected a trade in a security of any class of the issuer within the 30-day period prior to the publication of this research report;
- They have not distributed or discussed this Research Report to/with the issuer, investment banking group or any other third party except for the sole purpose of verifying factual information; and
- They are unaware of any other potential conflicts of interest.

UK RESIDENTS: Sprott Partners UK Limited ("Sprott") is an appointed representative of PillarFour Securities LLP which is authorized and regulated by the Financial Conduct Authority. This document has been approved under section 21(1) of the FMSA 2000 by PillarFour Securities LLP ("PillarFour") for communication only to eligible counterparties and professional clients as those terms are defined by the rules of the Financial Conduct Authority. Its contents are not directed at UK retail clients. PillarFour does not provide investment services to retail clients. PillarFour publishes this document as non-independent research which is a marketing communication under the Conduct of Business rules. It has not been prepared in accordance with the regulatory rules relating to independent research, nor is it subject to the prohibition on dealing ahead of the dissemination of investment research. It does not constitute a personal recommendation and does not constitute an offer or a solicitation to buy or sell any security. Sprott and PillarFour consider this note to be an acceptable minor non-monetary benefit as defined by the FCA which may be received without charge. This is because the content is either considered to be commissioned by Sprott's clients as part of their advisory services to them or is short term market commentary. Neither Sprott nor PillarFour nor any of its directors, officers, employees or agents shall have any liability, howsoever arising, for any error or incompleteness of fact or opinion in it or lack of care in its preparation or publication; provided that this shall not exclude liability to the extent that this is impermissible under the law relating to financial services. All statements and opinions are made as of the date on the face of this document and are not held out as applicable thereafter. This document is intended for distribution only in those jurisdictions where PillarFour is permitted to distribute its research.

IMPORTANT DISCLOSURES FOR U.S. PERSONS: This research report was prepared by Sprott Capital Partners LP ("SCP"), a company authorized to engage in securities activities in Canada. SCP is not a registered broker/dealer in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This research report is provided for distribution to "major U.S. institutional investors" in reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act"). Any U.S. recipient of this research report wishing to effect any transaction to buy or sell securities or related financial instruments based on the information provided in this research report should do so only through Sprott Global Resource Investments Ltd. ("SGRIL"), a broker dealer in the United States registered with the Securities Exchange Commission ("SEC"), the Financial Industry Authority ("FINRA"), and a member of the Securities Investor Protection Corporation ("SIPC"). Under no circumstances should any recipient of this research report effect any transaction to buy or sell securities or related financial instruments through SCP.

SGRIL accepts responsibility for the contents of this research report, subject to the terms set out below, to the extent that it is delivered to a U.S. person other than a major U.S. institutional investor. The analyst whose name appears in this research report is not licensed, registered, or qualified as a research analyst with FINRA and may not be an associated person of SGRIL and, therefore, may not be subject to applicable restrictions under FINRA Rule 2241 regarding communications by a research analyst with a subject company, public appearances by the research analyst, and trading securities held by a research analyst account. To make further inquiries related to this report, United States residents should contact their SGRIL representative.

ANALYST CERTIFICATION / REGULATION AC: The analyst and associate certify that the views expressed in this research report accurately reflect their personal views about the subject securities or issuers. In addition, the analyst and associate certify that no part of their compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

SPROTT CAPITAL PARTNERS EXPLANATION OF RECCOMENDATIONS: Should SCP issue research with recommendations, the research rating guidelines will be based on the following recommendations:

BUY: The stocks total returns are expected to be materially better than the overall market with higher return expectations needed for more risky securities markets

NEUTRAL: The stock's total returns are expected to be in line with the overall market

SELL: The stocks total returns are expected to be materially lower than the overall market

TENDER: The analyst recommends tendering shares to a formal tender offering

UNDER REVIEW: The stock will be placed under review when there is a significant material event with further information pending; and/or when the research analyst determines it is necessary to await adequate information that could potentially lead to a re-evaluation of the rating, target price or forecast; and/or when coverage of a particular security is transferred from one analyst to another to give the new analyst time to reconfirm the rating, target price or forecast.

NOT RATED ((N/R): The stock is not currently rated

	Research Disclosure	**Response**
1	SCP and its affiliates collectively beneficially owns 1% or more of any class of the issuer's equity securities[1]	**NO**
2	The analyst or any associate of the analyst responsible for the report or recommendation or any individual directly involved in the preparation of the report holds or is short any of the issuer's securities directly or through derivatives	**NO**
3	An SCP partner, director, officer or analyst involved in the preparation of a report on the issuer, has during the preceding 12 months provided services to the issuer for remuneration other than normal course investment advisory or trading execution services	**NO**
4	SCP has provided investment banking services for the issuer during the 12 months preceding the date of issuance of the research report or recommendation	**NO**
5	Name of any director, officer, employee or agent of SCP who is an officer, director or employee of the issuer, or who serves in an advisory capacity to the issuer	**NO**
6	SCP is making a market in an equity or equity related security of the issuer	**NO**
7	The analyst preparing this report received compensation based upon SCP's investment banking revenue for the issuer	**NO**
8	The analyst has conducted a site visit and has viewed a major facility or operation of the issuer	**NO**
9	The analyst has been reimbursed for travel expenses for a site visit by the issuer	**NO**

Sprott Capital Partners Equity Research Ratings:

Summary of Recommendations as of February 2021	
BUY:	33
HOLD:	0
SELL:	0
UNDER REVIEW:	0
TENDER:	0
NOT RATED:	0
TOTAL	33

[1] As at the end of the month immediately preceding the date of issuance of the research report or the end of the second most recent month if the issue date is less than 10 calendar days after the end of the most recent month

Sprott | Equity Research

FISSION URANIUM (FCU CN)

Undervalued world-class West Athabasca asset

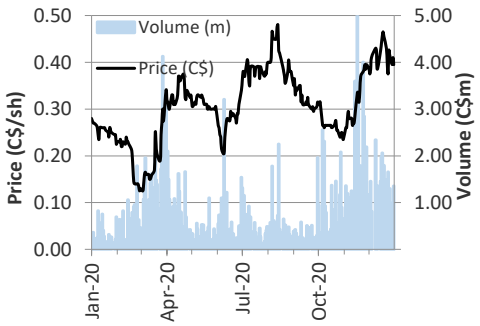
RECOMMENDATION: **BUY** *PRICE TARGET:* **C$0.75** *RISK RATING:* **HIGH**

SHARE DATA	C$0.35/sh
Shares (basic, FD)	568 / 588
52-week high/low	0.48 / 0.125
Market cap (US$m)	US$147m
Net cash (debt) (US$m)	22
1.0xNAV8% @ US$50/oz (US$m)	624
1.0xNAV7% FD (p/sh)	C$1.06
P/NAV (x)	0.33x
Average daily value (C$m, 3M)	0.53

FINANCIALS	CY27E	CY28E	CY29E
Uranium produced (klbs)	0	9,969	13,046
Revenue (C$m)	0	665	870
AISC (US$/lb)	0.0	20.2	18.1
Income (C$m)	-83	253	406
EPS (C$/sh)	(0.09)	0.13	0.24
PER (x)	(3.0)	2.1x	1.1x
CFPS (C$/sh)	(0.00)	0.36	0.50
P/CF (x)	(155.6)	0.7x	0.5x
EBITDA (C$m)	-83	119	231
EV/EBITDA (x)	(197.3)	2.0x	0.9x

NAV over time	2020E	2021E	2022E
1xNAV7% FD (C$/sh)	1.16	1.14	1.24
ROI to 1xNAV (% pa)	237%	231%	89%
1.2xNAV7% FD (C$/sh)	1.40	1.37	1.49
ROI to 1.2xNAV (% pa)	304%	297%	107%

SOTP 1xNAV8% US$50/oz	C$m	C$/sh
PLS NPV 4Q20	797	1.35
Other Assets	1	0
Central SG&A & fin costs 4Q20	-214	(0.36)
Net cash + options	25	0.04
TOTAL	609	1.03



Source: S&P capital IQ

Justin Chan +44 7554 784 688 jchan@sprott.com
Brock Salier +44 7400 666 913 bsalier@sprott.com
Brandon Gaspar: +1 204 541 1144 bgaspar@sprott.com

135Mlb high grade West Athabasca project with 11Mlbpa potential

Fission owns the 310.4km^2 Patterson Lake South (PLS) property in the Western Athabasca Basin. The property hosts the 135Mlb Triple-R deposit, one of the largest high grade uranium projects globally at 1.78% U_3O_8. The company completed an OP/UG and UG-only PFS of the project and is now focused on the UG-only option, with a 7-year mine life producing 10.7Mlbs per year at C1 cash costs of US$7.18/lb with initial capex of C$1.18bn with an NPV8% of C$702m and IRR of 25.2% at US$50/lb.

Valuation and natural consolidation play limit downside

At just US$1.15/lb, Fission is trading well below the weighted average developer multiple of US$2.82/lb, despite having one of the three largest high grade projects globally and in tier-one Saskatchewan. The proximity of neighbouring Arrow underpins valuation from our perspective; in a worst case scenario Triple-R would combine very well with Arrow and we estimate this combination could generate an additional C$540m of $NPV_{8\%\$50/lb}$ at present. This compares to our current $NPV_{8\%-50}$ estimate of C$809m on a standalone development. Thus Fission has multiple development scenarios for PLS that point to significantly higher value than the current C$204m EV.

Additional 28Mlbs could be added to mine plan with further drilling

Even if forced to go standalone, Fission has a world class exploration holding, and unincorporated current resources to bulk out its reserve base. Stepping back, the Patterson Trend has seen combined discoveries of 483Mlbs at 1.96% U3O8 in basement hosted mineralisation, since initial discovery holes in 2012 and 2013. Moreover, the current mine plan omits 27.6Mlbs at 1.64% U3O8 in zones R1620E, R840W and R1515W. These zones add C$226m (C$0.43/sh) to our $NPV_{8\%-\$50/lb}$ estimate, which we have included in our base case.

High grade and shallow result in excellent cost profile

Triple-R has three elements that contribute to low costs: i) It is very high grade at 1.78% U3O8; i) it is shallow starting at just 50m below surface, enabling decline access; and iii) it is basement-hosted deposit which enables conventional stoping methods. These factors contribute to SCPe LOM average cash costs of US$8.28/lb, which would make PLS a lowest cost quartile asset.

Initiate with BUY rating and C$0.75/sh price target

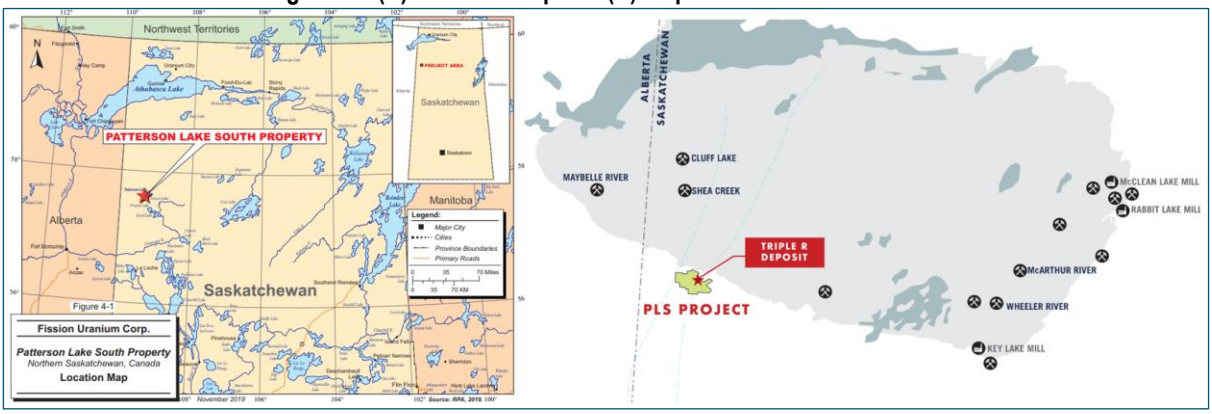
We initiate with a BUY rating and C$0.75/sh price target for Fission based on 0.75x fully diluted $NPV_{8\%-50/lb}$. At just 36% of the peer in-situ multiple, we think Fission is significantly undervalued. If the concern is capex needed to build a mill, we think this is missing the point. We believe a mill will be built within a 20km haul at NexGen's Arrow, and moreover, if forced to go alone Fission has 310km^2 of exploration ground on a trend that has delivered >480Mlbs of greenfield discovery since 2012. Our target equates to US$2.31/lb, a level we are more than comfortable with against the peer group average.

Investment thesis

A world class project with 135Mlbs at 1.78% U3O8 scoped to produce 10.7Mlbs per year

Fission Uranium owns 100% of the 310.4km^2 Patterson Lake South project, located in the Western part of the Athabasca Basin. The company was spun out and listed in April 2013 from Fission Energy following its merger with Denison. The PLS tenements were put together from 2007-2011 by Fission Energy with then JV partner ECO Uranium and consolidated by Fission in September 2013. Initial exploration work undertaken from 2007-2012 indicated the presence of EM conductors, large radon alterations and uranium-bearing boulders. The discovery holes were drilled and assayed in 2012 including 8.5m @ 1.07 U3O8, and were rapidly followed up with 88,000m in 2013 and 2014, with an initial resource estimate of 105.5Mlbs at 1.51% U3O8 and PEA in 2015. The initial PEA focused on an OP/UG combination utilising ring dykes but Fission has now focused on an UG-only mine plan to reduce initial capex. The 2019 UG only PFS delineated a 7-year mine plan producing 10.7Mlbs per year at cash costs of US$7.18lb at a head grade of 1.61% U3O8 and initial capex of C$1.18bn.

Figure 32: (A) Location map and (B) map of the Athabasca Basin



Source: Fission Uranium

Simply too cheap relative to peers for a world class project

Below we show the leading development stage and restart projects globally. Fission stands out for three reasons: i) It is one of the largest and highest grade undeveloped projects available; ii) it has among the lowest operating costs iii) is located in a tier one jurisdiction with a clear permitting regime and numerous successful precedents. Despite this, it is on a per lb basis one of the cheapest in the peer group, trading at just 36% of the peer weighted EV/in-situ average. We don't believe this is due to permitting alone, as Fission remains significantly cheaper than its Athabasca neighbours, and instead view relative capital intensity as the major market overhang.

Figure 33: Comparison of listed uranium developers

	NexGen	Denison	Fission	Energy Fuels	Berkeley	UEC	Boss	Paladin	Global Atomic	Ur Energy	Peninsula
Asset	Arrow	Wheeler River	Patterson Lake South	Nichols Ranch	Salamanca	Texas Hub	Honeymoon	Langer Heinrich	Dasa	Lost Creek	Lance
Location	Saskatchewan	Saskatchewan	Saskatchewan	Wyoming	Spain	Texas	South Australia	Namibia	Niger	Wyoming	Wyoming
Status	DFS imminent	DFS study work	DFS study work	Care / maintenance	Permitting	Resource	Care / maintenance	Care / maintenance	PFS study work	Small scale prodn	Small scale prodn
Permits	EA commenced April 2019	EA restarted December 2020	EA submit in 2021	Permitted	In question	Various	Permitted	Permitted	Permitted	Permitted	Permitted
Ownership (%)	100%	90%	100%	100%	100%	100%	100%	75%	90%	100%	100%
Study	2018 PFS	2019 PFS	2019 PFS	2015 PEA	2016 DFS	2010 Resource	2020 FS	2020 PFS	2020 PEA	2016 PEA	2018 DFS
Deposit type	Ingress	Egress / Ingress	Ingress	Sandstone, roll front	Vein	Sandstone roll-front	Sandstone	Surficial	Sandstone	Sandstone - roll front	Sandstone - roll front
Mining	UG	UG/ISR	UG	ISR	Open Pit	ISR	ISR	Open Pit	Open Pit	ISR	ISR
Milling	Mill build	McClean Lake Mill	Mill build	IX	Heap leach, SX	SX	NIMCIX	Mill, NIMCIX	Mill, pug leach	IX	IX
Reserve grade (% U3O8)	3.09%	3.55%	1.61%	--	0.041%	--	--	--	--	--	--
Reseves (Mlbs)	234.1	109.4	81.4	--	54.9	--	--	--	--	--	--
Resource Grade (% U3O8)	2.04%	3.24%	1.78%	0.113%	0.034%	0.086%	0.062%	0.044%	0.177%	0.048%	0.048%
Resources (Mlbs U3O8)	348.3	135.1	135.2	9.0	81.4	19.2	71.6	119.7	189.2	21.0	53.6
Other projects (Mlbs U3O8)	--	35.3	--	101.8	--	74.1	--	--	Znrecycling in Turkey	8.8	--
Recovery (%)	97.6%	89.7%	96.7%	70.0%	88.0%	--	--	88.5%	84.3%	80.0%	90.0%
Sales Royalty (%)	7.25%	7.25%	7.25%	9.50%	2.44%	various	6.50%	3.50%	9.14%	6.30%	6.30%
Profit Royalty (%)	10-15%	10-15%	10-15%	--	--	--	--	--	--	--	--
Tax Rate (%)	27.0%	27.0%	27.0%	21.0%	25.0%	21.0%	30.0%	37.5%	30.0%	21.0%	21.0%
Annual production (Mlbs)	25.4	7.7	10.7	0.6	3.5	--	3.2	--	4.5	1.0	3.0
LOM total production (Mlbs)	228.4	107.6	75.2	6.5	48.6	--	20.7	76.1	44.1	13.8	33.4
Initial Capex (US$m)	988.7	750	933	53.5 - spent	232.7	--	72.2	81.0	203.0	46.5-spent	118.7
Initial capex intensity (US$/lb LOM)	4.33	6.97	12.41	8.18 spent	4.79	--	3.49	1.06	4.60	3.37 - spent	3.55
Operating cash cost (US$/lb)	4.36	7.34	7.18	11.36	15.40	--	21.07	27.00	13.52	14.58	31.77
AISC (US$/lb)	9.08	8.90	10.69	29.85	20.25	--	28.20	30.85	18.39	28.58	41.00
FD mkt cap (US$m)	1,263.8	461.3	161.2	520.0	124.0	324.7	136.5	487.5	192.4	136.7	87.6
FD EV (US$m)	1,056.4	423.6	136.4	500.6	116.2	310.4	116.0	611.7	182.1	141.0	76.3
EV/Reserve ($/lb)	4.51	3.87	1.68	nmf	2.12	nmf	nmf	nmf	nmf	nmf	nmf
EV/Resource ($/lb)	3.03	2.70	1.01	4.52	1.43	3.33	1.62	6.81	1.07	4.72	1.42

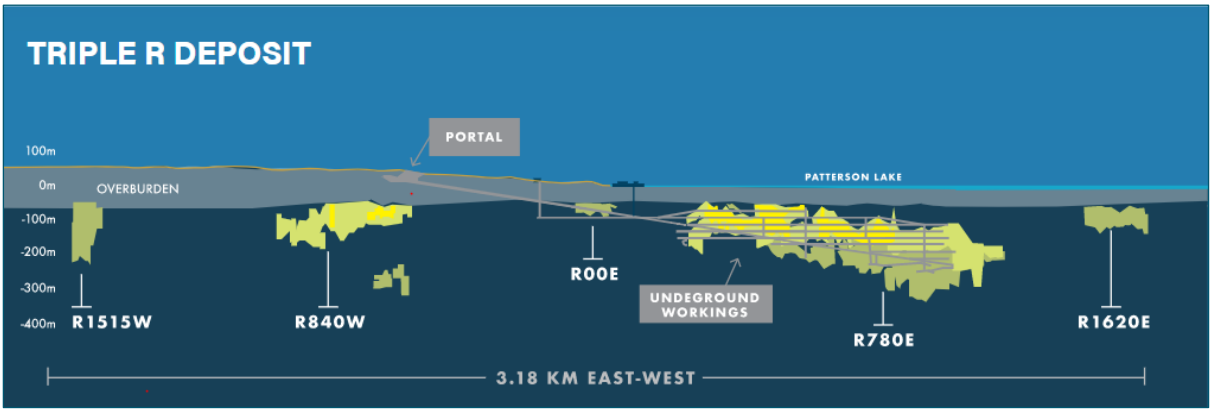
Source: SCPe, company disclosures, market data from Bloomberg priced on 29 January 2021

Resource conversion and exploration can lengthen mine life and reduce capex intensity

There are two ways to decrease capital intensity: decrease capex and increase LOM production. We believe the second is low hanging fruit. A PFS is a point-in-time exercise, and Fission's accomplished the goals of

demonstrating the feasibility and scope (C$200.7m initial capex and C$137/t C$52m per year) of a decline-accessed underground mining operation at PLS, but was limited to considering M&I resources in the mine plan. The R840W, R1515W and R1620E deposits, totalling 27.6Mlbs at 1.64% U3O8, were excluded due to resource category, putting the capex burden of surface infrastructure and decline establishment over a smaller mine inventory. Adding, these deposits to the mine plan, assuming US$20m of exploration to upgrade inferred into indicated with C$60m of initial development adds C$210m or C$0.40/sh of NPV at US$50/lb, increasing to C$279m or C$0.53/sh at US$60/lb. Moreover, between Fission and NexGen, the Patterson trend has seen 483Mlbs of discovery since 2012 on adjacent licences, and we believe that Fission holds an ideal exploration landholding to build on its 135Mlb resource base.

Figure 34: Schematic of Triple-R mineralised zones

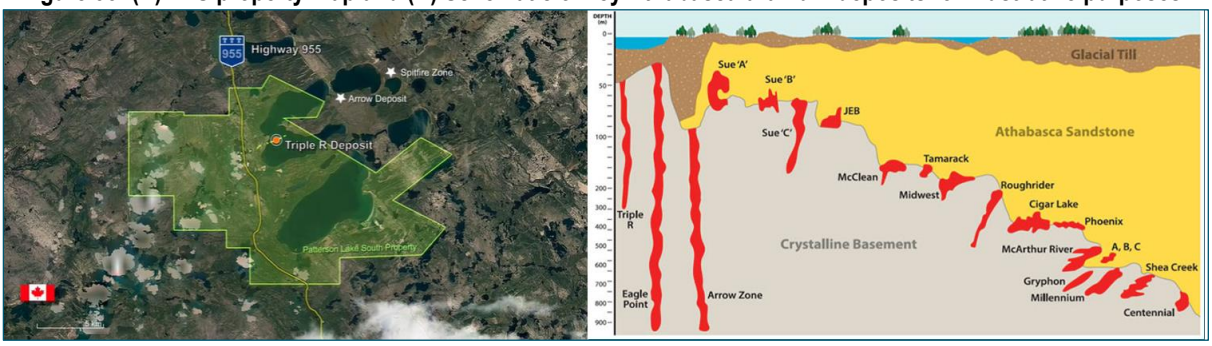


Source: Fission Uranium

Opportunity to reduce capex through synergies with other West Athabasca development assets

We also believe that there is a clear path to reducing initial capital: synergies with NexGen's Rook I (Arrow) project, which lies just over the license boundary, and is also targeting a similar mill size. In Fission's UG-only PFS, C$350m of capex was associated with the mill, C$120m for site infrastructure, with C$315m for EPCM and C$192m of contingency. Allocating the EPCM and contingency costs proportionately, and assuming 50% infrastructure savings, we estimate that 61% (C$719m of C$1,177m) of the total capex bill could be eliminated or reduced if PLS were either joined with, or agreed to share infrastructure with NexGen's Arrow; this equates to US$7.17/lb of LOM capital intensity. We estimate that running Fission's reserves through NXE's mill, with C$220m for initial mine development (PFS +10%), SCPe C$50m of additional capex for a road and C$30m for a TMF expansion would generate a NPV8% of C$540m at US$50/lb (discounted from 2035 to present at 8% pa). Our takeaway is that whether standalone or in a combination, there is significantly more value than Fission's current EV of C$204m.

Figure 35: (A) PLS property map and (B) Schematic of key Athabasca uranium deposits for illustrative purposes



Source: Fission Uranium map, NexGen Energy schematic of Athabasca deposits

Operating costs are already world class due to grade and amenability to conventional stoping

Like NexGen's Arrow deposit, Fission's Triple-R deposit is a basement hosted ingress style deposit with competent host rock that enables a conventional stoping operation. While, the presence of Patterson Lake does provide some challenges (ground freezing will be required during decline development and during crown pillar mining), these are only for a limited period of initial capex and a minority of the mine life. The majority of the mine life is conventional long-hole stoping in competent basement host rock. Triple-R is also the shallowest of the Athabasca basin

deposits, starting at just 50m below surface, enabling decline access. The net result is estimated cash costs of US$7.18/lb in the PFS and AISC of US$10.11/lb, making PLS one of the lowest costs operations in the world.

Valuation

Mine Plan

First we match Fission's mine plan inputs, with a mine inventory of 2.29Mt at 1.61% U3O8 and matching capex and opex assumptions. This generates an $NPV_{8\%-50/lb}$ of C$1,570m at build start, in line with the PFS at C$1,568m. We then add 762kt at 1.64% U_3O_8 for 27.55Mlbs for the R1620E, R840W and R1515W shears – we assume 95% mining recovery and 20% dilution for 1,016kt at 1.17% for 26.17 Mlbs. We also add 605kt at 1.50% U_3O_8 for strike extensions of the R780E shear. This gives a total SCPe mine inventory of 3,918kt at 1.48% U3O8 for 127.5Mlbs. We assume unit costs 10% higher than the PFS, which increases opex per tonne to C$364/t from C$328/t.

Figure 36 Summary of PFS mine plans and SCPe modelled scenario

		Fission		SCPe		
Category	Unit	2019 OP/UG PFS	2019 UG PFS	PFS Inputs	$50/lb	$60/lb
Inventory	*kt*	2,888	2,286	>>	3,918	3,918
Grade	*% U3O8*	1.42%	1.61%	>>	1.48%	1.48%
Recovery	*%*	96.7%	96.8%	>>	96.4%	96.4%
Throughput	*tpd*	1,000	1,000	>>	1,000	1,000
Total production	*mlbs*	87.5	78.7	>>	123.1	123.1
Average annual	*mlbs pa*	14.6	10.7	>>	11.3	11.3
Cash costs	*US$/lb*	6.77	7.18	>>	8.65	8.65
AISC(1)	*US$/lb*	11.57	12.80	>>	14.82	15.54
Mine life	*years*	6	7	>>	10	10
UG mining cost	*C$/t mined*	136.90	137.00	>>	152.14	152.14
Mining cost	*C$/t ore mined*	88.53	137.00	>>	152.14	152.14
Processing cost	*C$/t processed*	114.56	116.00	>>	127.60	127.60
G&A	*C$/t processed*	70.52	75.00	>>	82.50	82.50
Total cost per tonne	*C$/t processed*	273.61	328.00	>>	362.24	362.24
Pre-build spend	*C$m*		-	>>	35.00	35.00
Initial capex	*C$m*	1,498.0	1,176.9	>>	1,196.9	1,196.9
Sustaining capex total	*C$m*	137.3	208.6	>>	357.6	357.6
Sustaining capex per year	*C$m*	22.9	29.8	>>	35.8	35.8
Closure cost	*C$m*	76.9	73.8	>>	73.8	73.8
Uranium price	*US$/lb*	50	50	>>	50	60
Discount rate	*%*	8.0%	8.0%	>>	8.0%	8.0%
USD/CAD		0.75	0.75	>>	0.75	0.75
NPV at build start	*C$m*	693	702	705	1,128	1,620
IRR	*%*	21%	25%	25%	25%	31%
Operating margin	*%*	86.5%	84.5%	70.4%	67.4%	69.1%
Average annual FCF	*C$m*	293.2	223.9	224.2	190.5	261.9
LOM FCF	*C$m*	1,759.4	1,567.6	1,569.7	1,905.4	2,619.1

(1) Including sales royalties but not the provinical profit royalty

Source: NexGen Energy, SCPe

Timeline and capex

We model a three-year construction period with total initial capex of C$1.17bn (in line with the PFS) starting in 2025, with first production from 2028. This assumes EA approval in mid- 2023 with the remaining permits granted through the remainder of the year allowing for limited construction start in mid-2024. We model a C$29.8m per year of sustaining capital, in line with the PFS, and a C$73m closure cost, both in line with the PFS.

Taxes, royalties and fiscal

There are no third party royalties on the property. In line with current legislation, we model a 4.25% provincial revenue royalty (5.0% gross sales royalty minus a 0.75% resource credit), a 3% provincial sales surcharge, and a sliding 10-15% net profit royalty at 10% for profit per kg up to C$23.29/kg (C$10.54/lb) and 15% on profits per kg above that level. We assume a 27% corporate income tax rate, in line with current provincial and federal legislation.

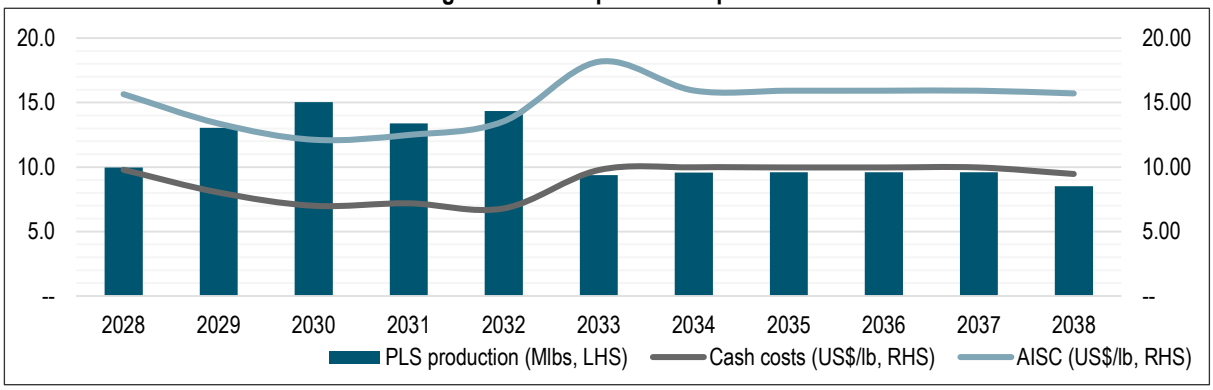
Funding and balance sheet

We assume a total funding package of C$1.5bn consisting of C$900m of debt at 12%, C$300m of prepaid offtake at US$50/lb, and C$300m of total equity funding at 0.6x NAVPS in 2022 and 2023. Net debt to NTM EBITDA peaks at 1.8x EBITDA immediately prior to first production, falling to 1.1x in year two and into net cash by year four.

Production Profile

We estimate an eleven-year mine life with average annual production of 11.1Mlbs per year at C1 cash costs of US$8.65/lb and AISC of US$14.66/oz. This generates life of mine FCF of C$1.6bn at US$40/lb, C$2.6bn at US$50/lb and C$3.5bn at US$60/lb. We estimate FCF payback, including corporate expenses and pre-production expenses within 3.7 years of first production at US$50/lb, with ~40% of the reserve and ~60% of our modelled mine plan as upside.

Figure 37: SCPe production profile



Source: SCPe

Other assets

We have included US$1.50/lb for lbs outside the mine plan (C$15m total) and Fission's 6.7% stake in Fission 3.0 at current market value (C$1.3m). We subtract C$214.2m for interest (12%) and corporate G&A (C$5m/year).

Share count and balance sheet

We calculate a current basic share count of 577.6m with 498.4m shares at the end of September 2020, plus i) 17.07m shares for the C$7.0m flow through offering at C$0.41/sh in December 2020 and ii) 62.09m shares for the C$17.07m unit offering in November 2020. There are a total of 20.67m warrants ITM for proceeds of C$3.5m for a FD share count of 588.26m shares. To this we assume C$20m is raised in 2022 at 0.6x NAV (C$0.74/sh) and C$280m is raised in 2024 at 0.6x NAV (C$0.85/sh) to fund the build. We believe this is reasonable as the company is likely to proceed with construction only if uranium and uranium equity markets are sufficiently constructive to fund the project without excessive dilution. This generates a fully diluted share count of 955.7m shares in total to use as our denominator.

Figure 38: SCPe NAV breakdown and NAV sensitivity to uranium price

		C$/sh	
Asset	**C$m**	**Fully diluted**	**Fully Diluted + Funded**
PLS NPV 4Q20	797	1.33	0.83
Central SG&A & fin costs 4Q20	-214	-0.36	-0.22
Lbs outside mine plan (US$1/lb U3O8)	15	0.03	0.02
Other assets	1	0.00	0.00
Cash and restr. cash 3Q20	35	0.06	0.04
Debt 3Q20	-14	-0.02	-0.01
ITM options	4	0.01	0.00
Assumed fundraise	300	not included	0.31
Total	***924***	**1.04**	**0.97**
Shares outstanding	**(m)**		
Basic Shares (m)	578		
ITM Options (m)	21		
Shares issued for credit facility (m)	0		
Fully Diluted Shares (m)	**598**		
SCPe Fully Funded Shares (m)	**956**		
Market Multiples			
Share price (C$/sh)	0.35		
P/NAV fully diluted	0.33x		
P/NAV fully diluted + funded	0.36x		

Target price	**P/NAV**	**C$/sh**	**Implied EV/insitu at TP (US$/lb)**
Fully diluted + funded target multiple	**0.75x**	0.75	2.35

Sources		**Uses**	
PFS capex	C$1177m	SCPe 3Q20 cash + ITM options	C$16m
SCPe contingency	C$273m	Mine debt @ 60% gearing	C$900m
SCPe G&A + fin. cost to first Au	C$66m	Build Equity	C$300m
SCPe working capital	C$0m	Offtake	C$300m
Total uses	C$1516m	Total proceeds	C$1516m

1xNAV sensitivity to gold price and discount / NAV multiple					
1xNAV Arrow (C$m)	$30/lb	$40/lb	$50/lb	$60/lb	$70/lb
10% discount	-6	285	576	867	1,158
9% discount	30	354	679	1,003	1,327
8% discount	73	435	**797**	1,158	1,520
7% discount	124	528	933	1,337	1,742
6% discount	184	637	1,090	1,543	1,996
5% discount	256	764	1,272	1,781	2,289
Valuation (C$/sh)	$30/lb	$40/lb	$50/lb	$60/lb	$70/lb
0.5xNAV	nmf	0.20	0.50	0.80	1.10
0.6xNAV	nmf	0.20	0.60	0.95	1.35
0.75xNAV	nmf	0.25	**0.75**	1.20	1.65
0.9xNAV	nmf	0.30	0.85	1.45	2.00
1.0xNAV	nmf	0.35	0.95	1.60	2.20

Source: SCPe

Initiate with a BUY recommendation and C$0.75/sh price target based on 0.75x $NAV_{8\%-50/lb}$

We think Fission's valuation is overly pessimistic, at just 41% of the weighted peer average EV-insitu value. PLS is world class, the second largest undeveloped uranium orebody in the Athabasca and in our view the best combination of grade, size, mine-ability and jurisdiction globally outside of its neighbour NexGen. While it faces a higher capex intensity hurdle, we believe this is a short-sighted concern. If the problem is finding enough scale to justify a mill, we find it convenient that i) Fission has a neighbour with a world class deposit looking to build a mill just over the licence boundary on a 348Mlb resource, and ii) if forced to go alone, Fission has a large landholding with a 135Mlb head start in a district that has already yielded two world class discoveries totalling 483Mlbs since 2013. **We initiate with a BUY rating and C$0.75/sh price target based on 0.75x fully-funded $NAVPS_{8\%-50/lb}$.** This equates to US$2.35/lb, still just ~81% of the peer average EV/in-situ multiple, which we feel is conservative considering FCU's size, grade and exploration potential.

Why we like Fission

5. World class size, grade, jurisdiction and setting make this a globally significant asset.
6. Trading at less than half of the peer EV/insitu average
7. Alternatives to go-alone milling route with neighbour NexGen likely to develop a similar sized facility
8. If forced to go alone, has significant exploration holding in a highly prolific to add to its 135Mlb resource base to increase mine life

Catalysts

- 2021: Exploration and resource upgrades
- 1H21: SCPe EA project description
- 1H22: DFS completion, EIS commencement
- 2H24: SCPe Construction Licence
- 2025: SCPe build start
- 2028: SCPe first production

Risks

Permitting: We view this risk as moderate. While uranium mine permitting is a thorough process, the process is well underway, Saskatchewan is regarded as an excellent jurisdiction with constructive regulatory authorities, and the project itself benefits from its remote location and small tonnage footprint.

Development: We view this as a moderate risk. At 1000tpd, the project itself is modest in tonnage which should reduce scope for overruns. In our view the highest risk item in the capital build is the decline development, as the first 550m is through challenging ground conditions.

Geology: We view this as a relatively low risk. The deposit is well drilled with ~200,000m supporting the Resource estimate. Resource reconciliation has not been an especially challenging issue with other Athabasca operations.

Mining: We view this risk as moderate. The deposit is majority hosted in competent basement rock which enables conventional stoping methods. There is greater risk in crown pillar recovery, as this requires ground freezing due to challenging ground conditions with the first 15m assumed to be sterilised.

Processing: We view this risk as low. The deposit is high grade and is not polymetallic, while the flowsheet is conventional for an Athabasca uranium deposit.

Logistics: We view this risk as low, due to the limited tonnage of the operation. While the project is in the west rather than eastern Athabasca, it is still proximate to a region with a well-developed supply chain and skilled labour force for uranium mining.

Environmental: We view this risk as moderate. Tailings are non-mineralised and non-asset forming. The underground tailings deposition method occurs well below the unconformity in stable ground conditions. The company has put in place provisions to treat process water. The PFS noted no specific concerns that should significantly delay the project if proper planning and mitigations are put in place with the key environmental item being protection of Patterson Lake.

Ticker:	FCU CN	**Price / mkt cap:**	C$0.35/sh, C$199m	**Market P/NAV:**	0.33x
Justin Chan / Brock Salier		**Rec / PT:**	BUY / C$0.75	**1xNAV$_{2Q20}$ FD:**	C$1.04/sh

Assets:	PLS						
Country:	Canada (Sask)						

Group-level SOTP valuation	3Q20	**4Q20**			
		C$m	**O/ship**	**NAVx**	**C$/sh**
PLS NPV 4Q20		796.6	100%	1.0x	1.33
Central SG&A & fin costs 4Q20		(214.5)	--	1.0x	(0.36)
Lbs outside mine plan (US$1/lb U3O8)		15.3	--	1.0x	0.03
Other assets		1.3	--	1.0x	0.00
Cash and restr. cash 3Q20		35.2	--	1.0x	0.06
Debt 3Q20		(13.5)	--	1.0x	(0.02)
ITM options		3.5	--	1.0x	0.01
1xNAV8% US$50/lb		**624**			**1.04**
Assumed build equity issuance		300.0			0.31
1xNAV fully funded8% US$50/lb		**924**			**0.97**
P/NAV - fully diluted for build (x)					**0.36x**

Target multiples	**Multiple**	**C$/sh**
Target P/NAV Multiple	**0.75x**	**0.75**
Target price		**0.75**

Sources		**Uses**	
PFS capex	C$1177m	SCPe 3Q20 cash + ITM options	C$16m
SCPe contingency	C$273m	Mine debt @ 60% gearing	C$900m
SCPe G&A + fin. cost to first Au	C$66m	Build Equity	C$300m
SCPe working capital	C$0m	Offtake	C$300m
Total uses	C$1516m	Total proceeds	C$1516m

1xNAV sensitivity to gold price and discount / NAV multiple

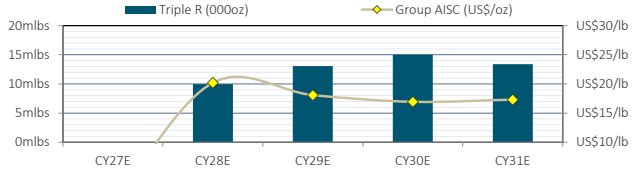
1xNAV Arrow (C$m)	$30/lb	$40/lb	$50/lb	$60/lb	$70/lb
10% discount	-6	285	576	867	1,158
9% discount	30	354	679	1,003	1,327
8% discount	73	435	**797**	1,158	1,520
7% discount	124	528	933	1,337	1,742
6% discount	184	637	1,090	1,543	1,996
5% discount	256	764	1,272	1,781	2,289
Valuation (C$/sh)	$30/lb	$40/lb	$50/lb	$60/lb	$70/lb
0.5xNAV	nmf	0.20	0.50	0.80	1.10
0.6xNAV	nmf	0.20	0.60	0.95	1.35
0.75xNAV	nmf	0.25	**0.75**	1.20	1.65
0.9xNAV	nmf	0.30	0.85	1.45	2.00
1.0xNAV	nmf	0.35	0.95	1.60	2.20

Valuation over time	**1Q20E**	**1Q21E**	**1Q22E**	**1Q23E**	**1Q24E**
Mines NPV (US$m)	797	863	943	1,030	1,128
Cntrl G&A & fin costs (US$m)	-203	-214	-224	-235	-247
Net cash at 1Q (US$m)	20	4	8	-14	548
Other Assets + Options	5	5	5	5	5
1xNAV (US$m)	619	659	732	786	1,434
P/NAV (x):	0.30	0.30	0.28	0.27	0.19
1xNAV share px FD (C$/sh)	1.16	1.14	1.24	1.30	1.84
ROI to equity holder (% pa)	*237%*	*231%*	*89%*	*56%*	*52%*
1.2xNAV share px FD (C$/sh)	1.40	1.37	1.48	1.56	2.21
ROI to equity holder (% pa)	*304%*	*297%*	*107%*	*65%*	*59%*

Resource / Reserve	**Mt**	**Mlbs**	**EV/oz Ag**	**EV/lb**
Measured, ind. & inf. - Triple R	3,437	135.2	1.02	1.02
SCPe Mine inventory - Triple R	3,918	127.5	1.09	1.09

Production (100%)	**CY27E**	**CY28E**	**CY29E**	**CY30E**	**CY31E**
Triple R (000lb U3O8)	0	10	13	15	13
Triple R cash cost (US$/lb)	0	18	16	15	15
Triple R AISC (US$/lb)	0	20	18	17	17

C1 = opex (excl. G&A) + royalties; AISC = C1 + sust capex + capitalized stripping/development



Share data					
Basic shares (m): 577.6		FD + options (m):	598.3	FD + FF	955.7
Commodity price	**CY25E**	**CY26E**	**CY27E**	**CY28E**	**CY29E**
Uranium price (US$/lb)	50.0	50.0	50.0	50.0	50.0
Ratio analysis	**CY25E**	**CY26E**	**CY27E**	**CY28E**	**CY29E**
FD shares out (m)	955.7	955.7	955.7	955.7	955.7
EPS (C$/sh)	(0.000)	(0.029)	(0.086)	0.125	0.242
CFPS before w/c (C$/sh)	0.00	(0.00)	(0.00)	0.36	0.50
FCFPS pre growth (C$/sh)	(0.00)	(0.03)	(0.09)	0.23	0.39
FCF/sh (C$/sh)	(0.13)	(0.56)	(0.66)	0.23	0.39
FCF yield - pre growth (%)	neg	neg	neg	90.2%	152.2%
FCF yield (%)	neg	neg	neg	90.2%	152.2%
EBITDA margin (%)	--	--	--	64.1%	67.3%
FCF margin (%)	--	--	33.6%	43.3%	48.9%
ROA (%)	(0.0%)	(2.1%)	(4.8%)	7.5%	14.9%
ROE (%)	(0.0%)	(4.7%)	(16.3%)	19.0%	26.9%
ROIC (%)	(2.6%)	(0.7%)	(0.4%)	23.6%	35.6%
EV (C$m)	(181)	356	986	862	543
PER (x)	(1270.1x)	(8.9x)	(3.0x)	2.1x	1.1x
P/CF (x)	399.1x	(343.7x)	(155.8x)	0.7x	0.5x
P/Book value (x)	0.4x	0.4x	0.5x	0.4x	0.3x
EV/EBITDA (x)	36.1x	(71.3x)	(197.3x)	2.0x	0.9x

Income statement	**CY25E**	**CY26E**	**CY27E**	**CY28E**	**CY29E**
Revenue (C$m)	--	--	--	665	870
COGS (C$m)	--	--	--	(233)	(280)
Gross profit (C$m)	**--**	**--**	**--**	**431**	**590**
Expenses (C$m)	(5)	(5)	(5)	(5)	(5)
Impairment & other (C$m)	--	--	--	--	--
Net finance costs (C$m)	5	(23)	(78)	(93)	(67)
Tax (C$m)	--	--	--	(80)	(112)
Minority interest (C$m)	--	--	--	--	--
Net income attr. (C$m)	**(0)**	**(28)**	**(83)**	**253**	**406**
EBITDA	*(0)*	*(28)*	*(83)*	*119*	*231*

Cash flow	**CY25E**	**CY26E**	**CY27E**	**CY28E**	**CY29E**
Profit/(loss) after tax (C$m)	(0)	(28)	(83)	119	231
Add non-cash items (C$m)	1	27	81	228	242
Less wkg cap / other (C$m)	--	--	--	(56)	(14)
Cash flow ops (C$m)	**1**	**(1)**	**(2)**	**292**	**460**
PP&E (C$m)	(120)	(509)	(548)	(30)	(30)
Other (C$m)	--	--	--	--	--
Cash flow inv. (C$m)	**(120)**	**(509)**	**(548)**	**(30)**	**(30)**
Debt draw (repayment) (C$m)	(14)	450	450	(225)	(225)
Equity issuance (C$m)	--	--	--	--	--
Other (C$m)	(1)	(27)	(81)	(137)	(110)
Cash flow fin. (C$m)	**(14)**	**423**	**369**	**(362)**	**(335)**
Net change post forex (C$m)	(134)	(87)	(180)	(101)	95
FCF (C$m)	*(120)*	*(537)*	*(630)*	*223*	*376*

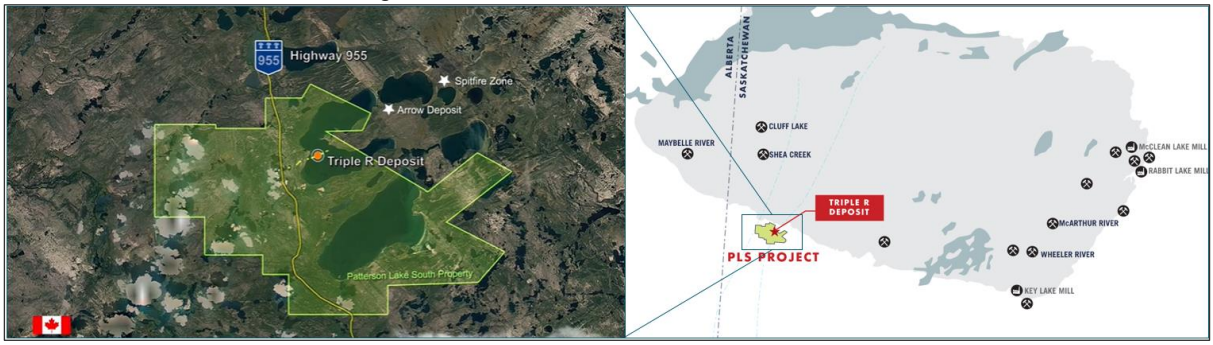
Balance sheet	**CY25E**	**CY26E**	**CY27E**	**CY28E**	**CY29E**
Cash (C$m)	429	342	162	61	156
Accounts receivable (C$m)	--	--	--	25	33
Inventories (C$m)	--	--	--	58	70
PPE & exploration (C$m)	490	999	1,547	1,443	1,298
Other (C$m)	0	0	0	0	0
Total assets (C$m)	**919**	**1,341**	**1,709**	**1,588**	**1,557**
Debt (C$m)	0	450	900	675	450
Other liabilities (C$m)	300	300	300	285	248
Shareholders equity (C$m)	741	741	741	741	741
Retained earnings (C$m)	(123)	(151)	(233)	(114)	118
Minority int. & other (C$m)	--	--	--	--	--
Liabilities+equity (C$m)	**919**	**1,341**	**1,709**	**1,588**	**1,557**
Net cash (C$m)	*428*	*(109)*	*(739)*	*(615)*	*(295)*
Net Debt to NTM EBITDA (x)	*nmf*	*nmf*	*1.7*	*1.1*	*0.4*

Patterson Lake South Project (100%-owned, West Athabasca, Saskatchewan, Canada)

Site location, access and history

The PLS property is a series of 17 contiguous claims totalling 31,039ha in NW Saskatchewan, 550km N-NW of Prince Albert and approximately 40km east of the Alberta-Saskatchewan provincial border. All claims are active and in good standing until 2039. The all-weather gravel Highway 955 traverses the property and is well maintained by the local government. The nearest population centre is La Loche, Saskatchewan, 144km south of the PLS property on Highway 955; La Loche is 300km from Prince Albert on Highway 155 and there are several flights daily from Saskatoon to Prince Albert. There are two four-wheel drive roads accessing the east and west halves of the property branching out from Highway 955. Mean temperatures are below freezing for seven months of the year with freeze-up typically commencing in October and break-up in May with snow cover for six to eight months of the year. Mining activities are expected to operate year-round.

Figure 39 Asset location within the wider basin



Source: Fission Uranium

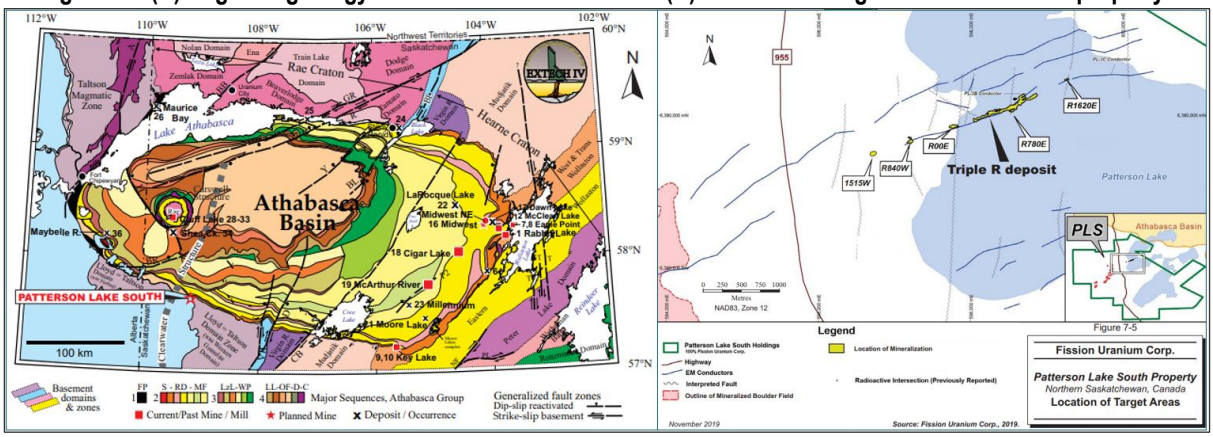
History

The property was mapped as part of a larger area by the Geological Survey of Canada in 1961. Airborne and magnetic surveys were carried out in 1969 and Canadian Occidental Petroleum (CanOxy) completed extensive geophysical, EM and radiometric surveys from 1977-1991, and identified a large 1.2km by 1.7km radon anomaly and delineated the Patterson Lake Conductor Corridor that cuts through Patterson Lake. Claims comprising the PLS property were staked from 2007-2011 in a JV between Fission and ESO Uranium (renamed Alpha Minerals) with radiation surveys, EM surveys and other target generation work carried out over that period, which delineated several targets near uranium containing boulders on surface. Diamond drilling commenced in 2011 with 863m in seven holes, which encountered alteration, but it was in the final four holes of 2012 which first encountered the hardrock source of the uranium mineralisation, including 8.7m @1.07% U3O8. In 2013 Fission consolidated 100% ownership by acquiring its 50% JV partner, Alpha Minerals.

Geology

The Athabasca Basin is located in Northern Saskatchewan and into NE Alberta, and is a Paleoproterozoic-aged flat-lying fluvial sedimentary basin characterised by surficial sandstones uncomfortably overlying the metamorphosed basement gneiss and granitoid complexes of the Canadian Shield. The unconformity is spatially related to all significant uranium mineralisation found to date, and earlier discoveries in the Eastern Athabasca, including McArthur River (Cameco operating mine), Cigar Lake (Cameco operating mine), Roughrider (Rio Tinto project acquired in the consolidation of Hathor) and Millennium (Cameco exploration project) are located at the contact between the unconformity and the Athabasca sandstone.

Figure 40: (A) Regional geology of the Athabasca basin and (B) Location of target areas on the PLS property



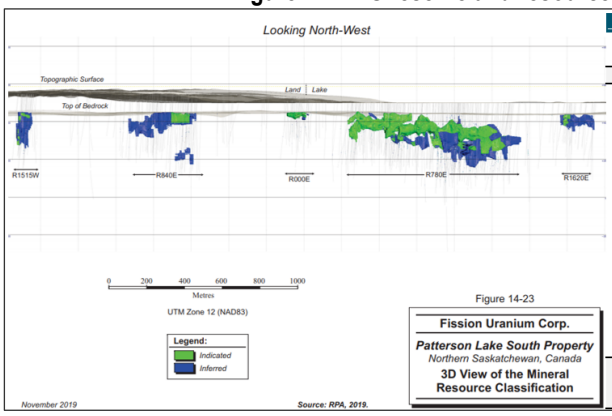
Source: Fission Uranium 2019 PFS, RPA,

The PLS property lies on the NE limits of the Cretacious Manville Group. Basement rocks consist of the Clearwater (gneissic granitoids) and Taltson (granulite facies orthogneisses) domains. The property is covered by a thick layer of sandy to gravely Quaternary glacial material ranging from 10m to the SW to 100m in thickness to the east of the property. Mineralisation occurs at five locations (R1515W, R840W, R00E, R780E and R1620E) hosted primarily in basement lithologies with subordinate amounts in the overlying sedimentary rocks. The basement rocks are comprised of a NE-trending belt of variably altered and sheared pyroxene bearing orthogneisses. Mineralised zones occur within or near to the main shear zone. The deposit is considered to be an example of the ingress unconformity-related vein uranium deposit type with mineralisation hosted from at the unconformity to 400m below. Mineralisation typical occurs as veins and semi-massive to massive replacement bodies spatially associated to steeply dipping graphitic basement structures. In this deposit type, uranium bearing hydrothermal fluids were carried up through reactivated basement faults with deposition caused by oxidising sandstone brines interacting entering basement fault zones.

Reserves and Resources

The Resource is supported by 198,946m of drilling in 647 holes of which 636 holes for 197,651m were drilled since 2011. The resource is comprised of several nearly vertical stacked lenses across five mineralised zones, generally oriented with an azimuth of 66.2 NE. The zones range from 60-100m wide with an overall strike length of 3.2km starting at 50m from surface down to 300m at depth. The high grade domain consists of 16 lenses within the R780E Main Zone and contains more than 80% of the contained pounds in the resource and measures 740m along strike with a true thickness of generally between 20-30m but ranging between 2m and 45m. The resource grades were capped by domain ranging from 7% to 35% U3O8. The block model is 1m wide by two metres high by five metres along strike. Grade interpolation was carried out using inverse distance cubed.

Figure 41: PLS reserve and resources (A) outline and (B) resource table



Zone	Category	Tonnes (kt)	% U3O8	g/t Au	Mlbs U3O8	koz Au
R00E	Probable	15	2.03%		671	
R780E	Probable	2,283	1.60%		80,530	
Total Reserves		**2,298**	**1.61%**		**81,202**	
R780E	Indicated	1,922	2.18%	0.66	92,400	41
	Inferred	549	0.83%	0.56	10,100	10
	Total	**2,471**	**1.88%**	**0.64**	**102,500**	**51**
R00OE	Indicated	97	1.50%	0.16	3,200	1
	Inferred	8	3.95%	0.81	697	0
	Total	**105**	**1.68%**	**0.21**	**3,897**	**1**
R1620E	Indicated	42	1.99%	0.19	1,843	0
	Inferred	59	3.55%	0.48	4,618	1
	Total	**101**	**2.90%**	**0.36**	**6,460**	**1**
R840W	Indicated	88	1.68%	0.32	3,259	1
	Inferred	280	1.86%	0.49	11,482	4
	Total	**368**	**1.82%**	**0.45**	**14,741**	**5**
R1515W	Indicated	66	1.13%	0.39	1,644	1
	Inferred	227	0.94%	0.41	4,704	3
	Total	**293**	**0.98%**	**0.41**	**6,348**	**4**
HALO	Inferred	98	0.57%	0.37	1,232	1
Total Resources	**Indicated**	**2,216**	**2.10%**	**0.60**	**102,360**	**43**
	Inferred	**1,221**	**1.22%**	**0.50**	**32,810**	**20**
	Total	**3,437**	**1.78%**	**0.57**	**135,170**	**63**

Source: Fission Uranium 2019 PFS

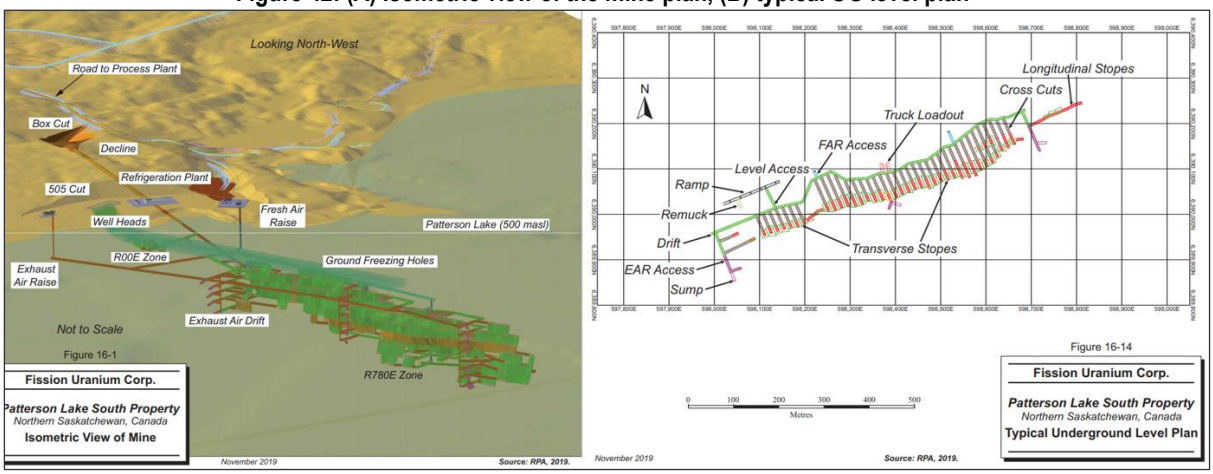
Reserves and resources are both estimated at a 0.25% U3O8 cutoff grade. Reserves are estimated assuming end wall dilution of 0.5m for a total of 1.0m, with 5% sidewall dilution for secondary transverse stopes and hanging and

footwall dilution of 0.5m for longitudinal stopes. Net dilution totals 22% with 95% extraction factors for mineralised material. Areas at the bedrock contact were left out of the reserve estimate.

Mining

Previous studies focused on a combination of open pit and underground mining, using ring dykes to minimize disturbance to Patterson Lake but Fission is now focused on an underground only mine plan. The mine is designed as a longhole retreat stoping operation, both transverse and longitudinal, at ~1,000tpd. Transverse stoping will be used for most of the west and middle of the orebody with longitudinal retreat in the narrower east end of the orebody. Stopes are planned on 20m levels, and all ore headings, stopes and areas with poor ground condition will require shotcrete with a planned shotcrete plant on surface. Transverse stope dimensions are 30m length by 10m span and 35m stope heights with grouted cable bolts to support the hanging wall.

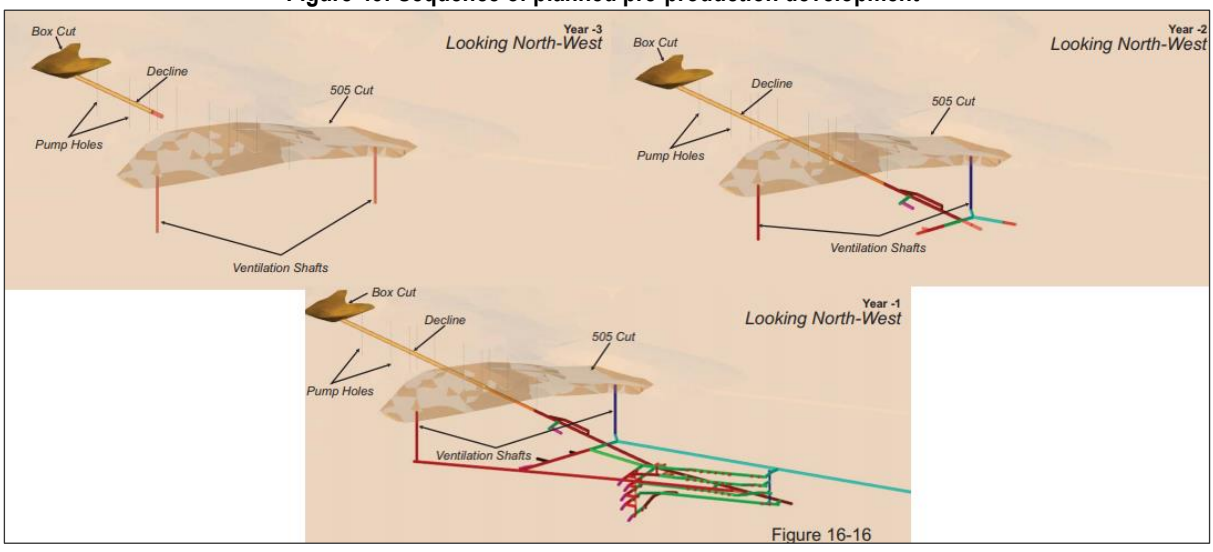
Figure 42: (A) Isometric view of the mine plan, (B) typical UG level plan



Source: Fission Uranium 2019 PFS

The mine plan includes six years of mining peaking at 431kt in year three of the mine with the majority of mine development in Yr-2 to Yr2 of production. The mine will be accessed using a decline to the west of the R00E deposit including a boxcut (7x7m) into the overburden using NATM soft ground tunnelling methods. The deposit is overlain by 50-100m of sandy overburden thus the first 405m of the decline (5x5m) will be through overburden followed by another 133m of weak bedrock before reaching competent bedrock. The decline is designed at a gradient of -15°. While steeper than the more common 10°, we note that this is at shallow depths and believe the grade is feasible at the potential tradeoff of greater equipment wear (but at 1,000tpd this is not a large volume underground). Two ventilation shafts are designed, one for fresh air and one for exhaust. Stopes are to be backfilled using cemented rock fill and uncemented rock fill.

Figure 43: Sequence of planned pre-production development



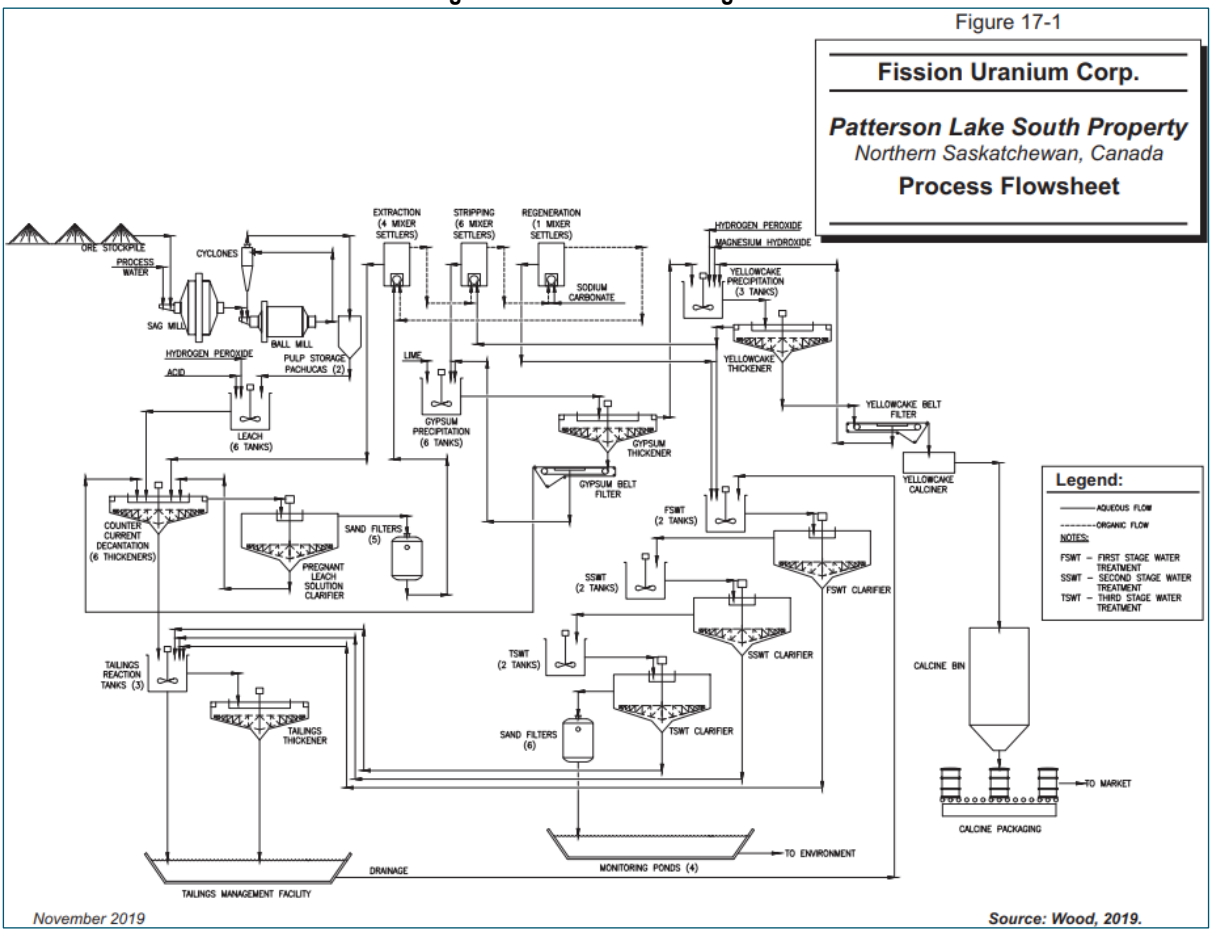
Source: Fission Uranium 2019 PFS

A three-year preproduction construction period is envisaged with the first year pre-development focused on the box cut and portal, year two focused on the decline and vent raises, and year three focused on mine development in hard rock. Total mining pre-production capital costs are estimated at C$200.7m including C$36.2m for mining fleet. LOM sustaining capital includes a further C$32.9m of mine development, C$4.4m of mobile equipment and C$118.1m for crown pillar recovery. Due to ground conditions, crown pillar extraction design requires ground freezing; the design involves directional drilling from the shore of Patterson Lake and then pumping a refrigerated brine solution through the drill holes to freeze the ground in stope areas. The first 15m of the deposit will be sterilised. Mine operating costs are estimated to be C$52.4m per year or C$137/t, totalling C$3.15/lb over the life of mine.

Processing

The process plant is a standard flowsheet for Athabasca high grade uranium. The plant is nominally designed for 350ktpa with a feed rate of 1,000tpd and 90% operating availability. Ore will be crushed via an underground jaw crusher, and hauled to the plant via haul truck. Trucks will be sorted by radiometric scanner to sort for ore grades and corresponding dump locations on the ore pad. The comminution circuit includes a standard SAG to ball mill configuring targeting P_{80} 150µm, a relatively coarse grind. The leaching circuit includes six agitated leach tanks with a target 8h residence time to oxidise and dissolve uranium from the ore. Next is the counter current decantation circuit with the overflow moving to the pregnant leach solution tank for solvent extraction, precipitation and calcining. Calcined yellowcake will be packaged into 210L steel drugs, typically weighing ~400kg. Tailings will be neutralised and pumped to the TMF. Mill effluent will be acidic at a PH of lower than 4.5 and so will be combined with lime to target a PH of 4.5. Overall process recovery is 96.8%. Operating costs for the plant are C$116/t, C$40.2m per year or C$3.38/lb average of the LOM with C$349.6m of initial capex related to the plant.

Figure 44: Process Flow Diagram



Source: Fission Uranium 2019 PFS

Infrastructure and Site G&A

Total pre-production capex for site infrastructure is C$125.9m for infrastructure with C$314.8m of pre-production indirects and owner's costs. Estimated LOM operating G&A costs are C$75/t, C$2.19/lb or C$26.2m per year.

Water: Feed water is to be pumped from Patterson lake. Feed water will be treated and discharge to a surface feed settling pond. Potable water will be trucked to site to the camp, although this may change subject to further trade off study by the company.

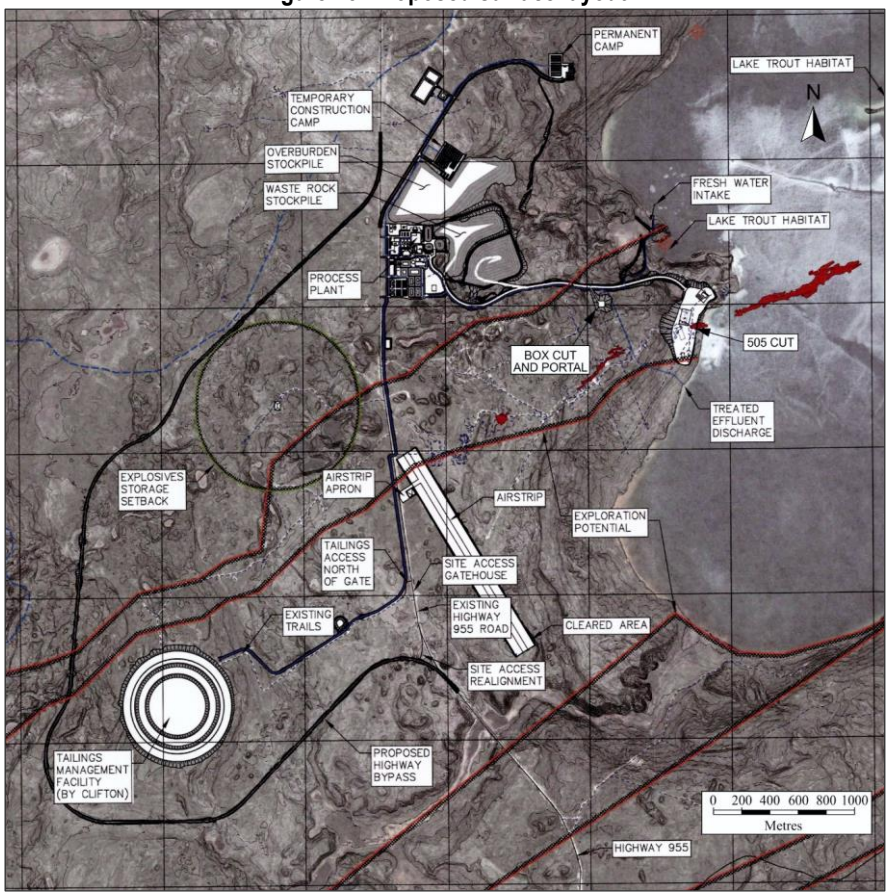
Power: The site power requirement is expected to be 8.7MW increasing to a peak of 16.1MW during crown pillar recovery (due to ground freezing), then reducing to 11.1MW. The mine plan includes ten two-MW LNG generators supplied by LNG trucked to site. Estimated power costs are C$0.15/kWh based on C$14.05/GJ and LPG of C$0.44/L. Estimated diesel costs are C$1.00/L.

Waste disposal: The TMF will use the sub-aqueous deposition and pervious surround methodologies similar to other operating mines in the Athabasca. The TMF will be lined geomembrane lined on the sides and geotextile lined at the base with drainage aggregate to enable water drainage. Impacts to Patterson Lake are expected to be minimal. Waste rock will be stored on a waste rock pile with mineralised waste rock stored on lined pads to prevent contamination. The storage pile is designed for capacity of 2.0Mt vs 1.2Mt of waste rock in the current mine plan. Acid forming waste rock will be stored with a dual lined HDPE liner.

Camp: The PFS includes a 270-room permanent camp. The temporary construction camp is planned to accommodate up to 400 persons and be located near the permanent camp.

Access and transport: The PFS includes an airstrip as the primary means of transporting personnel to site. Road upgrades included a proposed Highway 955 detour to circumvent the planned TMF, plus regular traffic roads between the mine site, plant and camp.

Figure 45: Proposed surface layout



Source: Fission Uranium

Appendix I: The Athabasca Basin

The Athabasca basin is located in north-western Saskatchewan, and stretches into north-east Alberta, covering ~100,000km^2. It is home to some of largest current and former uranium mines in the world, including Cameco's operating Cigar Lake mine (18Mlbs pa) and McArthur River Mines (20Mlbs pa), which is on care and maintenance. The basin is a Paleoproterozoic (2,500-1,600 Ma) flat-lying red-bed sedimentary basin with the overlying sandstone unit varying from 100-1000m in thickness. The majority of the uranium deposits found in the basin are at the contact between the sandstone and the underlying basement units, which are the Hearne (Paleoproterozoic granitoid gneisses) to the east, the Taltson Magmatic Zone (Paleoproterozoic) and the Rae to the West (metasedimentary supracrustal sequences as well as granitoids). Uranium was discovered in the 1940s and the first mine built was the Rabbit Lake Mine, which was discovered in 1968 and opened in 1975. The basin has consistently been one of the most important uranium producing regions, at 23% of global production from 2015-2017 and 13% in 2019.

Uranium operations

Table 46: (A) Athabasca uranium projects and mines and (B) Current milling facilities

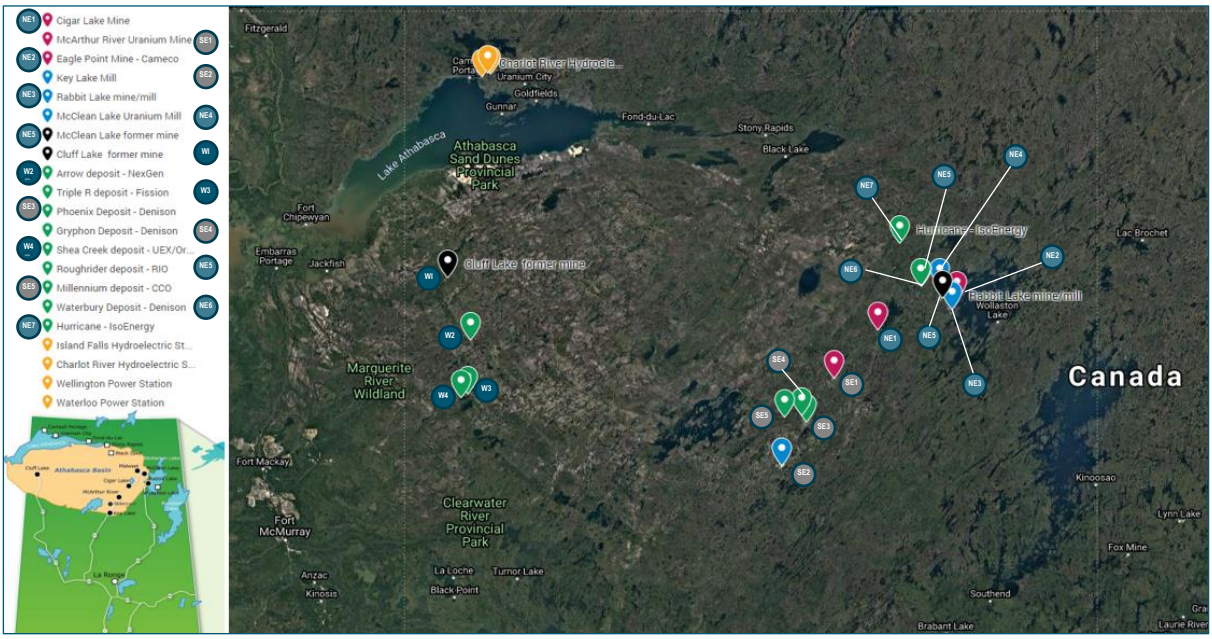
	Projects								Producing	Care and Maintenance	
	NexGen	Denison	Denison	Fission	Rio Tinto	Cameco	UEX	Denison	Cameco	Cameco	Cameco
Project	Rook I	Wheeler River		Patterson Lake South	Roughrider	Millennium	Shea Creek	Waterbury Lake	Cigar Lake	McArthur River	Rabbit Lake
Deposit	Arrow	Phoenix	Gryphon	Triple R	Roughrider	Millennium	Shea Creek	Tthe Heldeth Tué	Cigar Lake	McArthur River	Eagle Point
Location in basin	W	SE	SE	W	NE	SE	W	NE	NE	SE	NE
Ownership	100%	Denison 90%, JCU 10%		100%	100%	69.9% CCO / 30.1% Orano	50.1% Orano, 49.9% UEX	DML 66.9%, Korean 33.1%	CCO 50.025%, AREVA 37.1%, Japanese 12.775%	CCO 69.805%, Orano 31.895%	100%
Permits	EA commenced April 2019	EA restarted December 2020		EA submitted April 2020	Exploration	Exploration	Exploration	Exploration	Producing, permitted to 2029	C&M, permitted to 2042	C&M, permitted to 2023
Study	2018 PFS	2019 PFS	2019 PFS	2019 PFS	2011 PEA (Hathor)	2019 YE R&R	2013 Resource	2020 PEA	2015 Tech Report	2018 Tech Report	2019 YE R&R
Deposit type	Ingress	Egress	Ingress	Ingress	Ingress	Ingress	Egress	Egress	Egress	Egress	Ingress
Hosted	Basement	Unconformity	Mostly Basement	Mostly Basement	Mostly Basement	Mostly Basement	Unconformity	Unconformity	Unconformity	Unconformity	Basement
Depth (m)	110-980m	390-420m	520-850m	50-330m	250-350m east zone 190-290m west zone	650m	650-800m	195-230m	410-450m	500-640	5-360m below bedrock (under Collins Bay)
Reserves (kt)	3,433	141	1,257	2,298	732	--	--	178	553	2,573	--
Reserve grade (% U3O8)	3.09%	19.13%	1.79%	1.61%	1.72%	--	--	2.48%	14.48%	6.91%	--
Reseves (Mlbs)	234.1	59.7	49.7	81.4	27.8	--	--	9.7	176.6	391.9	--
Resources (M,I&I)	7,726.0	330.3	1,716.0	3,437.0	555.8	1,855.0	3,340.1	559.0	1,053.9	2,796.3	4,297.4
Grade (% U3O8)	1.99%	8.76%	1.88%	1.78%	4.73%	2.64%	1.30%	1.50%	12.99%	6.55%	0.76%
Contained (Mlbs U3O8)	338.3	63.8	71.3	135.2	57.9	107.9	95.9	18.5	301.9	404.0	72.3
Mine type	UG	ISR	UG	UG	UG	UG	UG	UG	UG	UG	UG
Mine method	LH stoping	Freeze wall ISR	LH Stoping	LH stoping	Freeze wall, raise bore	--	--	Freeze wall ISR	Freeze wall, jet boring	Freeze wall, raise boring	Vertical longhole stoping
Mill	Build	truck to McClean Lake		Build	Build	--	--	McClean Lake	McClean Lake	Key Lake	Rabbit Lake
Throughput (tpd)	1,300	n/a	n/a	1,000	193	--	--	111	126	306	Mill up to 1500tpd
Annual production (Mlbs)	25.4	5.4	6.1	10.7	5.0	--	--	1.6	20.0	18.0	4.2 [3]
LOM total production (Mlbs)	228.4	58.8	48.8	75.2	52.0	--	--	9.7	229.9	397.2	n/a
Initial Capex (C$m)	1,318	341	659	1,244	567.0	--	--	111.6	2,900.0 [2]	n/a	n/a
Initial capex intensity (C$/lb LOM)	5.77	5.80	13.49	16.55	10.90	--	--	11.51	12.61	n/a	n/a
Operating cash cost (C$/lb)	5.81	4.44	15.60	9.57	14.40	--	--	16.27	18.57	14.97	22.5 [4]
AISC (C$/lb)	12.11	11.10	22.23	14.25	21.80	--	--	22.0	31.6	27.8	n/a

(1) Mine inventory used, as no compliant reserve estimate currently. (2) Reported by CCO in its 2016 Cigar Lake Technical Report (3) 2015 actual. (4) From S&P Market Intelligence, converted from USD to CAD at 0.75

Mill	Owners	Capacity	Commentary
Key Lake	Cameco 83.33% / Orano 16.67%	25.0Mlbs	Processes ore from McArthur River, currently idled along with the mine
McClean Lake	Orano 70%, Denison 22.5%, OURD Canada (Japanese) 7.5%	24.0Mlbs	Toll treats ore from Cigar Lake Mine
Rabbit Lake	Cameco 100%	16.9Mlbs	Treats ore from the Eagle Point Mine, idled since 2016

Source: SCP, company disclosures

Figure 47: Regional map of the Athabasca basin with a regional road map in bottom left



Source: SCPe, Google Maps, Cameco (Map), SaskPower, Company disclosures

Cigar Lake Mine (Cameco 50.025%, Orano 37.1%, Idemitsu 7.875%, Tepco 5%): Cigar Lake commenced production in 2015 and produces 18Mlbs per year at a cash cost of ~$15/lb. Ore is crushed at Cigar Lake and trucked as a slurry in special containers to the McClean Lake Mill for leaching, purification and yellowcake production and packaging. The deposit is a high grade tabular orebody hosted at the uniformity, (current reserve of 177Mlbs at 14.5%$U_30_{8)}$. Ground conditions are very challenging due to the weak sandstone, and high water pressures. The hanging wall is frozen prior to mining (freeze wall), and the deposit is accessed using an undercut, and mined by remote hydro jets (jet boring), with ore and broker rock carried pumped to surface in a slurry. The mine has two levels – 480m and 500m and the mine is accessed using two shafts. During its development, water flooded the partially completed shaft and mine workings, which were remediated in 2010-2011, enabling commercial production in 2015. Cigar Lake is expected to have 9 years of remaining mine life.

McArthur River Mine (Cameco 69.805%, Orano 30.195%): McArthur River has produced 323Mlbs since 1999, with 1.27Mt at 11.72% mined from 1999-2018. The mine and the Key Lake Mill were placed on care and maintenance in late 2017 for economic reasons, with C$75-80m ($6.5m/month) of C&M costs. The deposit is a high grade tabular shaped orebody hosted at the unconformity. The hanging wall is frozen prior to mining and accessed by over and undercuts, and mined using a reaming head (raise bore mining). Ore is milled underground, slurried, thickened and trucked to the Key Lake Mill for precipitation, calcining and yellow cake packaging. McArthur River is estimated to have

Rabbit Lake Mine (100% Cameco): Opened in 1975, this was the first mine in the area and was mined out in 1984. The mill continued to process ore from other deposits, produced 203Mlbs over 41 years and was placed on care and maintenance in 2016 due to low prices. The Eagle Point mine, which had been feeding the mill, has a current resource estimate 38.6Mlbs at 0.95% U_30_8. The operation is licenced until 2023 to produce up to 16.9Mlbs per year.

Historic Mines

Cluff Lake Mine: Was operated by COGEMA (now Orano) from 1980-2002 and was the first mine in the western basin. The mine and mill produced 62Mlbs over from 1980-2002 and have been decommissioned and reclaimed. The mine was serviced by its own airport. Mining was a combination of open pit and underground mining.

Key Lake: Mining occurred from 1983 to 1997, fed by two open pit orebodies, Gaertner and Deilmann at ~2% U3O8. The mill has processed ore from Cameco's McArthur River mine since 1997 and is licenced for 25Mlbs per year, but was idled in 2018 along with the McArthur River Mine.

McClean Lake: Developed in 1994 by Orano and was mined from five open pits until 2008. The mill now treats ore from Cameco's Cigar Lake mine and was upsized (including its licenced capacity) from 13 to 24Mlbs per year to accommodate Cigar Lake.

Infrastructure

Access: The main roads going north through the basin are north-south from the populated communities. Regional highway 914 moves north from Pinehouse, past the Key Lake Mill, and terminates at the McArthur River Mine. The Cigar Lake Mine connects to the Rabbit and Key Lake mills to the NE, which are connected by regional highway 905 that proceeds north-west to community of Black Lake and onto the communities north of Lake Athabasca. Highway 955 runs up the western edge of the basin from La Loche and terminates just north of the former Cluff Lake mine. There is an airstrip at Collins Bay, near the Rabbit Lake and McClean Lake mills, with another at Cigar Lake and one at Cluff Lake. Both NexGen and Fission have proposed airstrips as part of their mine developments.

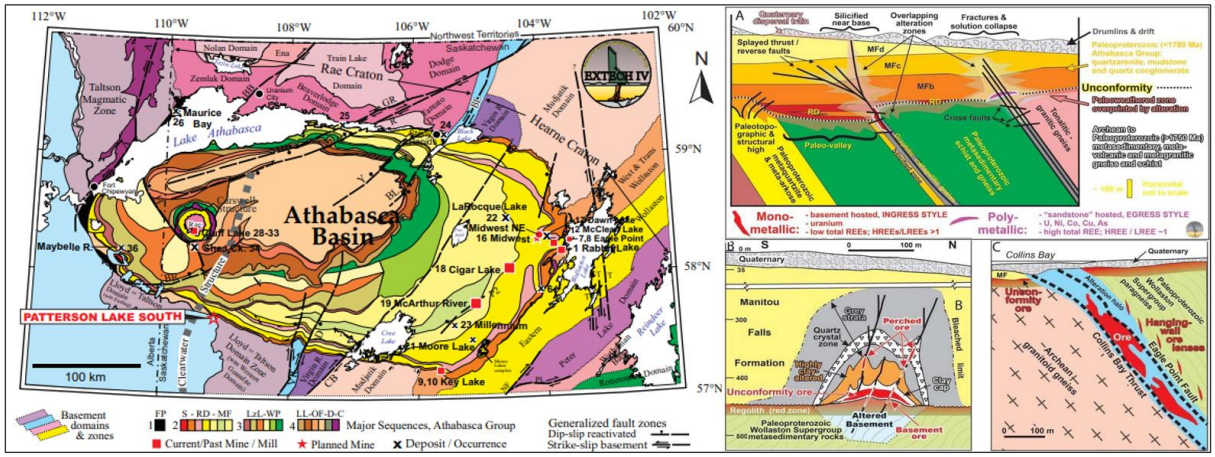
There is a proposed connector extension of highways 905 to 914 to join the McArthur River and Cigar Lake mines to enable ore to be transported from the Phoenix, Gryphon (both Denison) and Millennium deposits (Cameco) to the McClean Lake or Rabbit Lake mills. The Government of Saskatchewan has agreed to fund half the road construction cost subject to a positive development decision.

Power: Grid power is supplied to the eastern Athabasca by a 138-kv overhead power line. The nearest power generation stations are a 111MW hydroelectric facility at Sandy Bay to the SW of the basin and there are three hydroelectric stations totalling 23MW on the northern shores of Lake Athabasca.

Deposit Types

The deposits in the Athabasca occur below, across and/or immediately above the unconformity. Monometallic generally basement-hosted uraninite fills beings, breccia fillings and replacements in fault zones caused by fluid-rock reactions between oxidising sandstone brine entering basement fault zones. Notable examples of this *ingress*-type deposit include Rabbit Lake and Eagle point, which were mined as underground mines with relatively stable ground conditions thanks to the basement hosted setting. Poly-metallic sub horizontal deposits form just above or straddling the unconformity with variable amounts of uranium, Ni, Co and As. These *egress*-type deposits were formed due to the mixing of oxidising sandstone fluids mixing with relatively reduced fluids issuing from the basement into the sandstone.

Figure 48: (A) Geological map of the Athabasca Basin, (B) General features of unconformity deposits: Egress type – Cigar Lake, Ingress Type – Eagle Point



Source: RPA, Fission Uranium, NexGen Energy

Exploration Techniques:

Egress: Since the discovery of the Key Lake Mine in 1975, the Key Lake exploration model emphasized airborne and EM surveys to map conductive pelite units, targeting locations where basement graphitic pelite units in the basement met the Athabasca Sandstone. The McArthur River emphasized basement quartzite units which are more competent than other sedimentary basement rocks and therefore control major thrust, reverse and strike slip faults. Due to a lack of conductivity and magnetic susceptibility, this exploration model instead targets the large alteration halos typical of this deposit through ground resistivity surveys and changes in minerologies. Both models target egress style deposits in which alteration tends to appear in the sandstone units, and not the underlying basement, therefore drill depth is generally to or just below the unconformity.

Ingress**:** The development of Eagle Point and the discoveries of Arrow, Triple R and Millennium have increased the importance of this exploration style. Exploration targets recognition of significant fault zones within basement metasediments (often associated with graphite) with associated basement clay and geochemical alteration halos. Airborne magnetic and radiometric can be useful in identifying basement faults, shear zones and areas of complexity. Mineralisation may be spatially associated with gravity lows that could indicate clay alteration.

Royalties and Taxation

All uranium mining in Saskatchewan is subject to a 5% gross sales royalty, less a 0.75% Saskatchewan Resource credit. In addition, there is a profit royalty of 10% of profits up to C$23.29/kg (C$10.54/lb) U3O8 plus 15% on profits per kg in excess of that. Profits are determined as net of certain operating, exploration, reclamation and capital costs. Resource corporations in Saskatchewan also pay a corporate sales surcharge of 3.0% (revenues net of transportation costs). The applicable income tax is 27% (15% federal and 12% provincial).

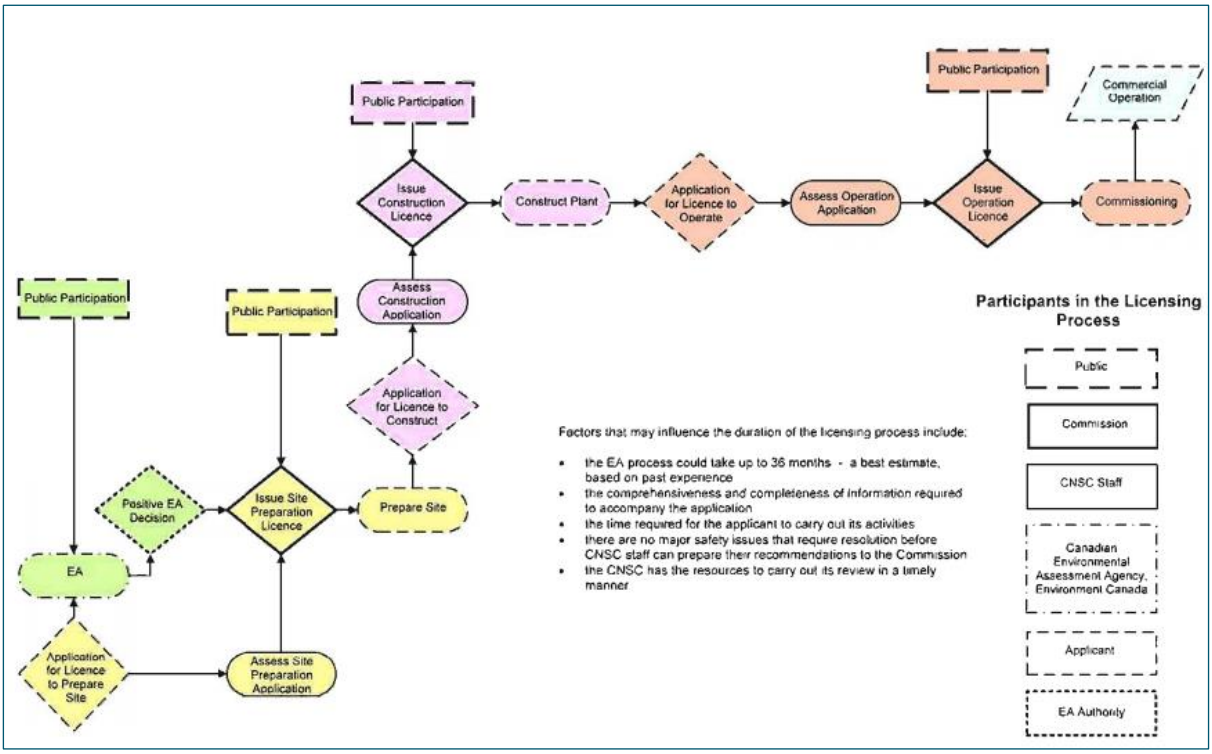
Figure 49: CNSC new mine licensing process

Royalty (C$/lb) - Uranium price vs Op Costs	Price: US$30/lb	Price: US$40/lb	Price: US$50/lb	Price: US$60/lb	Price: US$70/lb
Pre-tax costs: C$10.00/lb	$6.87	$9.84	$12.81	$15.77	$18.74
Pre-tax costs: C$20.00/lb	$5.37	$8.34	$11.31	$14.27	$17.24
Pre-tax costs: C$30.00/lb	$3.90	$6.84	$9.81	$12.77	$15.74
Pre-tax costs: C$40.00/lb	$2.90	$5.34	$8.31	$11.27	$14.24
Pre-tax costs: C$50.00/lb	$2.90	$4.20	$6.81	$9.77	$12.74

Source: SCPe

Permitting

Figure 50: CNSC new mine licensing process



Source: CNSC, March 2007

Uranium mines are overseen by the Canadian Nuclear Safety Commission. The permitting process includes a series of licences, but the key permit is the Environmental Assessment (EA), which confirms that the project conforms with the applicable environmental and safety regulations. Guidance is that the process could take up to 36-months, which was in line with Cigar Lake's timeline when it was granted approval in 2004. In parallel, the CNSC undertakes a review of the application and if the EA is approved, the project moves to a two-day public hearing process. Assuming any issues are resolved, the project is then advanced to a document decision and licences are distributed. For precedent, Cigar Lake's FS was completed in 2001, followed by EA submission. The EA was approved by in April 2004, and the Licence to Construct was granted four months following EA approval.

Precedents

Cigar Lake: An Environmental Impact Statement (EIS) was submitted to the joint Federal-Provincial review panel in 1995. In 1997, the panel recommended the project should proceed, subjected to identification of a suitable waste rock disposal location. In 1998 the project was approved in principle. In August 2001 a waste rock EIS was submitted and it was approved in August 2003. In February 2004, Cameco submitted an environmental assessment study report (EASR) investigating the impacts of construction, operation and decommissioning of the mine, which was accepted by the CNSC. The construction licence was received in December 2004.

McArthur River: Cameco filed an EIS for McArthur River in 1992 that was approved in 1993. In 1995 Cameco submitted an EIS that covered proposed mining activities at McArthur River and milling activities at Key lake. Federal and provincial EIS approval was granted in 1997 and construction approval was granted in 1997.

DISCLOSURES & DISCLAIMERS

This research report (as defined in IIROC Rule 3400) is issued and approved for distribution in Canada by Sprott Capital Partners LP ("SCP"), an investment dealer who is a member of the Investment Industry Regulatory Organization of Canada ("IIROC") and the Canadian Investor Protection Fund ("CIPF"). The general partner of SCP is Sprott Capital Partners GP Inc. and SCP is a wholly-owned subsidiary of Sprott Inc., which is a publicly listed company on the Toronto Stock Exchange under the symbol "SII". Sprott Asset Management LP ("SAM"), a registered investment manager to the Sprott Funds and is an affiliate of SCP. This research report is provided to retail clients and institutional investors for information purposes only. The opinions expressed in this report are the opinions of the author and readers should not assume they reflect the opinions or recommendations of SCP's research department. The information in this report is drawn from sources believed to be reliable but the accuracy or completeness of the information is not guaranteed, nor in providing it does SCP and/or affiliated companies or persons assume any responsibility or liability whatsoever. This report is not to be construed as an offer to sell or a solicitation of an offer to buy any securities. SCP accepts no liability whatsoever for any loss arising from any use or reliance on this research report or the information contained herein. Past performance is not a guarantee of future results, and no representation or warranty, expressed or implied, is made regarding future performance of any security mentioned in this research report. The price of the securities mentioned in this research report and the income they generate may fluctuate and/or be adversely affected by market factors or exchange rates, and investors may realize losses on investments in such securities, including the loss of investment principal. Furthermore, the securities discussed in this research report may not be liquid investments, may have a high level of volatility or may be subject to additional and special risks associated with securities and investments in emerging markets and/or foreign countries that may give rise to substantial risk and are not suitable for all investors. SCP may participate in an underwriting of, have a position in, or make a market in, the securities mentioned herein, including options, futures or other derivatives instruments thereon, and may, as a principal or agent, buy or sell such products.

DISSEMINATION OF RESEARCH: SCP's research is distributed electronically through email or available in hard copy upon request. Research is disseminated concurrently to a pre-determined list of clients provided by SCP's Institutional Sales Representative and retail Investment Advisors. Should you wish to no longer receive electronic communications from us, please contact unsubscribe@sprott.com and indicate in the subject line your full name and/or corporate entity name and that you wish to unsubscribe from receiving research.

RESEARCH ANALYST CERTIFICATION: Each Research Analyst and/or Associate who is involved in the preparation of this research report hereby certifies that:

- The views and recommendations expressed herein accurately reflect his/her personal views about any and all of the securities or issuers that are the subject matter of this research report;
- His/her compensation is not and will not be directly related to the specific recommendations or view expressed by the Research analyst in this research report;
- They have not affected a trade in a security of any class of the issuer within the 30-day period prior to the publication of this research report;
- They have not distributed or discussed this Research Report to/with the issuer, investment banking group or any other third party except for the sole purpose of verifying factual information; and
- They are unaware of any other potential conflicts of interest.

UK RESIDENTS: Sprott Partners UK Limited ("Sprott") is an appointed representative of PillarFour Securities LLP which is authorized and regulated by the Financial Conduct Authority. This document has been approved under section 21(1) of the FMSA 2000 by PillarFour Securities LLP ("PillarFour") for communication only to eligible counterparties and professional clients as those terms are defined by the rules of the Financial Conduct Authority. Its contents are not directed at UK retail clients. PillarFour does not provide investment services to retail clients. PillarFour publishes this document as non-independent research which is a marketing communication under the Conduct of Business rules. It has not been prepared in accordance with the regulatory rules relating to independent research, nor is it subject to the prohibition on dealing ahead of the dissemination of investment research. It does not constitute a personal recommendation and does not constitute an offer or a solicitation to buy or sell any security. Sprott and PillarFour consider this note to be an acceptable minor non-monetary benefit as defined by the FCA which may be received without charge. This is because the content is either considered to be commissioned by Sprott's clients as part of their advisory services to them or is short term market commentary. Neither Sprott nor PillarFour nor any of its directors, officers, employees or agents shall have any liability, howsoever arising, for any error or incompleteness of fact or opinion in it or lack of care in its preparation or publication; provided that this shall not exclude liability to the extent that this is impermissible under the law relating to financial services. All statements and opinions are made as of the date on the face of this document and are not held out as applicable thereafter. This document is intended for distribution only in those jurisdictions where PillarFour is permitted to distribute its research.

IMPORTANT DISCLOSURES FOR U.S. PERSONS: This research report was prepared by Sprott Capital Partners LP ("SCP"), a company authorized to engage in securities activities in Canada. SCP is not a registered broker/dealer in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This research report is provided for distribution to "major U.S. institutional investors" in reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act"). Any U.S. recipient of this research report wishing to effect any transaction to buy or sell securities or related financial instruments based on the information provided in this research report should do so only through Sprott Global Resource Investments Ltd. ("SGRIL"), a broker dealer in the United States registered with the Securities Exchange Commission ("SEC"), the Financial Industry Authority ("FINRA"), and a member of the Securities Investor Protection Corporation ("SIPC"). Under no circumstances should any recipient of this research report effect any transaction to buy or sell securities or related financial instruments through SCP.

SGRIL accepts responsibility for the contents of this research report, subject to the terms set out below, to the extent that it is delivered to a U.S. person other than a major U.S. institutional investor. The analyst whose name appears in this research report is not licensed, registered, or qualified as a research analyst with FINRA and may not be an associated person of SGRIL and, therefore, may not be subject to applicable restrictions under FINRA Rule 2241 regarding communications by a research analyst with a subject company, public appearances by the research analyst, and trading securities held by a research analyst account. To make further inquiries related to this report, United States residents should contact their SGRIL representative.

ANALYST CERTIFICATION / REGULATION AC: The analyst and associate certify that the views expressed in this research report accurately reflect their personal views about the subject securities or issuers. In addition, the analyst and associate certify that no part of their compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

SPROTT CAPITAL PARTNERS EXPLANATION OF RECCOMENDATIONS: Should SCP issue research with recommendations, the research rating guidelines will be based on the following recommendations:

BUY: The stocks total returns are expected to be materially better than the overall market with higher return expectations needed for more risky securities markets

NEUTRAL: The stock's total returns are expected to be in line with the overall market

SELL: The stocks total returns are expected to be materially lower than the overall market

TENDER: The analyst recommends tendering shares to a formal tender offering

UNDER REVIEW: The stock will be placed under review when there is a significant material event with further information pending; and/or when the research analyst determines it is necessary to await adequate information that could potentially lead to a re-evaluation of the rating, target price or forecast; and/or when coverage of a particular security is transferred from one analyst to another to give the new analyst time to reconfirm the rating, target price or forecast.

NOT RATED ((N/R): The stock is not currently rated

	Research Disclosure	**Response**
1	SCP and its affiliates collectively beneficially owns 1% or more of any class of the issuer's equity securities[2]	**YES**
2	The analyst or any associate of the analyst responsible for the report or recommendation or any individual directly involved in the preparation of the report holds or is short any of the issuer's securities directly or through derivatives	**NO**
3	An SCP partner, director, officer or analyst involved in the preparation of a report on the issuer, has during the preceding 12 months provided services to the issuer for remuneration other than normal course investment advisory or trading execution services	**NO**
4	SCP has provided investment banking services for the issuer during the 12 months preceding the date of issuance of the research report or recommendation	**YES**
5	Name of any director, officer, employee or agent of SCP who is an officer, director or employee of the issuer, or who serves in an advisory capacity to the issuer	**NO**
6	SCP is making a market in an equity or equity related security of the issuer	**NO**
7	The analyst preparing this report received compensation based upon SCP's investment banking revenue for the issuer	**NO**
8	The analyst has conducted a site visit and has viewed a major facility or operation of the issuer	**NO**
9	The analyst has been reimbursed for travel expenses for a site visit by the issuer	**NO**

Sprott Capital Partners Equity Research Ratings:

Summary of Recommendations as of February 2021	
BUY:	33
HOLD:	0
SELL:	0
UNDER REVIEW:	0
TENDER:	0
NOT RATED:	0
TOTAL	33

[2] As at the end of the month immediately preceding the date of issuance of the research report or the end of the second most recent month if the issue date is less than 10 calendar days after the end of the most recent month

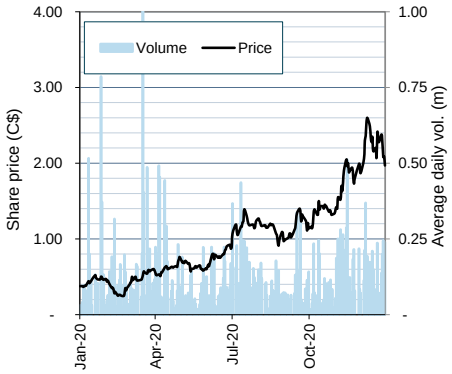
IsoEnergy (ISO CN)

Athabasca's next high-grade U: initiating coverage

RECOMMENDATION: **BUY** *TARGET:* **C$4.00/sh** *RISK RATING:* **VENTURE**

SHARE DATA

52-week high/low	C$2.60 / C$0.25
Shares (basic, FD)	94 / 119
Share price (C$/sh)	C$1.97/sh
Cash (C$m)	16.6
Market cap / EV (basic, C$m)	185.3 / 160.4
Market cap / EV FD C$m)	233.9 / 209.0
Average daily value (C$000, 3M)	286



Source:S&P Capital IQ

East Athabasca explorer building on high-grade discovery

IsoEnergy is a uranium explorer targeting high-grade projects in the eastern Athabasca basin. Spun out of Nexgen in 2016, Iso has a simple strategy of i) staking as many prime land positions as possible in the eastern Athabasca, ii) following up on mineralised intercepts that were not followed up; and iii) targeting basement hosted uranium mineralisation, as drilling in the eastern Athabasca rarely targeted below the unconformity.

Hurricane is a world class discovery

The Larocque East property, acquired from Cameco in 2018, has yielded the first major discovery at the Hurricane Zone. Mineralisation has been defined over a 575m strike by up to 75m wide and up to 11m thick zone of high-grade mineralisation with intercepts of wide and ultra high-grade such as 7.5m @ 38.8% and 9.0m @ 12.8%, and as high as 74% over 3.5m. The deposit appears to be a classic unconformity-hosted deposit with bonanza grades in a flat lying laterally expansive deposit, with similarities to McArthur River and Cigar Lake. At ~320m below surface the deposit is relatively shallow.

Large land package in the prolific Athabasca basin

Iso has 27 properties totalling 2,771km^2 either within or just beyond the margins of the Athabasca Basin. This includes significant holdings in the north-east of the basement, surrounding the McClean Lake, Rabbit Lake, Eagle Point historic operations. Highlights include the Larocque East, Geiger, Radio and Edge properties NE of McClean Lake, the Collins Bay Extension property along trend from Rabbit Lake-Collins Bay-Eagle Point, and the Thorburn Lake and North Thorburn properties E-NE of Cigar Lake.

Bringing successful NexGen approach to the eastern basement

ISO brings significant NexGen DNA to its eastern Athabasca properties; CEO Craig Parry was an NXE Co-Founder while NXE CEO Leigh Curyer is ISO's Chairman. We believe this is crucial because of the groups committed history of exploration and efficiency with drill dollars. The Athabasca Basin is one of the great exploration terranes and we believe the combination of steady dollar deployment, efficiency, and new geological approach, targeting deeper drilling (willingness to target below the unconformity) to follow up previously abandoned targets is already proving to be a winner.

Initiate coverage with BUY rating and C$4.00/sh PT

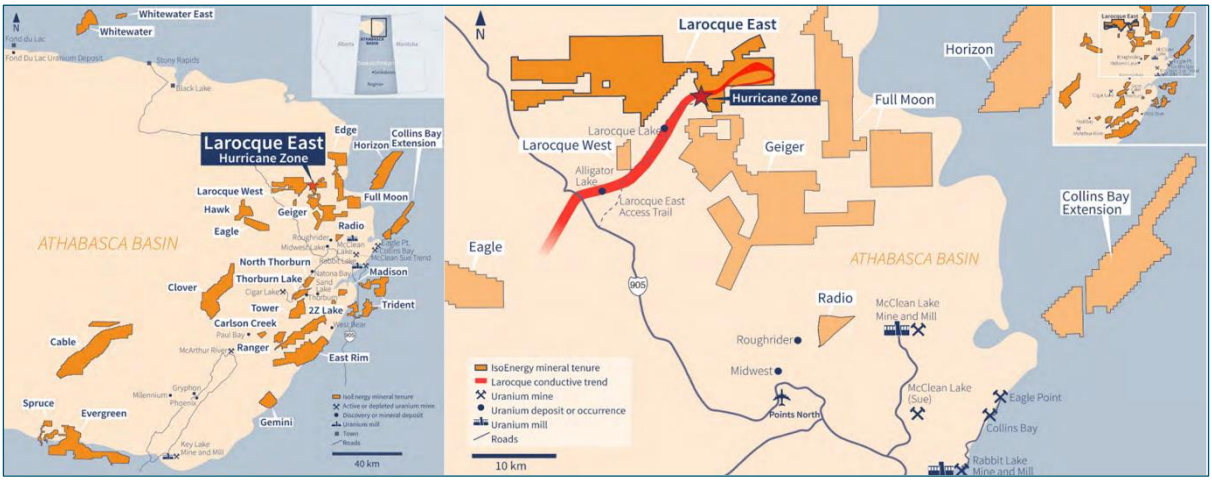
It is too early to speculate on what a DCF value could look like for Hurricane, and whether a raise bore or more conventional mining method will be utilised. Our thesis is simple: we expect the high-grade pounds to grow. Peer valuations range from US$1.50-9.00/lb, averaging US$3.30/lb. As such, we apply US$3.00/lb U_3O_8 to a nominal estimate of 80Mlbs at Hurricane, C$25m for ISO's exploration licences and C$100m for exploration on Larocque East. As such, we initiate with a BUY rating and C$4.00/sh PT (C$450m FD EV).

Justin Chan +44 7554 784 688 jchan@sprott.com
Brock Salier +44 7400 666 913 bsalier@sprott.com
Brandon Gaspar: +1 204 541 1144 bgaspar@sprott.com

Asset summary

IsoEnergy holds a total of 2,771km^2 of exploration properties in the Athabasca basin, with the heaviest concentration in the margins of the Wollaston-Mudjatik transition zone in the basin's northeast. These are the domains related to most of the major uranium deposits in the eastern basin. The company was spun out from NexGen Energy in 2016 with key properties including Radio (bordering Rio's Roughrider Deposit) and Thorburn Lake, 7km East of Cigar Lake. Since IPO the company has aggressively added to its exploration holdings, staking available 2,552km^2 of available concessions and acquiring the Geiger and Larocque East properties from Orano and Cameco, respectively, where historic drill holes such as 1.2m @ 2.74% at Geiger and 0.5m @ 0.061% at Larocque East hadn't been successfully followed up.

Figure 51. Regional and licence location of Larocque East property in the Athabasca Basin, Saskatchewan

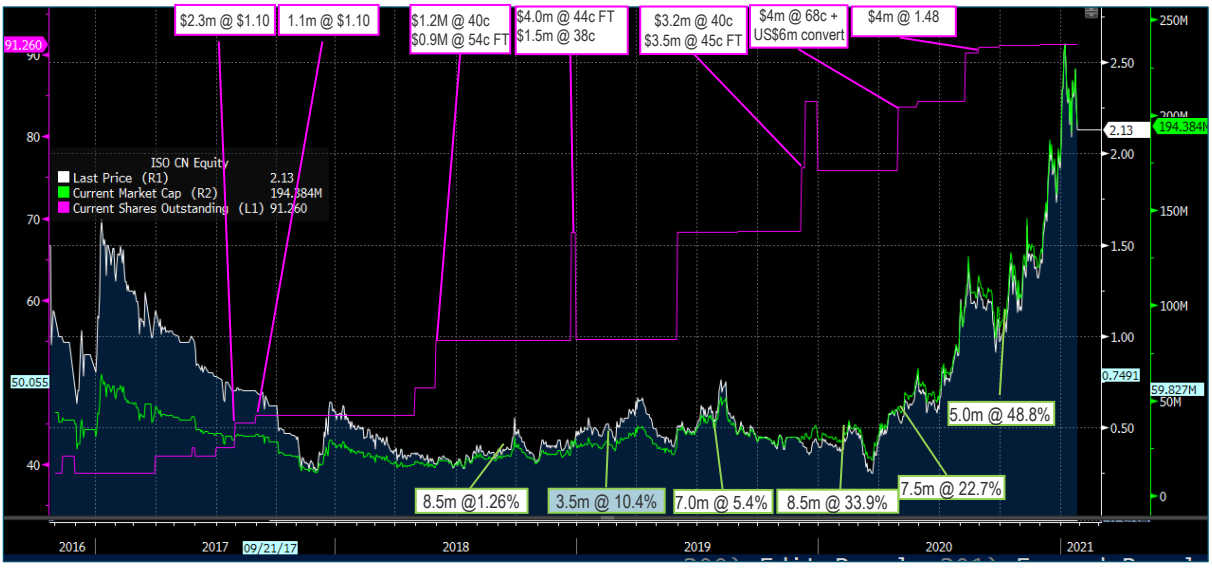


Source: IsoEnergy

Larocque East: Iso's Flagship Property

Iso acquired Larocque East, a 32km^2 licence package, in May 2018 from Cameco for C$20k in cash and 1m shares, and have since expanded the package to 159km^2. When IsoEnergy purchased the property in 2018, the property had a total of 21 historic drill holes but only five weakly mineralised intersections (including **0.5m at 0.061% U_3O_8 and 0.1m at 0.124%**). The exploration thesis was that the property contained a number of attractive conductors, with the most prospective being the Larocque trend, where a historic intersection hit 29.9% U308 to the SW of the Larocque East property. Iso targeted the conductor following historic hole KER-12 (a 2005 hole which did not intersect mineralisation but did encounter promising structure and chloritic and pyritic alteration in the basal sandstone) and hit on its very first drill hole on the property (**8.5m at 1.26% U_3O_8**) in summer 2018.

Figure 52. Capital and operating history for IsoEnergy (C$)



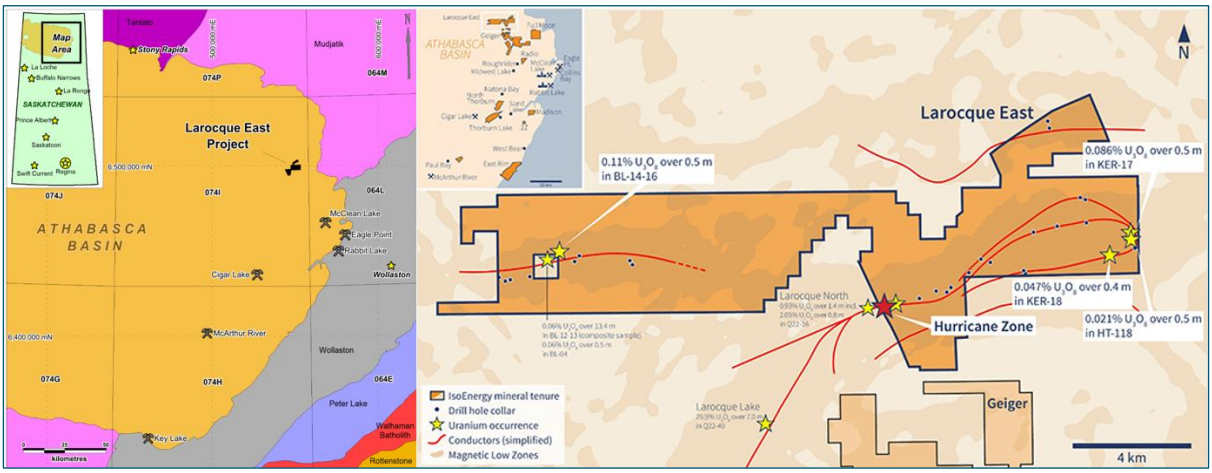
Source: Bloomberg

Geology

Larocque East lies near the eastern edge of the Athabasca basin in the arcuate basin and dome pattern of the Mudjatik Domain, as it transitions into the eastern Wollaston Domain's more linear fabric of pelitic to psammic sedimentary rocks. The Athabasca sandstones range in thickness of ~140-330m over the property, dominated by the Manitou Falls Formation Bird and the Collins Members that underlie glacial overburden. Drilling has focused on the Larocque Trend, a 30km long NE to E-NE trending magnetic low corridor that hosts several uranium occurrences along strike to the SE of the property. The trend is composed of graphite rich pelitic to semi pelitic gneisses. The paleoweathering profile in the upper basement rocks can extend 25-50m below the unconformity and has been overprinted by hydrothermal alteration in most of the Hurricane zone drill holes.

Mineralisation occurs from 320m below surface and straddles the sub-Athabasca unconformity along a subtle ridge parallel to and coincident with certain graphitic units in the basement. Mineralisation is a mixture of fracture hosted and disseminated pitchblende in the basal sandstone and semi-massive pitchblende at the unconformity and is associated with intense hydrothermal and illitic clay alteration (both notable at Cigar Lake, McArthur River and the Phoenix deposit). Mineralisation is polymetallic and contains local zones of high-grade nickel and cobalt. Hurricane displays the characteristics of a classic unconformity type uranium deposit, which are associated with basement-reactivated brittle faults, often rooted in granitic rocks, with deposition along the basal unconformity.

Figure 53. (A) Regional geological units and (B) regional conductors and historic drill results

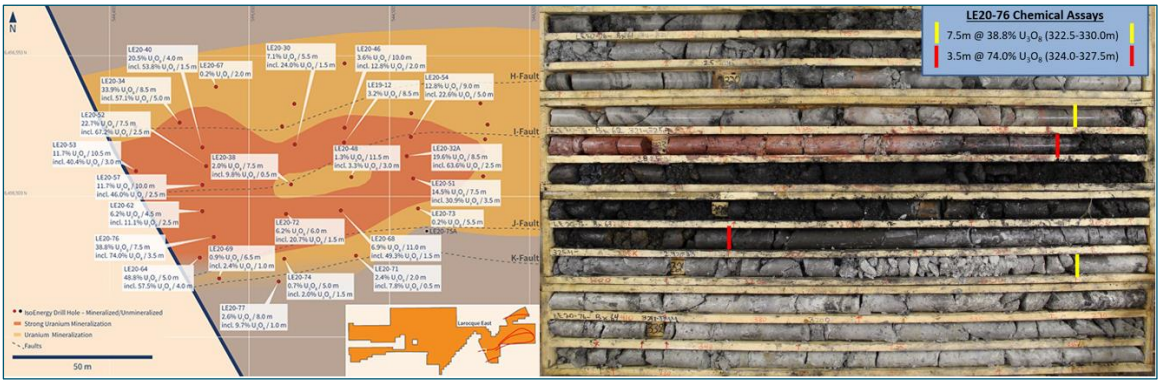


Source: IsoEnergy

Grades suggest Hurricane is a world class unconformity discovery

Unconformity deposits are typically small in total tonnage but extremely high-grade, and importantly, often occur in more than one discrete orebody. At 575m of strike by 75m wide, Hurricane is already approaching the footprint of Denison's Phoenix orebody (64Mlbs at 19.1% U_3O_8). Hurricane's grades are also similar to other world class unconformity orebodies. Cigar Lake grades reach 80% U_3O_8 over a 0.5m subinterval while drill at Hurricane has intercepted 74% U_3O_8 over 3.5m, 57.5% over 4.0m and 67.2% over 2.5m, which speaks to the strength of alteration, as seen in the core photo in Figure 4B.

Figure 54. (A) Cross and (B) core photo from 2020 drilling

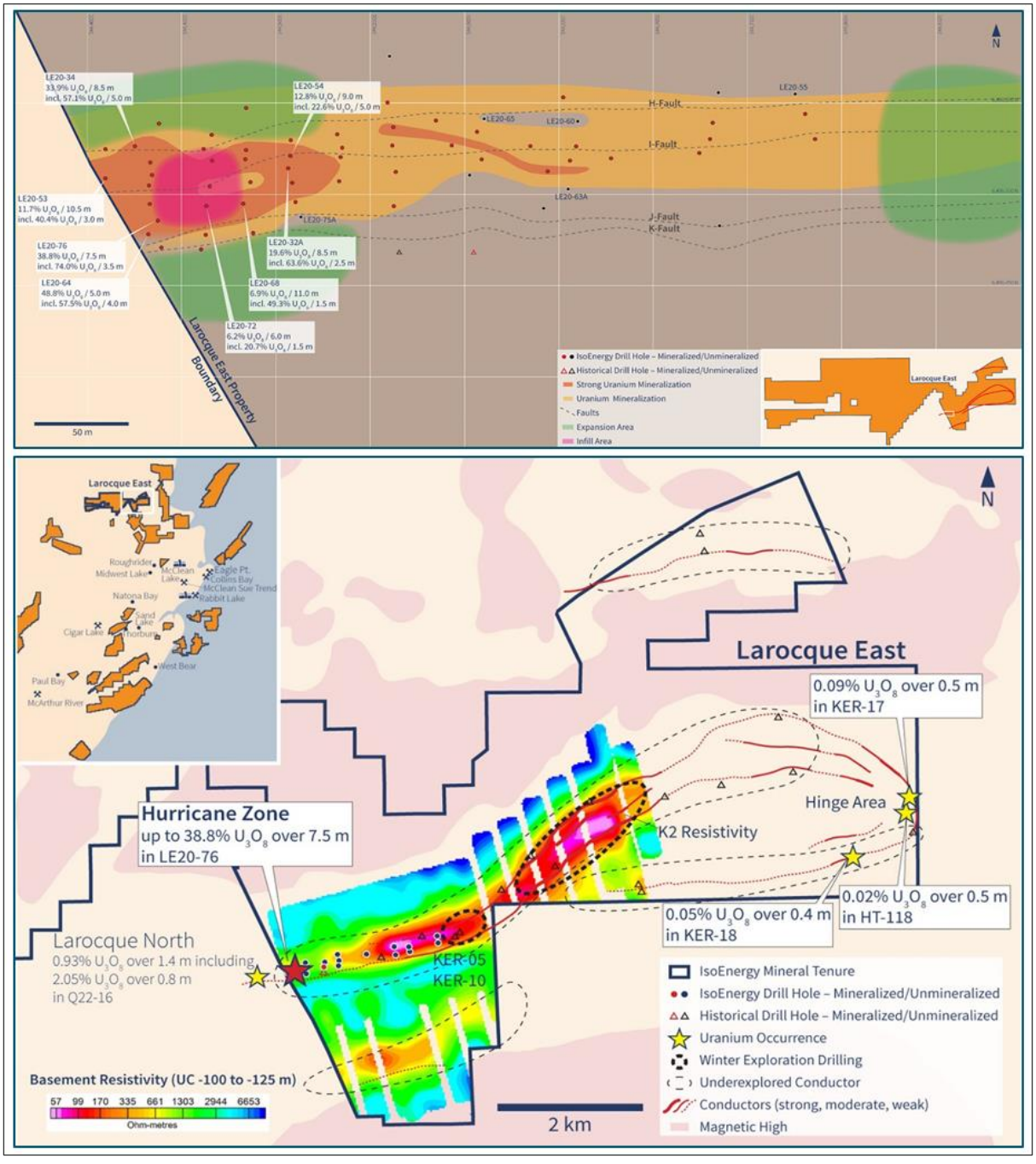


Source: IsoEnergy

Large resistivity anomaly to the east could be next high-grade zone

While extension to the west is now constrained by the property boundary, we believe there is significant potential to extend mineralisation to the east and for other targets on the property. Mineralisation at Cigar Lake consists of two pods along strike, while McArthur River contains nine mineralised bodies over a 2.5km strike. A resistivity survey was conducted in 2019 and the resistivity lows, combined with knowledge of the existing faults i) corresponds well to known high-grade mineralisation at Hurricane and ii) equally importantly, there is a significantly larger resistivity anomaly to the east, which could represent an even larger high-grade zone. In addition, there is a parallel trend to the south of Hurricane that should also represent a prospective target. Other structures to the North and East of the property, including the Hinge Area, where historic drilling intercepted anomalous uranium mineralisation has already been encountered in historic drilling, also represent attractive targets.

Figure 55. (A/B) Isometric plan view of geology and main veins, and (C) northern extension highlights

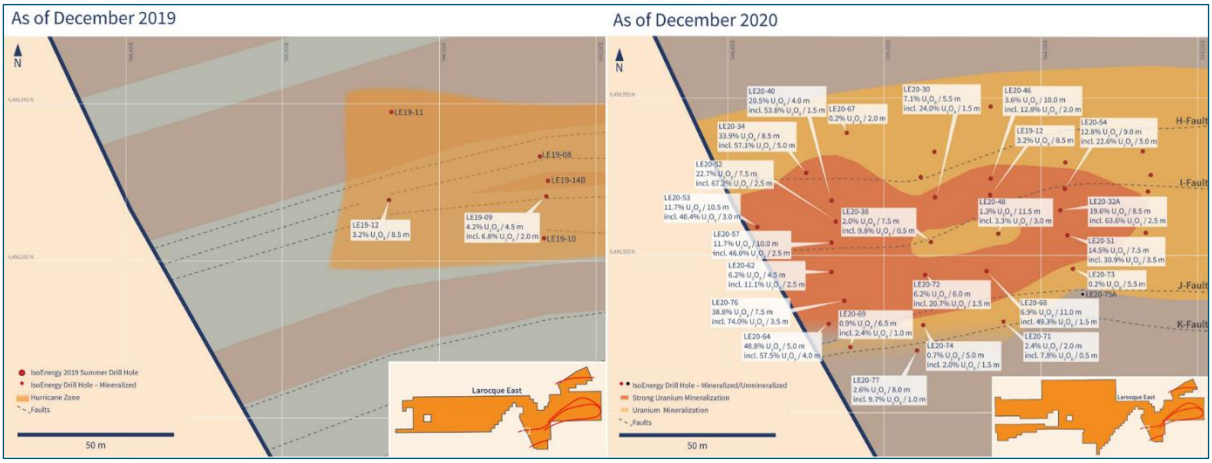


Source: IsoEnergy

Rapid growth speaks to efficiency and exploration discipline

After initial discovery (on ISO's first drill hole on the property no less), Iso hit on 11 of 12 holes in the 2019 winter programme and grew the mineralised footprint to 150x38m by the end of first full campaign and 500x40m by the end of 2019. 2020 saw significant resource growth, particularly in the high-grade zone, with the winter programme targeting high-grade mineralisation to the western boundary of the licence and the summer programme targeting to the north and south. Total spend to date has been highly efficient with C$6.6m of operating cash expenditures and C$13.4m of exploration and investing expenses. On a preliminary estimate of ~80Mlbs, on a 550m length x 100m width x 11m thickness at 8.8% U_3O_8, we estimate a discovery cost to date of ~C$0.20/lb (including corporate G&A) or ~US$11.40/oz AuEq at spot prices. This speaks to both the quality of targeting (hitting on step outs efficiently) and the prospectively of the licence and the basin.

Figure 56. Plan view of mineralised zones in 2019 and 2020, demonstrating significant growth

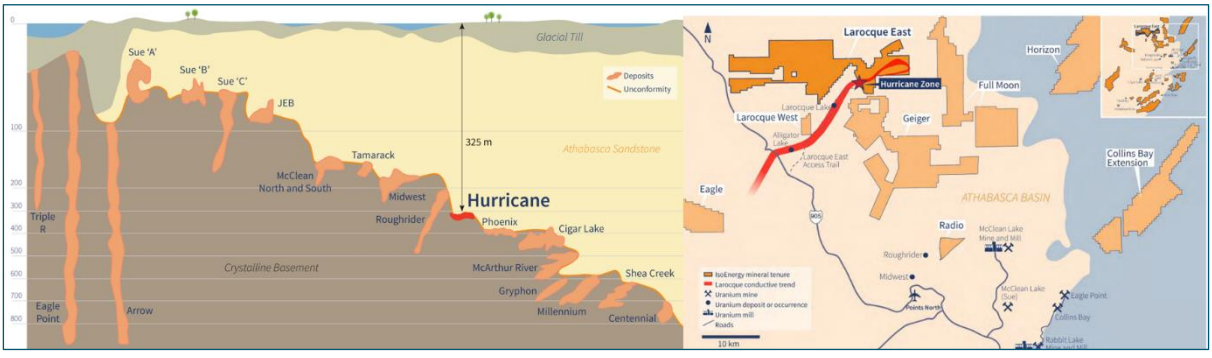


Source: IsoEnergy, SCP

40km distance to mills and shallower mineralisation give Hurricane significant advantages

We highlight a number of logistical advantages enjoyed by Hurricane. Proximity to processing facilities: location in the eastern basin, ~40km from the McClean Lake mill is a significant distance advantage for a high-grade uranium deposit. Depth:The depth of the unconformity reaches a maximum of 330m on the property, shallower than the majority of Athabasca deposits. This should reduce initial capex (potential for a decline or less shaft sinking) and reduce rock pressures (opex). Logistics: Site is accessible within 30km of the Points North Airstrip. Grid power is available within 30km. Other: There may be potential for ISR extraction which has been investigated by Denison at its high-grade unconformity hosted Gryphon deposit. *Our view*: *this will depend on deposit size*; if Hurricane grows large enough, higher cost but proven unconformity mining methods may be preferable, especially for a high-grade deposit at >300m depth.

Figure 57. (A) Schematic comparing Athabasca deposits depth and host setting; (B) map of ISO's NE Athabasca Basin Holdings



Source: IsoEnergy

2021 should see exciting new targets

We expect to learn much about Hurricane's potential in 2021. The winter programme is targeting 10 step outs at Hurricane, primarily to the north, south and east, five infill, and nine regional holes testing along trend to the east.

If Iso can hit on the significant resistivity target to the east (**5km in strike length**), we believe this could signal that Hurricane could rival some of the largest Athabasca projects for size and grade. Moreover, with its proximity to infrastructure and milling facilities, we believe Iso could become the sought after property in the Eastern Athabasca.

Figure 58. Summary of previous drilling programmes and 2021 winter exploration plan

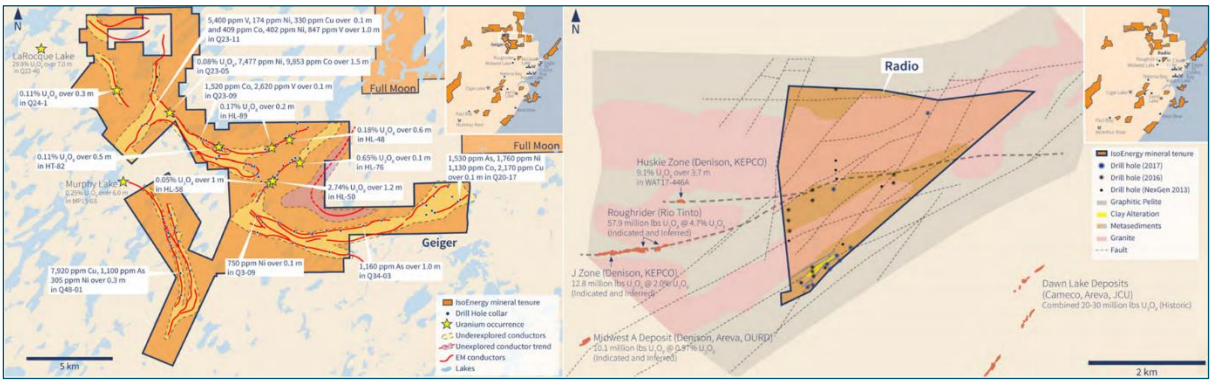
		Actual			Deposit	
Programme	Plan	Holes	Hits	Metres	dimensions (m)	Summary
2018 Summer	7 holes at Geiger, 1 at Larocque East	1	1	494		Discovery hole 8m @ 1.26%
2019 Winter	10 holes, 4500m	12	11	5,046	150 x 38 x 8.5	Step out pattern from initial disovvery hole
2019 Summer	14 holes, 6000m	17	8	7,600	500 x 40 x 10	Extended to the West
2020 Winter	20 holes, 8500m	24	15	10,322	575 x 40 x 11	Filled in 125m gap to the western boundary
2020 Summer	20 holes, 8000m	24	17	9,600	575 x 75 x 11	Filled in southern boundary
2021 Winter	24 holes, 10000m					10 planned to be step outs, five infill, 9 explore trend to the east

Source: IsoEnergy, SCP

Regional Targets

Geiger: Geiger is a 138.6km^2 licence located 13km NW of Iso's Radio property, within 20km of the McClean Lake mill. 56 historic drill holes have been completed along 20km of graphitic conductors including 2.74% U_3O_8 in the basement of the H11 south conductor. 135km of conductors have been mapped and 9-holes were completed by Iso in winter 2018.

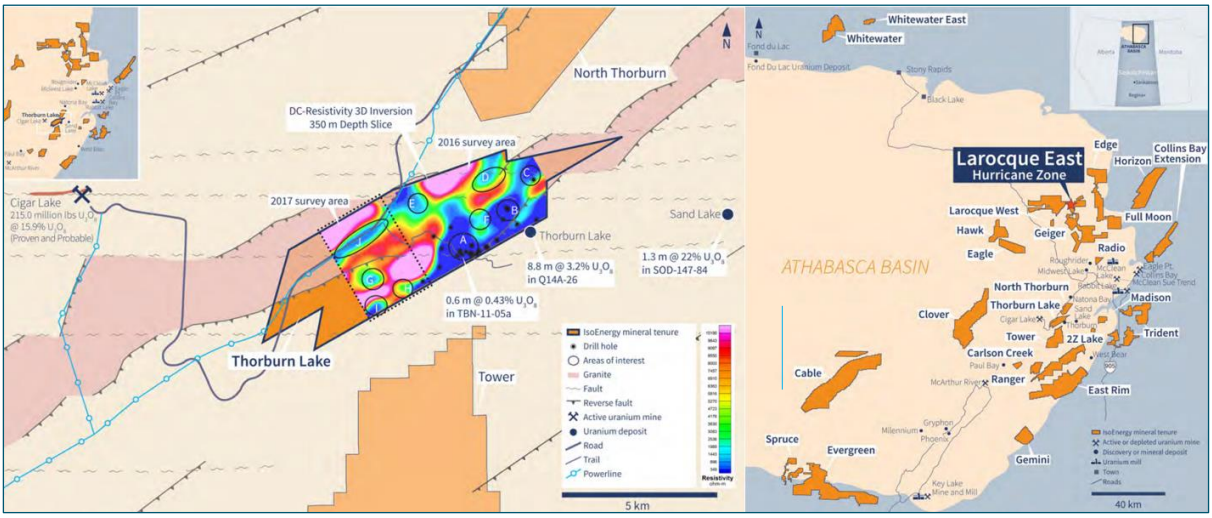
Figure 59. (A) Geiger licence (9 identified targets); (B) Radio licence (5 targets)



Source: IsoEnergy

Radio is located 2km east of Rio Tinto's Roughrider Deposit (57.9Mlbs at 4.73% U_3O_8, acquired for C$587m in 2012). The property hosts what is believed to be the metasedimentary corridor and structure associated with the rough Rider deposit. ISO completed 23 holes totalling 8,859m in 2016 and 2017. The unconformity is shallow over the property at ~150m.

Figure 60. (A) Thorburn Lake licence (5 identified targets); (D) Athabasca regional holdings



Source: IsoEnergy

Thorburn Lake is located east of Cigar Lake, and the Cigar Lake Mine haul road runs through the property. 2011 drilling intersected 0.43% U_3O_8 over 0.6m. ISO drilled 7,100m in 16 holes in 2015 and 2017. A 2017 geophysical survey generated several new targets which have yet to be tested.

Bringing NexGen DNA to the Eastern Athabasca

ISO retains strong ties to NexGen, which remains a 52.5% shareholder. CEO Craig Parry was NXE's co-founder and NXE CEO Leigh Curyer is ISO's Chairman. VP Ex Steve Blower is an experienced basin geologist that led the expansion of Denison's Wheeler River resource base. Hurricane itself has no third party royalties or encumbrances and the share structure is clean with 94.1m shares outstanding and a US$6m convertible debenture to Queen's Road Capital at 8.5% (6.0% cash and 2.5% shares) that coverts at C$0.88/sh. Fully diluted, we calculate 118.8m shares outstanding at the current share price assuming conversion of the Queen's Road converts. Our overall takeaway from the management and corporate structure is that the ISO team is supported by long-term uranium industry participants, who have consistently invested in exploration in the prolific Athabasca basin, even in tough times for the sector. Iso's rapid share price growth has come on limited capital which speaks to the quality of the exploration and management's efficiency with programme budgets, but willingness to maintain steady investment.

Initiate coverage with BUY rating and C$4.00/sh PT

It is quite simply too early to model ISO on a DCF basis, as the ultimate endowment and extraction concepts (ISR vs underground mining, ground stability requirements, etc) are not defined. However, we see enough information to value the stock on the basis of three pillars: i) a very high-grade core at Hurricane that based on footprint alone appears to have potential for 50-100Mlbs and isn't closed off, ii) significant resistivity anomalies along trend to the east, a parallel structure to the south, and numerous others on the Larocque East property; and iii) one of the largest landholdings in the Athabasca with a team that has a proven history of discovery in the district.

Table 1. EV/in-situ valuations for selected uranium developers in Tier-I jurisdictions

	Paladin	Energy Fuels	Ur Energy	UEC	NexGen	Denison	Boss	Peninsula	Fission
Asset	Langer Heinrich	Nichols Ranch	Lost Creek	Texas Hub	Arrow	Wheeler River	Honeymoon	Lance	Patterson Lake South
Location	Namibia	Wyoming	Wyoming	Texas	Saskatchewan	Saskatchewan	South Australia	Wyoming	Saskatchewan
Status	C&M	C&M	Small scale prodn	Resource	DFS imminent	DFS study work	C&M	Small scale prodn	DFS study work
Permits	Permitted	Permitted	Permitted	Various	EA commenced April 2019	EA restarted December 2020	Permitted	Permitted	EA submitted April 2020
Ownership (%)	75%	100%	100%	100%	100%	90%	100%	100%	100%
Study	2020 PFS	2015 PEA	2016 PEA	2010 Resource	2018 PFS	2019 PFS	2020 FS	2018 DFS	2019 PFS
Deposit type	Surficial	Sandstone	Sandstone	Sandstone	Ingress	Egress / Ingress	Sandstone	Sandstone	Ingress
Mining	Open Pit	ISR	ISR	ISR	UG	UG/ISR	ISR	ISR	UG
Milling	Mill, NIMCIX	IX	IX	SX	Mill build	McClean Lake Mill	NIMCIX	IX	Mill build
Reserve grade (% U3O8)	--	--	--	--	3.09%	3.55%	--	--	1.61%
Reseves (Mlbs)	--	--	--	--	234.1	109.4	--	--	81.4
Resource Grade (% U3O8)	0.044%	0.113%	0.048%	0.086%	2.04%	3.24%	0.062%	0.048%	1.78%
Resources (Mlbs U3O8)	119.7	9.0	21.0	19.2	348.3	135.1	71.6	53.6	135.2
Other projects (Mlbs U3O8)	--	101.8	8.8	74.1	--	35.3	--	--	--
Recovery (%)	88.5%	70.0%	80.0%	--	97.6%	89.7%	--	90.0%	96.7%
Sales Royalty (%)	3.50%	9.50%	6.30%	various	7.25%	7.25%	6.50%	6.30%	7.25%
Profit Royalty (%)	--	--	--	--	10-15%	10-15%	--	--	10-15%
Tax Rate (%)	37.5%	21.0%	21.0%	21.0%	27.0%	27.0%	30.0%	21.0%	27.0%
Annual production (Mlbs)	--	0.6	1.0	--	25.4	7.7	3.2	3.0	10.7
LOM total production (Mlbs)	76.1	6.5	13.8	--	228.4	107.6	20.7	33.4	75.2
Initial Capex (US$m)	81.0	53.5 - spent	46.5-spent	--	988.7	750	72.2	118.7	933
Initial capex intensity (US$/lb LOM)	1.06	8.18 spent	3.37 - spent	--	4.33	6.97	3.49	3.55	12.41
Operating cash cost (US$/lb)	27.00	11.36	14.58	--	4.36	7.34	21.07	31.77	7.18
AISC (US$/lb)	30.85	29.85	28.58	--	9.08	8.90	28.20	41.00	10.69
FD mkt cap (US$m)E	487.5	520.0	136.7	324.7	1,263.8	461.3	136.5	87.6	161.2
FD EV (US$m)	611.7	500.6	141.0	310.4	1,056.4	423.6	116.0	76.3	136.4
EV/Reserve (US$/lb)	nmf	nmf	nmf	nmf	4.51	3.87	nmf	nmf	1.68
EV/Resource (US$/lb)	6.81	4.52	4.72	3.33	3.03	2.70	1.62	1.42	1.01

Source: Company data, SCP, S&P capital IQ

The peer group (screening for Tier I jurisdictions) ranges from US$1.50-9.00/lb (weighted average US$3.30/lb), and Athabasca peers from US$1.80-5.50/lb. We assign a nominal US$3.00/lb to a preliminary (speculative) resource estimate of 80Mlbs for Hurricane as we believe that high-grade pounds in NE Athabasca will trade at the upper end of the peer range given the infrastructure in place. We also assign C$25m of value for the licences, and C$100m for upside on the Larocque East licence. As such, we initiate with a BUY rating and C$4.00/sh PT. The catalyst here is simple: drilling, and lots of it. The big picture thematic we see creating the most value for investors in the exploration sector is to stick to well-funded, geologically strong companies, in prolific districts. In the past we have focused on Andean Cu-Au, Archean Au, Mexican silver but with the uranium thesis heating up (for good reason in our view) we add another: Athabasca uranium. IsoEnergy fits squarely into our sweet spot with a large high-grade discovery that underpins current valuation, even larger resistivity targets on the same licence, and a large Athabasca landholding.

Table 2. SOTP valuation for IsoEnergy

Ticker: ISO CN	**Price / mkt cap:**	C$2.1/sh, C$198m		**Project PNAV today:**	0.53x	**Asset:**	Hurricane
J Chan / B Salier / B Gaspar	**Rec / 1xNAV PT:**	BUY, C$4.00/sh		**1xNAV$_{1021}$ FF FD:**	C$3.96/sh	**Country:**	Saskatchewan, Canada

SOTP *project* valuation	**C$m**	**O/ship**	**NAVx**	**C$/sh**
Indicative 80Mlbs at US$3/lb @ Hurricane	320	100%	1.00x	2.69
Cash (3Q20)	16.6	100%	1.00x	0.14
Interest payable on converts (C$m)	(2.0)	100%	1.00x	(0.02)
Cash from options	10.4	100%	1.00x	0.09
C$25m for licences, C$100m for Larocque East	125	100%	1.00x	1.05
Asset NAV8% US$50/lb	470		PT:	3.96
			Market P/NAV	0.53x

Commodity price	**CY21E**	**CY22E**	**CY23E**	**CY24E**	**CY25E**
LT uranium price (US$/lb)	50.00	50.00	50.00	50.00	50.00
USD/CAD	0.75	0.75	0.75	0.75	0.75
Measured, ind. & inf. - Hurricane	kt	% U3O8	Mlbs	EV/lb U3O8	
Reserves (2P)	nmf	nmf	nmf	nmf	
SCPe Indicative	417	8.77%	80.6	2.17	
TOTAL	nmf	nmf	nmf	nmf	
Capital structure	**Basic**	**FD**			
Shares (m)	94.1	118.8			

Source: SCP

Risks

Geological: We view this as high as there is currently no resource estimate on Hurricane. We do note the deposit style is well understood and Hurricane shows strong similarities (illitic alteration, graphitic gneissic host) to other egress style unconformity deposits.

Mining: We view this risk as high as detailed geotechnical evaluation and a mining method has not been selected. The deposit is relatively shallow for an unconformity hosted deposit however detailed mine design has not been undertaken yet.

Processing: We view this risk as moderate as there are established processing facilities nearby. However, we caution that met testing results have not been made available at this time. Mineralisation is polymetallic with Co and Ni present.

Funding: We view this risk as high, as the company is well funded for its 2021 exploration plans but does not currently have the finances to fund a new discovery project into production.

Geopolitical: We view this risk as low. Saskatchewan is consistently ranked a top 5 mining jurisdiction with low crime, a stable legal and political environment.

Permitting: We view this risk as low. The permitting process for uranium facilities in Saskatchewan is rigorous but also clear and codified, and a large number of mines have been permitted, operated and in some cases decommissioned and rehabilitated in the province. There are no notable cases of a mine being denied permits without the opportunity to address and resolve concerns.

Appendix I: The Athabasca Basin

The Athabasca basin is located in north-western Saskatchewan, and stretches into north-east Alberta, covering ~100,000km^2. It is home to some of largest current and former uranium mines in the world, including Cameco's operating Cigar Lake mine (18Mlbs pa) and McArthur River Mines (20Mlbs pa), which is on care and maintenance. The basin is a Paleoproterozoic (2,500-1,600 Ma) flat-lying red-bed sedimentary basin with the overlying sandstone unit varying from 100-1000m in thickness. The majority of the uranium deposits found in the basin are at the contact between the sandstone and the underlying basement units, which are the Hearne (Paleoproterozoic granitoid gneisses) to the east, the Taltson Magmatic Zone (Paleoproterozoic) and the Rae to the West (metasedimentary supracrustal sequences as well as granitoids). Uranium was discovered in the 1940s and the first mine built was the Rabbit Lake Mine, which was discovered in 1968 and opened in 1975. The basin has consistently been one of the most important uranium producing regions, at 23% of global production from 2015-2017 and 13% in 2019.

Uranium operations

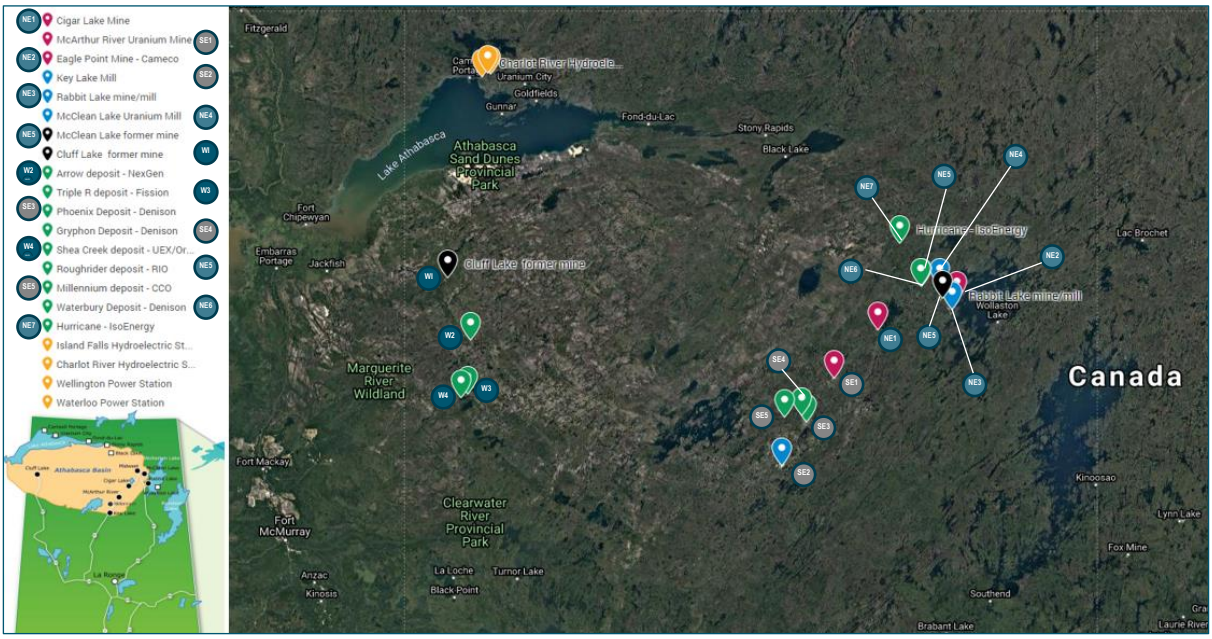
Table 61: (A) Athabasca uranium projects and mines and (B) Current milling facilities

	Projects								Producing	Care and Maintenance	
	NexGen	Denison	Denison	Fission	Rio Tinto	Cameco	UEX	Denison	Cameco	Cameco	Cameco
Project	Rook I	Wheeler River		Patterson Lake South	Roughrider	Millennium	Shea Creek	Waterbury Lake	Cigar Lake	McArthur River	Rabbit Lake
Deposit	Arrow	Phoenix	Gryphon	Triple R	Roughrider	Millennium	Shea Creek	Tthe Heldeth Tué	Cigar Lake	McArthur River	Eagle Point
Location in basin	W	SE	SE	W	NE	SE	W	NE	NE	SE	NE
Ownership	100%	Denison 90%, JCU 10%		100%	100%	69.9% CCO / 30.1% Orano	50.1% Orano, 49.9% UEX	DML 66.9%, Korean 33.1%	CCO 50.025%, AREVA 37.1%, Japanese 12.775%	CCO 69.805%, Orano 31.895%	100%
Permits	EA commenced April 2019	EA restarted December 2020		EA submitted April 2020	Exploration	Exploration	Exploration	Exploration	Producing, permitted to 2029	C&M, permitted to 2042	C&M, permitted to 2023
Study	2018 PFS	2019 PFS	2019 PFS	2019 PFS	2011 PEA (Hathor)	2019 YE R&R	2013 Resource	2020 PEA	2015 Tech Report	2018 Tech Report	2019 YE R&R
Deposit type	Ingress	Egress	Ingress	Ingress	Ingress	Ingress	Egress	Egress	Egress	Egress	Ingress
Hosted	Basement	Unconformity	Mostly Basement	Mostly Basement	Mostly Basement	Mostly Basement	Unconformity	Unconformity	Unconformity	Unconformity	Basement
Depth (m)	110-980m	390-420m	520-850m	50-330m	250-350m east zone 190-290m west zone	650m	650-800m	195-230m	410-450m	500-640	5-360m below bedrock (under Collins Bay)
Reserves (kt)	3,433	141	1,257	2,298	732 [1]	--	--	178 [1]	553	2,573	--
Reserve grade (% U3O8)	3.09%	19.13%	1.79%	1.61%	1.72%	--	--	2.48%	14.48%	6.91%	--
Reseves (Mlbs)	234.1	59.7	49.7	81.4	27.8	--	--	9.7	176.6	391.9	--
Resources (M,I&I)	7,726.0	330.3	1,716.0	3,437.0	555.8	1,855.0	3,340.1	559.0	1,053.9	2,796.3	4,297.4
Grade (% U3O8)	2.04%	8.76%	1.88%	1.78%	4.73%	2.64%	1.30%	1.50%	12.99%	6.55%	0.76%
Contained (Mlbs U3O8)	348.3	63.8	71.3	135.2	57.9	107.9	95.9	18.5	301.9	404.0	72.3
Mine type	UG	ISR	UG	UG	UG	UG	UG	UG	UG	UG	UG
Mine method	LH stoping	Freeze wall ISR	LH Stoping	LH stoping	Freeze wall, raise bore	--	--	Freeze wall ISR	Freeze wall, jet boring	Freeze wall, raise boring	Vertical longhole stoping
Mill	Build	truck to McClean Lake		Build	Build	--	--	McClean Lake	McClean Lake	Key Lake	Rabbit Lake
Throughput (tpd)	1,300	n/a	n/a	1,000	193	--	--	111	126	306	Mill up to 1500tpd
Annual production (Mlbs)	25.4	5.4	6.1	10.7	5.0	--	--	1.6	20.0	18.0	4.2 [3]
LOM total production (Mlbs)	228.4	58.8	48.8	75.2	52.0	--	--	9.7	229.9	397.2	n/a
Initial Capex (C$m)	1,318	341	659	1,244	567.0	--	--	111.6	2,900.0 [2]	n/a	n/a
Initial capex intensity (C$/lb LOM)	5.77	5.80	13.49	16.55	10.90	--	--	11.51	12.61	n/a	n/a
Operating cash cost (C$/lb)	5.81	4.44	15.60	9.57	14.40	--	--	16.27	18.57	14.97	22.5 [4]
AISC (C$/lb)	12.11	11.10	22.23	14.25	21.80	--	--	22.0	31.6	27.8	n/a

Mill	Owners	Capacity	Commentary
Key Lake	Cameco 83.33% / Orano 16.67%	25.0Mlbs	Processes ore from McArthur River, currently idled along with the mine
McClean Lake	Orano 70%, Denison 22.5%, OURD Canada (Japanese) 7.5%	24.0Mlbs	Toll treats ore from Cigar Lake Mine
Rabbit Lake	Cameco 100%	16.9Mlbs	Treats ore from the Eagle Point Mine, idled since 2016

Source: SCP, company disclosures

Figure 62: Regional map of the Athabasca basin with a regional road map in bottom left



Source: SCPe, Google Maps, Cameco (Map), SaskPower, Company disclosures

Cigar Lake Mine (Cameco 50.025%, Orano 37.1%, Idemitsu 7.875%, Tepco 5%): Cigar Lake commenced production in 2015 and produces 18Mlbs per year at a cash cost of ~$15/lb. Ore is crushed at Cigar Lake and trucked as a slurry in special containers to the McClean Lake Mill for leaching, purification and yellowcake production and packaging. The deposit is a high-grade tabular orebody hosted at the uniformity, (current reserve of 177Mlbs at 14.5%$U_30_{8)}$. Ground conditions are very challenging due to the weak sandstone, and high water pressures. The hanging wall is frozen prior to mining (freeze wall), and the deposit is accessed using an undercut, and mined by remote hydro jets (jet boring), with ore and broker rock carried pumped to surface in a slurry. The mine has two levels – 480m and 500m and the mine is accessed using two shafts. During its development, water flooded the partially completed shaft and mine workings, which were remediated in 2010-2011, enabling commercial production in 2015. Cigar Lake is expected to have 9 years of remaining mine life.

McArthur River Mine (Cameco 69.805%, Orano 30.195%): McArthur River has produced 323Mlbs since 1999, with 1.27Mt at 11.72% mined from 1999-2018. The mine and the Key Lake Mill were placed on care and maintenance in late 2017 for economic reasons, with C$75-80m ($6.5m/month) of C&M costs. The deposit is a high-grade tabular shaped orebody hosted at the unconformity. The hanging wall is frozen prior to mining and accessed by over and undercuts, and mined using a reaming head (raise bore mining). Ore is milled underground, slurried, thickened and trucked to the Key Lake Mill for precipitation, calcining and yellow cake packaging. McArthur River is estimated to have

Rabbit Lake Mine (100% Cameco): Opened in 1975, this was the first mine in the area and was mined out in 1984. The mill continued to process ore from other deposits, produced 203Mlbs over 41 years and was placed on care and maintenance in 2016 due to low prices. The Eagle Point mine, which had been feeding the mill, has a current resource estimate 38.6Mlbs at 0.95% U_30_8. The operation is licenced until 2023 to produce up to 16.9Mlbs per year.

Historic Mines

Cluff Lake Mine: Was operated by COGEMA (now Orano) from 1980-2002 and was the first mine in the western basin. The mine and mill produced 62Mlbs over from 1980-2002 and have been decommissioned and reclaimed. The mine was serviced by its own airport. Mining was a combination of open pit and underground mining.

Key Lake: Mining occurred from 1983 to 1997, fed by two open pit orebodies, Gaertner and Deilmann at ~2% U_3O_8. The mill has processed ore from Cameco's McArthur River mine since 1997 and is licenced for 25Mlbs per year, but was idled in 2018 along with the McArthur River Mine.

McClean Lake: Developed in 1994 by Orano and was mined from five open pits until 2008. The mill now treats ore from Cameco's Cigar Lake mine and was upsized (including its licenced capacity) from 13 to 24Mlbs per year to accommodate Cigar Lake.

Infrastructure

Access: The main roads going north through the basin are north-south from the populated communities. Regional highway 914 moves north from Pinehouse, past the Key Lake Mill, and terminates at the McArthur River Mine. The Cigar Lake Mine connects to the Rabbit and Key Lake mills to the NE, which are connected by regional highway 905 that proceeds north-west to community of Black Lake and onto the communities north of Lake Athabasca. Highway 955 runs up the western edge of the basin from La Loche and terminates just north of the former Cluff Lake mine. There is an airstrip at Collins Bay, near the Rabbit Lake and McClean Lake mills, with another at Cigar Lake and one at Cluff Lake. Both NexGen and Fission have proposed airstrips as part of their mine developments.

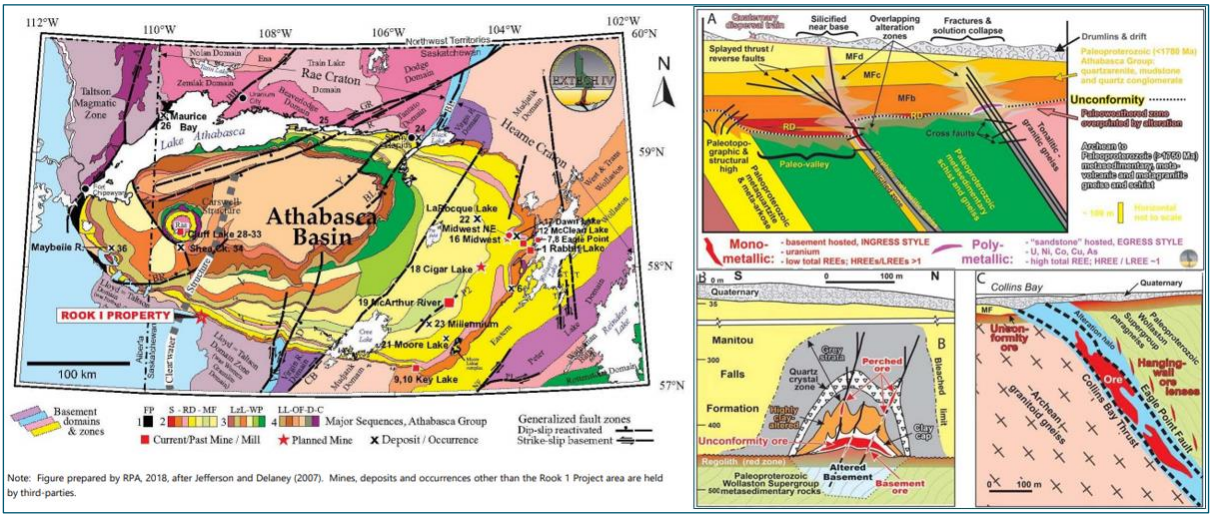
There is a proposed connector extension of highways 905 to 914 to join the McArthur River and Cigar Lake mines to enable ore to be transported from the Phoenix, Gryphon (both Denison) and Millennium deposits (Cameco) to the McClean Lake or Rabbit Lake mills. The Government of Saskatchewan has agreed to fund half the road construction cost subject to a positive development decision.

Power: Grid power is supplied to the eastern Athabasca by a 138-kv overhead power line. The nearest power generation stations are a 111MW hydroelectric facility at Sandy Bay to the SW of the basin and there are three hydroelectric stations totalling 23MW on the northern shores of Lake Athabasca.

Deposit Types

The deposits in the Athabasca occur below, across and/or immediately above the unconformity. Monometallic generally basement-hosted uraninite fills beings, breccia fillings and replacements in fault zones caused by fluid-rock reactions between oxidising sandstone brine entering basement fault zones. Notable examples of this *ingress*-type deposit include Rabbit Lake and Eagle point, which were mined as underground mines with relatively stable ground conditions thanks to the basement hosted setting. Poly-metallic sub horizontal deposits form just above or straddling the unconformity with variable amounts of uranium, Ni, Co and As. These *egress*-type deposits were formed due to the mixing of oxidising sandstone fluids mixing with relatively reduced fluids issuing from the basement into the sandstone.

Figure 63: (A) Geological map of the Athabasca Basin, (B) General features of unconformity deposits: Egress type – Cigar Lake, Ingress Type – Eagle Point



Source: NexGen 2018 PFS, RPA,

Exploration Techniques:

Egress: Since the discovery of the Key Lake Mine in 1975, the Key Lake exploration model emphasized airborne and EM surveys to map conductive pelite units, targeting locations where basement graphitic pelite units in the basement met the Athabasca Sandstone. The McArthur River emphasized basement quartzite units which are more competent than other sedimentary basement rocks and therefore control major thrust, reverse and strike slip faults. Due to a lack of conductivity and magnetic susceptibility, this exploration model instead targets the large alteration halos typical of this deposit through ground resistivity surveys and changes in minerologies. Both models target egress style deposits in which alteration tends to appear in the sandstone units, and not the underlying basement, therefore drill depth is generally to or just below the unconformity.

Ingress**:** The development of Eagle Point and the discoveries of Arrow, Triple R and Millennium have increased the importance of this exploration style. Exploration targets recognition of significant fault zones within basement metasediments (often associated with graphite) with associated basement clay and geochemical alteration halos. Airborne magnetic and radiometric can be useful in identifying basement faults, shear zones and areas of complexity. Mineralisation may be spatially associated with gravity lows that could indicate clay alteration.

Royalties and Taxation

All uranium mining in Saskatchewan is subject to a 5% gross sales royalty, less a 0.75% Saskatchewan Resource credit. In addition, there is a profit royalty of 10% of profits up to C$23.29/kg (C$10.54/lb) U_3O_8 plus 15% on profits per kg in excess of that. Profits are determined as net of certain operating, exploration, reclamation and capital costs. Resource corporations in Saskatchewan also pay a corporate sales surcharge of 3.0% (revenues net of transportation costs). The applicable income tax is 27% (15% federal and 12% provincial).

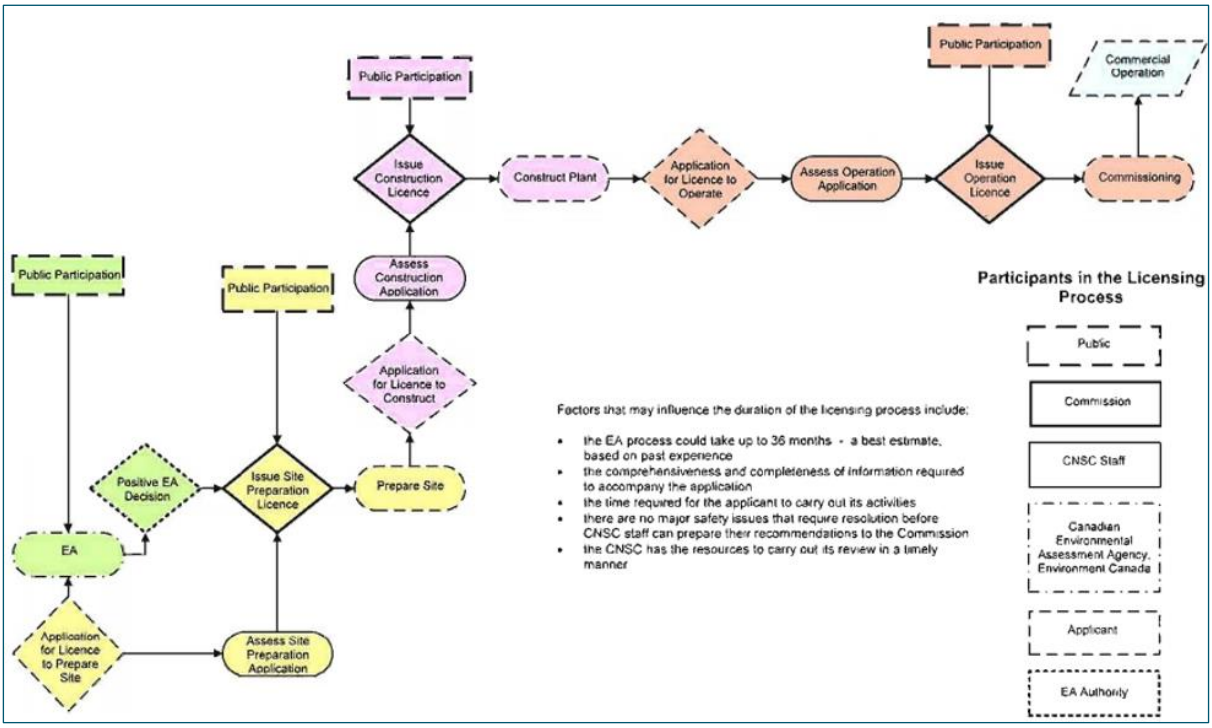
Figure 64: CNSC new mine licensing process

Royalty (C$/lb) - Uranium price vs Op Costs	Price: US$30/lb	Price: US$40/lb	Price: US$50/lb	Price: US$60/lb	Price: US$70/lb
Pre-tax costs: C$10.00/lb	$6.87	$9.84	$12.81	$15.77	$18.74
Pre-tax costs: C$20.00/lb	$5.37	$8.34	$11.31	$14.27	$17.24
Pre-tax costs: C$30.00/lb	$3.90	$6.84	$9.81	$12.77	$15.74
Pre-tax costs: C$40.00/lb	$2.90	$5.34	$8.31	$11.27	$14.24
Pre-tax costs: C$50.00/lb	$2.90	$4.20	$6.81	$9.77	$12.74

Source: SCPe

Permitting

Figure 65: CNSC new mine licensing process



Source: CNSC, March 2007

Uranium mines are overseen by the Canadian Nuclear Safety Commission. The permitting process includes a series of licences, but the key permit is the Environmental Assessment (EA), which confirms that the project conforms with the applicable environmental and safety regulations. Guidance is that the process could take up to 36-months from EIS submission, which was in line with Cigar Lake's timeline when it was granted approval in 2004. In parallel, the CNSC undertakes a review of the application and if the EA is approved, the project moves to a two-day public hearing process. Assuming any issues are resolved, the project is then advanced to a document decision and licences are distributed. For precedent, Cigar Lake's FS was completed in 2001, followed by EA submission. The EA was approved by in April 2004, and the Licence to Construct was granted four months following EA approval.

Precedents

Cigar Lake: An Environmental Impact Statement (EIS) was submitted to the joint Federal-Provincial review panel in 1995. In 1997, the panel recommended the project should proceed, subjected to identification of a suitable waste rock disposal location. In 1998 the project was approved in principle. In August 2001 a waste rock EIS was submitted and it was approved in August 2003. In February 2004, Cameco submitted an environmental assessment study report (EASR) investigating the impacts of construction, operation and decommissioning of the mine, which was accepted by the CNSC. The construction licence was received in December 2004.

McArthur River: Cameco filed an EIS for McArthur River in 1992 that was approved in 1993. In 1995 Cameco submitted an EIS that covered proposed mining activities at McArthur River and milling activities at Key lake. Federal and provincial EIS approval was granted in 1997 and construction approval was granted in 1997.

DISCLOSURES & DISCLAIMERS

This research report (as defined in IIROC Rule 3400) is issued and approved for distribution in Canada by Sprott Capital Partners LP ("SCP"), an investment dealer who is a member of the Investment Industry Regulatory Organization of Canada ("IIROC") and the Canadian Investor Protection Fund ("CIPF"). The general partner of SCP is Sprott Capital Partners GP Inc. and SCP is a wholly-owned subsidiary of Sprott Inc., which is a publicly listed company on the Toronto Stock Exchange under the symbol "SII". Sprott Asset Management LP ("SAM"), a registered investment manager to the Sprott Funds and is an affiliate of SCP. This research report is provided to retail clients and institutional investors for information purposes only. The opinions expressed in this report are the opinions of the author and readers should not assume they reflect the opinions or recommendations of SCP's research department. The information in this report is drawn from sources believed to be reliable but the accuracy or completeness of the information is not guaranteed, nor in providing it does SCP and/or affiliated companies or persons assume any responsibility or liability whatsoever. This report is not to be construed as an offer to sell or a solicitation of an offer to buy any securities. SCP accepts no liability whatsoever for any loss arising from any use or reliance on this research report or the information contained herein. Past performance is not a guarantee of future results, and no representation or warranty, expressed or implied, is made regarding future performance of any security mentioned in this research report. The price of the securities mentioned in this research report and the income they generate may fluctuate and/or be adversely affected by market factors or exchange rates, and investors may realize losses on investments in such securities, including the loss of investment principal. Furthermore, the securities discussed in this research report may not be liquid investments, may have a high level of volatility or may be subject to additional and special risks associated with securities and investments in emerging markets and/or foreign countries that may give rise to substantial risk and are not suitable for all investors. SCP may participate in an underwriting of, have a position in, or make a market in, the securities mentioned herein, including options, futures or other derivatives instruments thereon, and may, as a principal or agent, buy or sell such products.

DISSEMINATION OF RESEARCH: SCP's research is distributed electronically through email or available in hard copy upon request. Research is disseminated concurrently to a pre-determined list of clients provided by SCP's Institutional Sales Representative and retail Investment Advisors. Should you wish to no longer receive electronic communications from us, please contact unsubscribe@sprott.com and indicate in the subject line your full name and/or corporate entity name and that you wish to unsubscribe from receiving research.

RESEARCH ANALYST CERTIFICATION: Each Research Analyst and/or Associate who is involved in the preparation of this research report hereby certifies that:

- The views and recommendations expressed herein accurately reflect his/her personal views about any and all of the securities or issuers that are the subject matter of this research report;
- His/her compensation is not and will not be directly related to the specific recommendations or view expressed by the Research analyst in this research report;
- They have not affected a trade in a security of any class of the issuer within the 30-day period prior to the publication of this research report;
- They have not distributed or discussed this Research Report to/with the issuer, investment banking group or any other third party except for the sole purpose of verifying factual information; and
- They are unaware of any other potential conflicts of interest.

UK RESIDENTS: Sprott Partners UK Limited ("Sprott") is an appointed representative of PillarFour Securities LLP which is authorized and regulated by the Financial Conduct Authority. This document has been approved under section 21(1) of the FMSA 2000 by PillarFour Securities LLP ("PillarFour") for communication only to eligible counterparties and professional clients as those terms are defined by the rules of the Financial Conduct Authority. Its contents are not directed at UK retail clients. PillarFour does not provide investment services to retail clients. PillarFour publishes this document as non-independent research which is a marketing communication under the Conduct of Business rules. It has not been prepared in accordance with the regulatory rules relating to independent research, nor is it subject to the prohibition on dealing ahead of the dissemination of investment research. It does not constitute a personal recommendation and does not constitute an offer or a solicitation to buy or sell any security. Sprott and PillarFour consider this note to be an acceptable minor non-monetary benefit as defined by the FCA which may be received without charge. This is because the content is either considered to be commissioned by Sprott's clients as part of their advisory services to them or is short term market commentary. Neither Sprott nor PillarFour nor any of its directors, officers, employees or agents shall have any liability, howsoever arising, for any error or incompleteness of fact or opinion in it or lack of care in its preparation or publication; provided that this shall not exclude liability to the extent that this is impermissible under the law relating to financial services. All statements and opinions are made as of the date on the face of this document and are not held out as applicable thereafter. This document is intended for distribution only in those jurisdictions where PillarFour is permitted to distribute its research.

IMPORTANT DISCLOSURES FOR U.S. PERSONS: This research report was prepared by Sprott Capital Partners LP ("SCP"), a company authorized to engage in securities activities in Canada. SCP is not a registered broker/dealer in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This research report is provided for distribution to "major U.S. institutional investors" in reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act"). Any U.S. recipient of this research report wishing to effect any transaction to buy or sell securities or related financial instruments based on the information provided in this research report should do so only through Sprott Global Resource Investments Ltd. ("SGRIL"), a broker dealer in the United States registered with the Securities Exchange Commission ("SEC"), the Financial Industry Authority ("FINRA"), and a member of the Securities Investor Protection Corporation ("SIPC"). Under no circumstances should any recipient of this research report effect any transaction to buy or sell securities or related financial instruments through SCP.

SGRIL accepts responsibility for the contents of this research report, subject to the terms set out below, to the extent that it is delivered to a U.S. person other than a major U.S. institutional investor. The analyst whose name appears in this research report is not licensed, registered, or qualified as a research analyst with FINRA and may not be an associated person of SGRIL and, therefore, may not be subject to applicable restrictions under FINRA Rule 2241 regarding communications by a research analyst with a subject company, public appearances by the research analyst, and trading securities held by a research analyst account. To make further inquiries related to this report, United States residents should contact their SGRIL representative.

ANALYST CERTIFICATION / REGULATION AC: The analyst and associate certify that the views expressed in this research report accurately reflect their personal views about the subject securities or issuers. In addition, the analyst and associate certify that no part of their compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

SPROTT CAPITAL PARTNERS EXPLANATION OF RECCOMENDATIONS: Should SCP issue research with recommendations, the research rating guidelines will be based on the following recommendations:

BUY: The stocks total returns are expected to be materially better than the overall market with higher return expectations needed for more risky securities markets

NEUTRAL: The stock's total returns are expected to be in line with the overall market

SELL: The stocks total returns are expected to be materially lower than the overall market

TENDER: The analyst recommends tendering shares to a formal tender offering

UNDER REVIEW: The stock will be placed under review when there is a significant material event with further information pending; and/or when the research analyst determines it is necessary to await adequate information that could potentially lead to a re-evaluation of the rating, target price or forecast; and/or when coverage of a particular security is transferred from one analyst to another to give the new analyst time to reconfirm the rating, target price or forecast.

NOT RATED ((N/R): The stock is not currently rated

	Research Disclosure	**Response**
1	SCP and its affiliates collectively beneficially owns 1% or more of any class of the issuer's equity securities[3]	**YES**
2	The analyst or any associate of the analyst responsible for the report or recommendation or any individual directly involved in the preparation of the report holds or is short any of the issuer's securities directly or through derivatives	**NO**
3	An SCP partner, director, officer or analyst involved in the preparation of a report on the issuer, has during the preceding 12 months provided services to the issuer for remuneration other than normal course investment advisory or trading execution services	**NO**
4	SCP has provided investment banking services for the issuer during the 12 months preceding the date of issuance of the research report or recommendation	**NO**
5	Name of any director, officer, employee or agent of SCP who is an officer, director or employee of the issuer, or who serves in an advisory capacity to the issuer	**NO**
6	SCP is making a market in an equity or equity related security of the issuer	**NO**
7	The analyst preparing this report received compensation based upon SCP's investment banking revenue for the issuer	**NO**
8	The analyst has conducted a site visit and has viewed a major facility or operation of the issuer	**NO**
9	The analyst has been reimbursed for travel expenses for a site visit by the issuer	**NO**

Sprott Capital Partners Equity Research Ratings:

Summary of Recommendations as of February 2021	
BUY:	33
HOLD:	0
SELL:	0
UNDER REVIEW:	0
TENDER:	0
NOT RATED:	0
TOTAL	33

[3] As at the end of the month immediately preceding the date of issuance of the research report or the end of the second most recent month if the issue date is less than 10 calendar days after the end of the most recent month

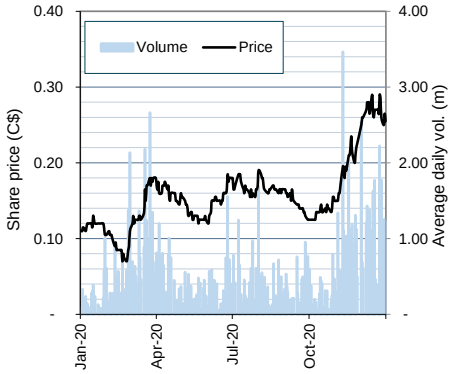
Sprott | Equity Research

UEX Corporation (UEX CN)

Largest land position in the Athabasca: initiating coverage

RECOMMENDATION: **BUY** *TARGET:* **C$0.50/sh** *RISK RATING:* **VENTURE**

SHARE DATA	
52-week high/low	C$0.29 / C$0.07
Shares (basic, FD)	452 / 489
Share price (C$/sh)	C$0.27/sh
Cash (C$m)	8.0
Market cap / EV (basic, C$m)	119.8 / 104.8
Market cap / EV FD C$m)	129.7 / 114.7
Average daily value (C$000, 3M)	199



Source:S&P Capital IQ

Athabasca explorer with 2,942km² of landholdings

UEX is a uranium explorer that has staked the largest land position in the Athabasca basin, including properties in the eastern and western Athabasca basin, straddling some of the largest current and former operations including McArthur River, Cigar Lake, Rabbit Lake and Cluff Lake.

Land packages located in key Athabasca districts

When it comes to exploration, we favour well funded and persistent explorers in prolific terranes as the go-to names and UEX ticks those boxes with significant landholdings in the key districts of the Athabasca: Hidden Bay / Horseshoe Raven / West Bear properties (Rabbit Lake Camp), Christie Lake (between McArthur River and Cigar Lake), and Shea Creek (near Cluff Lake. Moreover, proximity to milling capacity at Rabbit Lake, McClean Lake and Key Lake reduces the capital intensity of a potential discovery.

Valuation backstopped by 99.5Mlbs in resource

At this time, we view discovery success as key for the UEX thesis, as its current projects are in need of either more lbs or a higher grade core to justify development relative to other projects in the basin. With that said, UEX's 99.5Mlbs of attributable mineralisation i) provides a hard value to backstop valuation and ii) more importantly, affirm that anomalous high-grade mineralisation has already been found on its key properties. With an EV/-insitu of US$0.90/lb, we believe lbs in the ground give UEX strong downside protection at the share current price level.

Active explorer backed by experienced basin discovery team

UEX has shown us two key traits in its exploration history. First, UEX has been active, growing Shea Creek to a 96Mlb resource from 2004-2013 with 143km of drilling, taking Horseshoe Raven to PEA in 2011, and earning into Christie Lake in 2015 with >30km of drilling from 2015-2018 culminating in a maiden resource. Secondly, UEX has moved quickly through targets, rapidly stepping out and testing potential at both the deposit and project level. Led by CEO Roger Lemaitre, Cameco's former head of international exploration, UEX has a strong team of geologists with experience at major discoveries including Rabbit Lake/Eagle Point, Millennium and Fox Lake.

Initiate coverage with BUY rating and C$0.50/sh PT

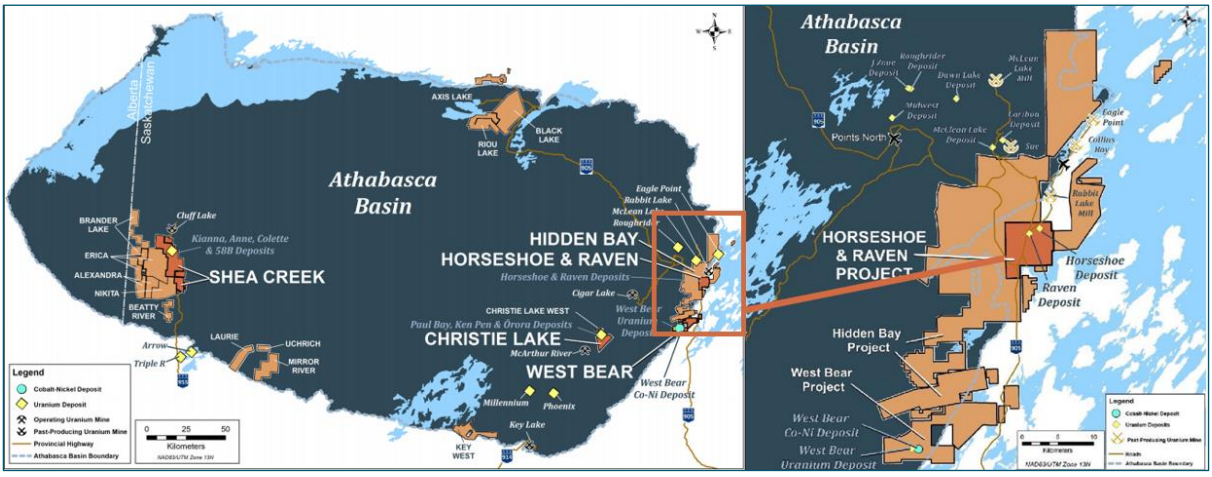
For now, we value UEX on a sum-of-the-parts EV/insitu methodology at US$1.50/lb for the higher grade Shea Creek (47Mlbs attrib at 1.30%) and Christie Lake (13Mlbs at 1.57%) and US$1.00/lb for the lower grade Horseshoe Raven (38Mlbs at 0.15%) and West Bear projects and 5% spot EV-insitu value for Ni-Co value at West Bear. In addition, we attribute C$25m for ISO's exploration licences and C$15m for net cash. As such, we initiate with a BUY rating and C$0.50/sh PT (C$230m FD EV).

Justin Chan +44 7554 784 688 jchan@sprott.com
Brock Salier +44 7400 666 913 bsalier@sprott.com
Brandon Gaspar: +1 204 541 1144 bgaspar@sprott.com

Asset summary

UEX is an explorer and project generator that holds a total of 2,942km^2 of exploration properties in the Athabasca basin. Headed by CEO Roger Lemaitre, an industry veteran who held roles at Cameco including Director of Worldwide Exploration Projects, and Manager of Regional Exploration, Saskatchewan, UEX has an experienced team of geologists with success at many of the major exploration camps in the basin including Eagle Point, Fox Lake, and Millennium. The company's land holdings in the basin are extensive and well located. Proximity has always been a good vector in the basin, with several prolific asset clusters, and UEX has key land positions near **Cigar Lake and McArthur River** (Christie Lake JV with **JCU**), the **Rabbit Lake/Eagle Point/Collins Bay** cluster (Horseshoe Raven) and **Cluff Lake** in the Western Basin (Shea Creek JV with **Orano**).

Figure 66. (A) Map of UEX's Athabasca projects and (B) enlarged focus on Eastern basin

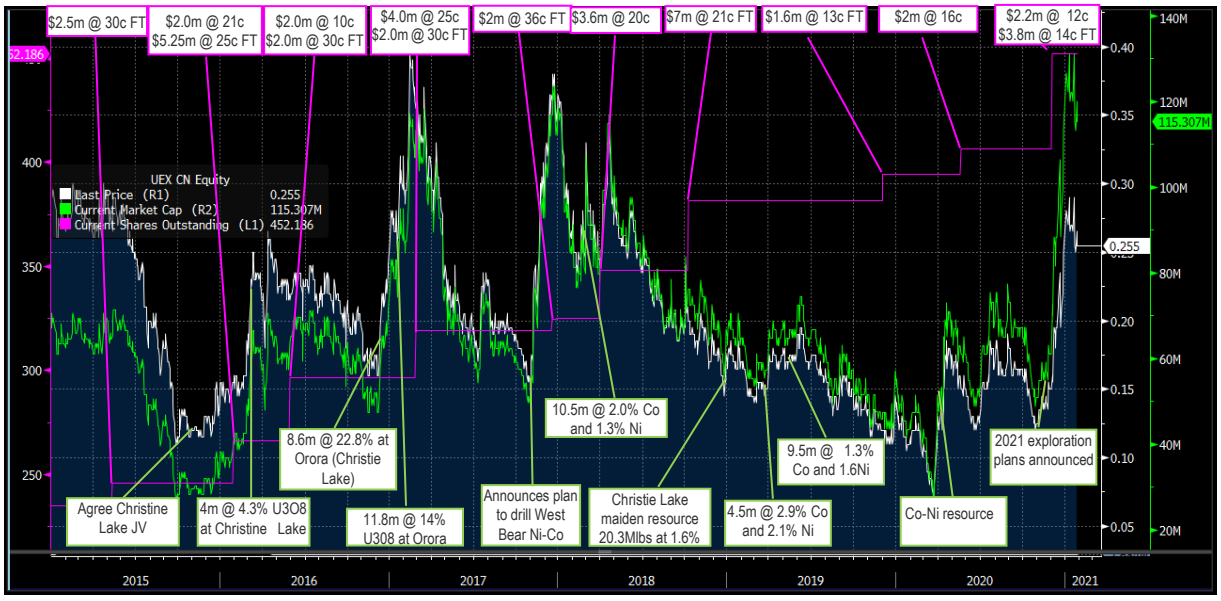


Source: UEX Corporation

UEX has added some of the most valuable properties in the basin

While it has not yet found a major project on the scale of NexGen, Fission, or IsoEnergy, UEX has been assembling a strong portfolio of prime Athabasca landholdings that we believe are among the most valuable uranium properties in the world given the prolific history of successful discovery and development in the basin. On IPO UEX acquired the Hidden Bay property, containing 80% of the historic Rabbit Lake land package. Subsequently, the company entered a 49% JV earn-in agreement with **Orano** on Shea Creek in 2004 and earned into a 60% interest in the Christie Lake with **JCU** in 2015. With 294,565ha of projects either outright or JV, UEX has the largest landholding in the basin.

Figure 67. Capital and operating history for UEX (C$)



Source: Bloomberg

Valuation underpinned by lbs in the ground

UEX has 99.5Mbs of attributable resources in three projects which is important in our view for two reasons. The first is a finance/market consideration – it underpins valuation to have ~100Mlbs of reasonably high-grade material in Saskatchewan. The second is more exciting for us; it demonstrates the prospectively of UEX's holdings. The success of NexGen and Fission targeting basement hosted mineralisation, and Iso's success at Hurricane demonstrates the validity of retargeting anomalous but passed over uranium showings. Having a baseload of lbs in the ground suggests that UEX is 'in the right postal-codes' with a team that has remained actively exploring despite a very challenging bear market with constrained funding.

						Attributable			
Property	Ownership	Classification	kt	%U3O8	klbs U3O8	kt	%U3O8	klbs U3O8	Date
Horseshoe Raven	100.0%	M&I	10,294	0.15%	35,044	10,294	0.15%	35,044	Feb 2011
	100.0%	Inferred	1,109	0.11%	2,718	1,109	0.11%	2,718	
	100.0%	**Total**	**11,403**	**0.15%**	**37,762**	**11,403**	**0.15%**	**37,762**	
West Bear Uranium	100.0%	Inferred	79	0.91%	1,579	79	0.91%	1,579	Feb 2011
Shea Creek	49.1%	M&I	2,068	1.48%	67,662	1,015	1.48%	33,222	May 2013
	49.1%	Inferred	1,272	1.01%	28,192	625	1.01%	13,842	
	49.1%	**Total**	**3,340**	**1.30%**	**95,854**	**1,640**	**1.30%**	**47,064**	
Christie Lake	64.3%	Inferred	589	1.57%	20,340	379	1.57%	13,087	Dec 2018
Total	**100.0%**	**M&I**	**12,362**	**0.38%**	**102,706**	**11,309**	**0.27%**	**68,266**	
	100.0%	**Inferred**	**3,049**	**0.79%**	**52,829**	**2,192**	**0.65%**	**31,226**	
	100.0%	**Total**	**15,411**	**0.46%**	**155,535**	**13,501**	**0.33%**	**99,492**	

Well placed to benefit from existing infrastructure with tier one operators

At its Christie Lake and Horseshoe Raven projects, we believe a discovery of >50Mlbs of high-grade mineralisation will eventually 'be a mine', considering there are already roads, existing mills on grid power (with spare capacity in the medium term) and tier one strategic partners active in the district (**Cameco** and **Orano** are the mill operators, **Rio Tinto** own the Roughrider Deposit after acquiring Hathor in 2012). Rio Tinto's 2012 acquisition of Hathor is instructive in our view – the company outbid Cameco despite owning no production facilities in the Athabasca suggesting that RIO agrees with our view that given the installations already in place, the Athabasca is one of the world's tier-one mining districts.

Initiate coverage with BUY rating and C$0.50/sh PT

Table 3. EV/in-situ valuations for selected uranium developers in Tier-I jurisdictions

	Paladin	Energy Fuels	Ur Energy	UEC	NexGen	Denison	Boss	Peninsula	Fission	UEX
Asset	Langer Heinrich	Nichols Ranch	Lost Creek	Texas Hub	Arrow	Wheeler River	Honeymoon	Lance	Patterson Lake South	Shea Creek
Location	Namibia	Wyoming	Wyoming	Texas	Saskatchewan	Saskatchewan	South Australia	Wyoming	Saskatchewan	Saskatchewan
Status	C&M	C&M	Small scale prodn	Resource	DFS imminent	DFS study work	C&M	Small scale prodn	DFS study work	PEA
Permits	Permitted	Permitted	Permitted	Various	EA commenced April 2019	EA restarted December 2020	Permitted	Permitted	EA submitted April 2020	Not permitted
Ownership (%)	75%	100%	100%	100%	100%	90%	100%	100%	100%	49%
Study	2020 PFS	2015 PEA	2016 PEA	2010 Resource	2018 PFS	2019 PFS	2020 FS	2018 DFS	2019 PFS	2013 Resource
Deposit type	Surficial	Sandstone	Sandstone	Sandstone	Ingress	Egress / Ingress	Sandstone	Sandstone	Ingress	Egress
Mining	Open Pit	ISR	ISR	ISR	UG	UG/ISR	ISR	ISR	UG	UG
Milling	Mill, NIMCIX	IX	IX	SX	Mill build	McClean Lake Mill	NIMCIX	IX	Mill build	TBD
Reserve grade (% U3O8)	--	--	--	--	3.09%	3.55%	--	--	1.61%	--
Reseves (Mlbs)	--	--	--	--	234.1	109.4	--	--	81.4	--
Resource Grade (% U3O8)	0.044%	0.113%	0.048%	0.086%	2.04%	3.24%	0.062%	0.048%	1.78%	1.30%
Resources (Mlbs U3O8)	119.7	9.0	21.0	19.2	348.3	135.1	71.6	53.6	135.2	95.9
Other projects (Mlbs U3O8)	--	101.8	8.8	74.1	--	35.3	--	--	--	52.4
Recovery (%)	88.5%	70.0%	80.0%	--	97.6%	89.7%	--	90.0%	96.7%	SCPe 95%
Sales Royalty (%)	3.50%	9.50%	6.30%	various	7.25%	7.25%	6.50%	6.30%	7.25%	7.25%
Profit Royalty (%)	--	--	--	--	10-15%	10-15%	--	--	10-15%	10-15%
Tax Rate (%)	37.5%	21.0%	21.0%	21.0%	27.0%	27.0%	30.0%	21.0%	27.0%	27.0%
Annual production (Mlbs)	--	0.6	1.0	--	25.4	7.7	3.2	3.0	10.7	--
LOM total production (Mlbs)	76.1	6.5	13.8	--	228.4	107.6	20.7	33.4	75.2	--
Initial Capex (US$m)	81.0	53.5 - spent	46.5-spent	--	988.7	750	72.2	118.7	933	--
Initial capex intensity (US$/lb LOM)	1.06	8.18 spent	3.37 - spent	--	4.33	6.97	3.49	3.55	12.41	--
Operating cash cost (US$/lb)	27.00	11.36	14.58	--	4.36	7.34	21.07	31.77	7.18	--
AISC (US$/lb)	30.85	29.85	28.58	--	9.08	8.90	28.20	41.00	10.69	--
FD mkt cap (US$m)E	487.5	520.0	136.7	324.7	1,263.8	461.3	136.5	87.6	161.2	90.1
FD EV (US$m)	611.7	500.6	141.0	310.4	1,056.4	423.6	116.0	76.3	136.4	82.2
EV/Reserve (US$/lb)	nmf	nmf	nmf	nmf	4.51	3.87	nmf	nmf	1.68	nmf
EV/Resource (US$/lb)	6.81	4.52	4.72	3.33	3.03	2.70	1.62	1.42	1.01	0.83

Source: Company data, SCP, S&P capital IQ

We feel it is premature to model UEX's assets on a DCF basis as we view standalone development as unlikely in the current environment. With that said, UEX's 99.5Mlb attributable resource endowment does provide a helpful backstop for valuation. The peer group (screening for Tier I jurisdictions) ranges from US$1.50-9.00/lb (weighted average US$3.30/lb), and Athabasca peers from US$1.80-5.50/lb. We assign a nominal US$1.50/lb to the larger and higher grade Shea Creek and Christie Lake projects and US$1.00/lb for Horseshoe Raven and West Bear. We attribute 5.0% of in-situ value (US$6.5m) for West Bear's Co-Ni deposit, which currently contains 5.1Mlbs Co and 5.6Mlbs Ni. We also assign C$25m of value for the licences and add C$15.1m for net cash including ITM options and warrants. As such, we initiate with a BUY rating and C$0.50/sh PT.

The catalyst for UEX is target delineation, drilling and discovery. Looking at the big picture, UEX fits into our thesis for exploration: stick to the best mineral terranes and focus on well funded companies with prime land packages. In all those respects we believe UEX is one of the names to follow, with properties along trend from some of the most prolific mines in the Athabasca, and toll milling options (or soon to be in West Athabasca) to lower the development hurdle for a high-grade discovery of critical mass.

Table 4. SOTP valuation for UEX Corporation

Ticker: UEX CN	**Price / mkt cap:**	C$0.265/sh, C$120m		**Project PNAV today:**	0.53x		**Asset:**	Multiple Athabasca Properties	
J Chan / B Gaspar	**Rec / 1xNAV PT:**	BUY, C$0.50/sh		**1xNAV$_{1Q21}$ FF FD:**	C$0.50/sh		**Country:**	Saskatchewan, Canada	

SOTP *project* valuation	**C$m**	**O/ship**	**NAVx**	**C$/sh**
Shea Creek (attributable basis)	94	100%	1.00x	0.19
Christie Lake (attributable basis)	26	100%	1.00x	0.05
Horseshoe Raven	50	100%	1.00x	0.10
West-Bear	11	100%	1.00x	0.02
Cash (3Q20)	8.0	100%	1.00x	0.02
Debt (C$m)	(0.2)	100%	1.00x	(0.00)
Cash from options	7.3	100%	1.00x	0.01
C$25m for licences	50	100%	1.00x	0.10
Asset NAV8% US$50/lb	247		PT:	0.50
			Market P/NAV	0.53x

Commodity price	**CY21E**	**CY22E**	**CY23E**	**CY24E**	**CY25E**
LT uranium price (US$/lb)	50.00	50.00	50.00	50.00	50.00
USD/CAD	0.75	0.75	0.75	0.75	0.75
Measured, ind. & inf. - Hurricane	**kt**	**% U3O8**	**Mlbs**	**UEX share**	**EV/lb U3O8**
Horsehoe-Raven (100%)	11,403	0.15%	37.8	37.8	
Shea Creek (UEX 49.1%)	3,340	1.30%	95.9	47.1	
Christie Lake (UEX 64.3%)	589	1.57%	20.3	13.1	
West Bear (100%)	79	0.91%	1.6	1.6	
TOTAL URANIUM				99.5	0.90
West Bear Ni-Co	1.2Mt @ 0.19% Co and 0.21% Ni for 5.1Mlbs Co and 5.66Mlbs Ni				
Capital structure	**Basic**	**FD**			
Shares (m)	452.2	489.5			

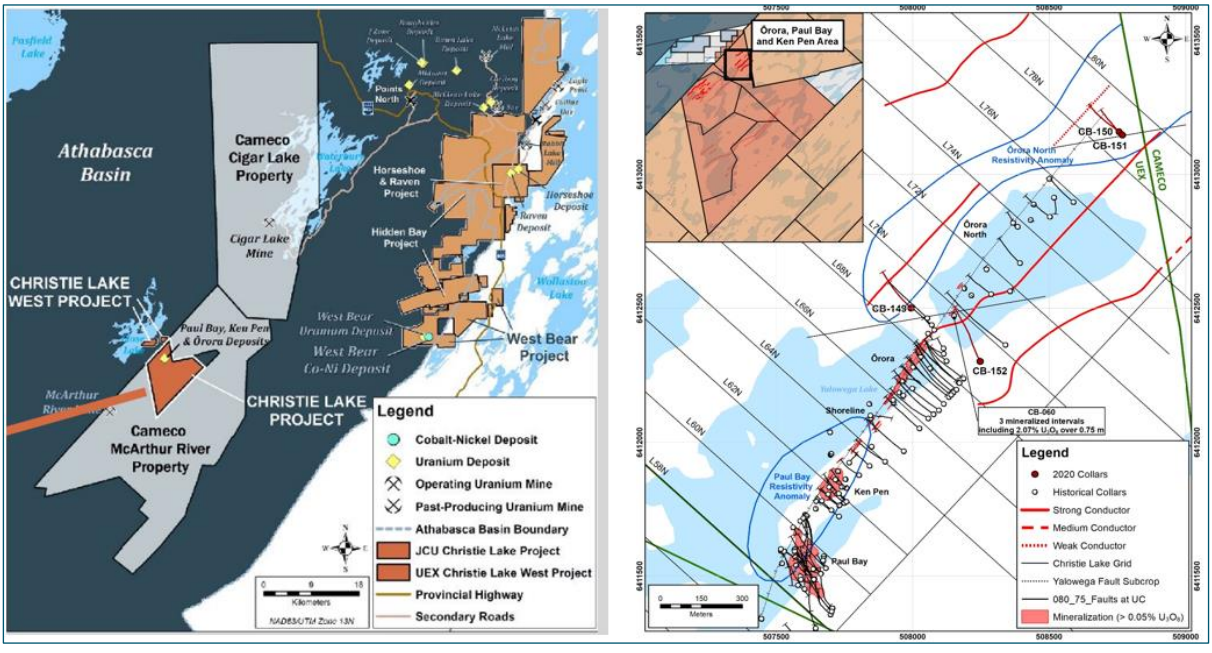
Source: SCP

Key Projects

Christie Lake (UEX 64.3%, JCU 35.7%)

The Christie Lake project, covering 7,992Ha, is located 9km NE of the McArthur River mine and is the only junior controlled lack package situated between Cameco's large and ultra high-grade McArthur River and Cigar Lake mines. The project is accessible by paved and then gravel access roads. UEX earned into the project in 2015 and conducted the first drilling at the property in 2016, with 31,065m of core drilling from 2016-2018; 47,519m was drilled pre-1997 by prior owner PNC.

Figure 68. (A) Location of Christie Lake in East Athabasca and (B) local conductors and historic drill results



Source: UEX Corporation

The NW part of the project is cut by the Yalowega Trend Fault, interpreted to be an extension of the P2 fault that hosts the deposits at the McArthur River Mine. The fault is rooted in the basement rocks and extends up to the sandstone. The project hosts three unconformity hosted deposits, Paul Bay, Ken Pen and Orora which are aligned along an NE-trend that is coincident with the CB94-C conductor in a 'string of pearls.'

Paul Bay is an 80m long basement-hosted body that plunges for at least 200m to the SW from the unconformity following the dip of the faulted Lower Wollaston Domain. Best intercepts included 11.3m @ 8.07% and 8.5m @ 9.61%.

Ken Pen is 260m NE of Paul Bay with similar semi-pelitic to pelittic gneiss basement lithologies. Mineralisation is hosted at the unconformity.

Orora is located 360m NE of the Ken Pen Zone. Mineralisation is unconformity related and occurs ~420m below surface up to 40m into the basement rocks along the Yalowega Fault. The discovery hole (CB-109) graded 17.7m @ 11.5% U3O8.

Exploration targets: UEX targeted the 1,300x300m Orora North resistivity trend, parallel to the Yalowega Trend in 2020 summer drilling with four holes. CB-150 and -151 targeted the northern end of the trend and encountered strong hydrothermal clay alteration in the lower sandstone column, coincident with a wide fault zone and confirmed that the northern end is a target for follow up drilling. Hole CB-149 at the southern end of the trend encountered modest uranium enrichment and weak alternation. Hole CB-152, along trend of the main Yalowega fault targeting the junction of an E-W fault junction with the main trend which did not encounter mineralisation into the basement. Follow up drilling in summer 2021 will target the Orora North resistivity anomaly, the B trend resistivity target to the S-SW, and the adjacent "A" conductor trend SW of the currently defined mineralisation.

Figure 69. Christie Lake NI 43-101-complaint Inferred Resources (Dec 2018)

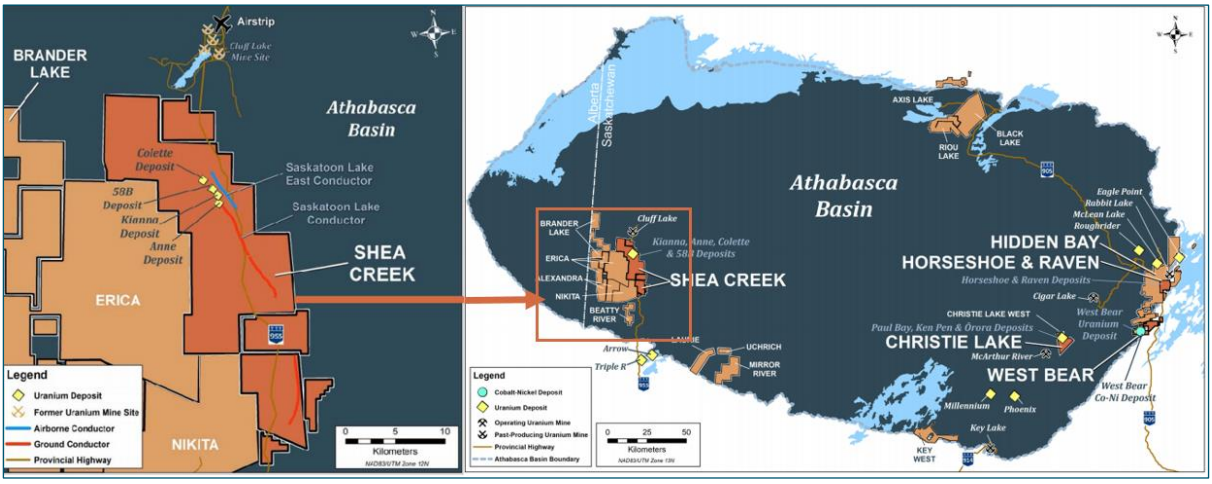
	UEX					Attributable			
Property	Ownership	Classification	kt	%U3O8	klbs U3O8	kt	%U3O8	klbs U3O8	Date
Paul Bay	64.3%	Inferred	338	1.81%	13,490	217	1.81%	8,679	Dec 2018
Ken Pen	64.3%	Inferred	149	1.05%	3,440	96	1.05%	2,213	Dec 2018
Orora	64.3%	Inferred	102	1.52%	3,410	66	1.52%	2,194	Dec 2018
Total Christie Lake	**64.3%**	**Inferred**	**589**	**1.57%**	**20,340**	**379**	**1.57%**	**13,087**	

Source: UEX Corporation, SCP

Shea Creek (49.1% UEX, 50.9% Orano)

Shea Creek is located in the western Athabasca Basin, 15km south of the Cluff Lake mine and mill (now deconstructed and rehabilitated), which produced 64.2Mlbs at 0.92% U3O8 from 1980-2002. All weather Highway 955 runs through the property and the property has access to an airstrip on the former Cluff Lake property. Systematic exploration on the Shea Creek property commenced with an airborne EM survey, which identified conductive N-NW zones underlying the sandstone sequence. The discovery hole was 0.34% over 0.40m in 1992, at a downhole depth of 706.8m. In 1993 COGEMA (now Orano) acquired ownership and drilled >95,000m in 156 holes from 1994-2000, resulting in the discovery of the Anne and Colette deposits. In 2004 UEX agreed to an earn-in to a 49% project interest in return for funding C$30m of exploration which was vested in 2007. Work continued until 2012 with 307 holes drilled totalling 141,317m.

Figure 70. Map of Shea Creek Tenements and location within the Athabasca Basin



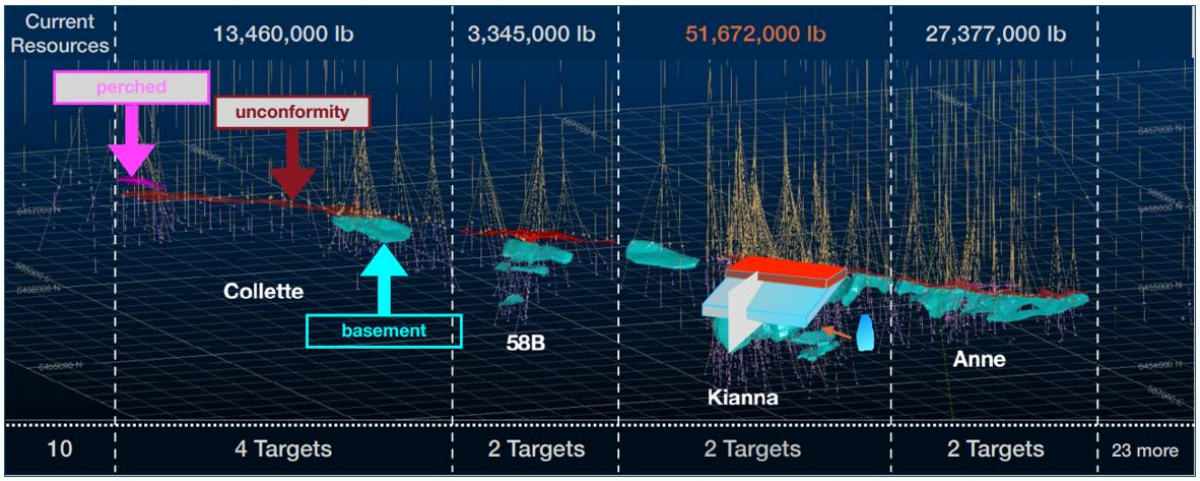
Source: UEX Corporation

Four deposits (Collette, 58B, Kianna and Anne) have been discovered over a 3km strike length along the Saskatoon Lake Conductor (SLC), a 40-80m thick N-NW trending and W-SW dipping graphitic pelitic gneiss unit that is spatially associated with mineralisation. Depth of mineralisation ranges from 650-800m below surface. Mineralisation ranges from breccia hosted mineralisation which straddles the unconformity as pitchblende-coffinite fragments, and basement mineralisation is also present, most extensively at the Kianna Deposit. While mineralisation remains open at Shea Creek. The resource was last updated in 2013 and after a hiatus in 2014,

drilling along parallel conductors did not intersect material high-grade mineralisation or intense alteration, and UEX shifted focus to Christie Lake and to targeting basement mineralisation in the Eastern Basin.

Figure 71. (A) Shea Creek NI 43-101-compliant resource estimate (May 2013) and (B) deposit schematic

	UEX					Attributable			
Property	Ownership	Classification	kt	%U3O8	klbs U3O8	kt	%U3O8	klbs U3O8	Date
Kianna	49.1%	M&I	1,035	1.53%	34,805	508	1.53%	17,089	May 2013
	49.1%	Inferred	561	1.36%	16,867	275	1.36%	8,282	May 2013
		Total	**1,595**	**1.47%**	**51,672**	**783**	**1.47%**	**25,371**	
Anne	49.1%	M&I	564	1.99%	24,760	277	1.99%	12,157	May 2013
	49.1%	Inferred	135	0.88%	2,617	66	0.88%	1,285	May 2013
		Total	**699**	**1.78%**	**27,377**	**343**	**1.78%**	**13,442**	
Colette	49.1%	M&I	328	0.79%	5,680	161	0.79%	2,789	May 2013
	49.1%	Inferred	493	0.72%	7,780	242	0.72%	3,820	May 2013
		Total	**821**	**0.74%**	**13,460**	**403**	**0.74%**	**6,609**	
58B	49.1%	M&I	142	0.77%	2,417	70	0.77%	1,187	May 2013
	49.1%	Inferred	83	0.50%	928	41	0.50%	456	May 2013
		Total	**225**	**0.67%**	**3,345**	**111**	**0.67%**	**1,642**	
Total Shea Creek	**49.1%**	**M&I**	**2,068**	**1.48%**	**67,662**	**1,015**	**1.48%**	**33,222**	
	49.1%	**Inferred**	**1,272**	**1.01%**	**28,192**	**625**	**1.01%**	**13,842**	
	49.1%	**Total**	**3,340**	**1.30%**	**95,854**	**1,640**	**1.30%**	**47,064**	

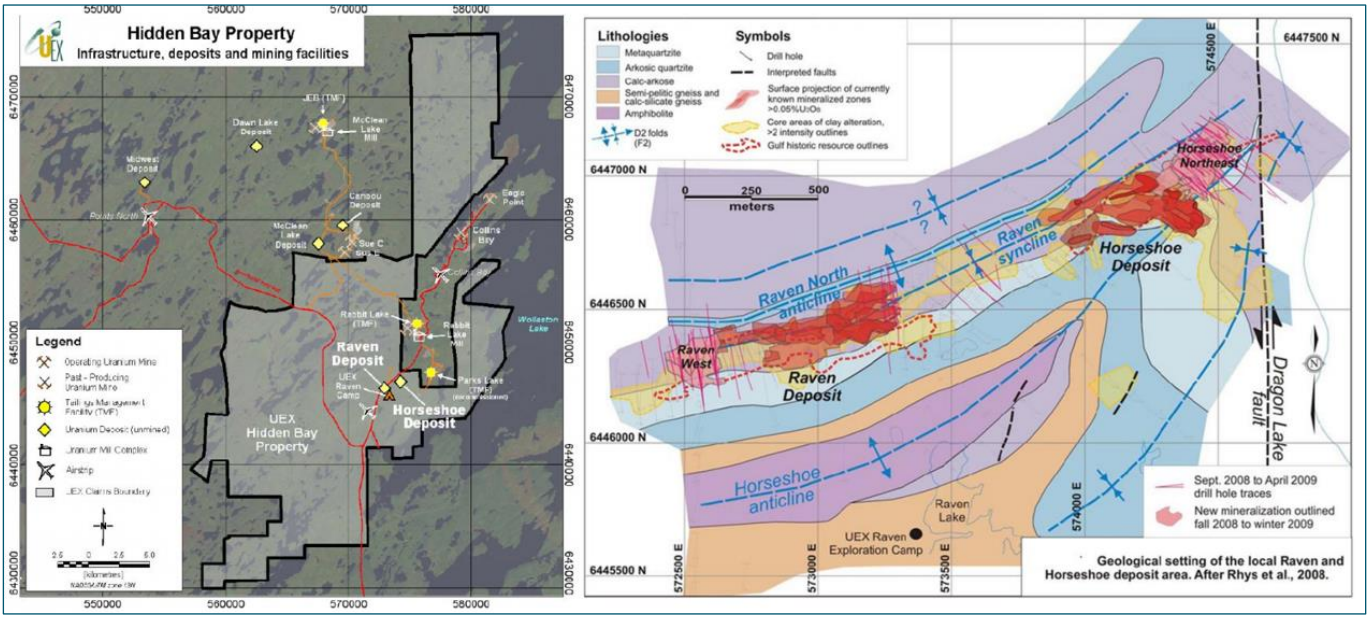


Source: UEX Corporation

Hidden Bay – Horseshoe-Raven / West Bear (100% UEX)

The Hidden Bay property in the eastern Athabasca was acquired from Cameco at IPO in exchange for a 40% stake in UEX. The licence contained 80% of the original Rabbit Lake licences (note the Rabbit Lake open pit mine produced from 1975-1984 and the mill operated until 2013 processing ore from the Collins Bay and then Eagle Point Mines). The Horseshoe-Raven uranium and West Bear Ni-Co projects were excised from the Hidden Bay lands by UEX due to their more advanced state of exploration. The Hidden Bay property is at the eastern margin of the Athabasca basin and is underlain by the Wollaston Domain.

Figure 72. (A) Location of the Horseshoe and Raven Deposits and (B) Regional Geology



Source: UEX Corporation

The Horseshoe and Raven deposits are located 5km south of Cameco's Rabbit Lake Mill and are accessed by all-weather road and an existing power line. The deposits are located in gently-folded quartzite and arkosic rocks, unusual for the basin. 53,329m were drilled from 1972-1978 after discovery of the Raven Deposit by Gulf, a previous owner. UEX drilled a total of 618 holes for 184,347m since from 2005-2011 to i) redefine mineralisation at Raven and define the Horseshoe deposit at 15-30m spacing to define the maiden resource for the two deposits. Horseshoe has been defined over a strike length of 800m at depths of 100-450m below surface with mineralisation in stacking and shallow plunging shoots. Raven is located 500m SW of Horseshoe and has been defined over a strike length of 910m to depths of 100-300m. The Athabasca Sandstone is eroded and absent from the area of the deposits.

Figure 73. Summary of Hidden Bay Ni 43-101 compliant estimated uranium resources

	UEX					Attributable			
Property	Ownership	Classification	kt	%U3O8	klbs U3O8	kt	%U3O8	klbs U3O8	Date
Horseshoe	100.0%	M&I	5,120	0.20%	22,895	5,120	0.20%	22,895	Feb 2011
	100.0%	Inferred	287	0.17%	1,049	287	0.17%	1,049	Feb 2011
		Total	**5,407**	**0.20%**	**23,944**	**5,407**	**0.20%**	**23,944**	
Raven	100.0%	M&I	5,174	0.11%	12,149	5,174	0.11%	12,149	Feb 2011
	100.0%	Inferred	822	0.09%	1,669	822	0.09%	1,669	Feb 2011
		Total	**5,996**	**0.10%**	**13,818**	**5,996**	**0.10%**	**13,818**	
Total Horseshoe Raven	**100.0%**	**M&I**	**10,294**	**0.15%**	**35,044**	**10,294**	**0.15%**	**35,044**	
	100.0%	**Inferred**	**1,109**	**0.11%**	**2,718**	**1,109**	**0.11%**	**2,718**	
	100.0%	**Total**	**11,403**	**0.15%**	**37,762**	**11,403**	**0.15%**	**37,762**	

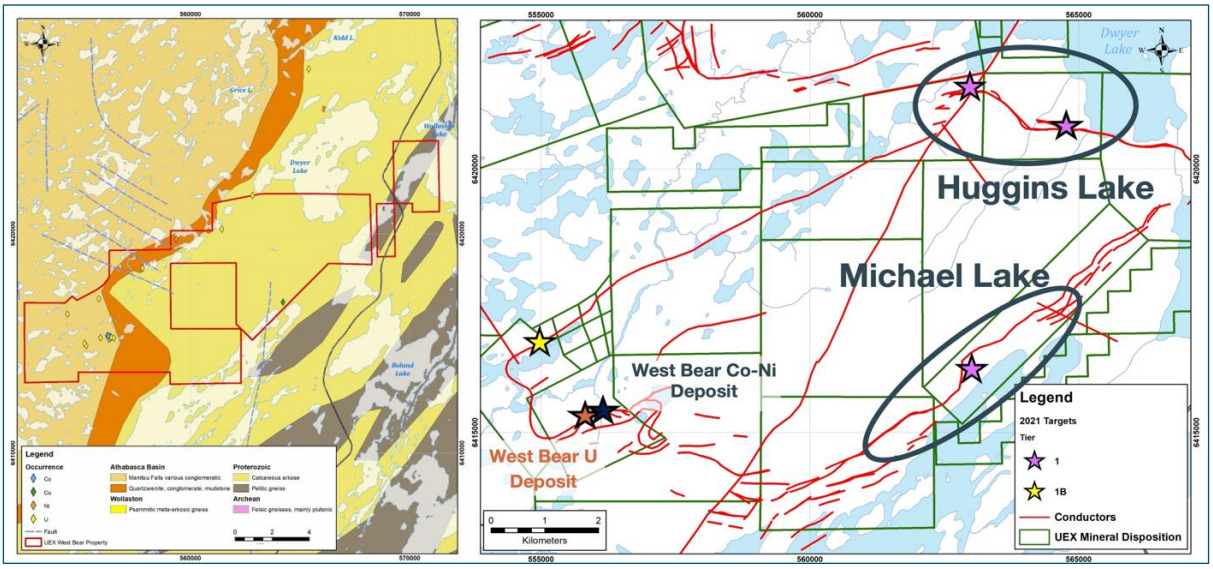
Source: UEX Corporation, SCP

A 2011 PEA envisaged a 7-year open pit (Raven) and UG (Horseshoe) operation producing 1,000tpd of ore at 0.3% U3O8, producing 16.6Mlbs at cash operating costs of C$31.86/lb and initial capex of C$116m, assuming toll milling at Rabbit Lake. Subsequent bottle roll and column leach test work in 2016 averaged 95% after 28 days and 98% recovery after 60 days for material crushed to 12.7mm, which suggests potential for heap leaching rather than toll milling.

West Bear (100% UEX)

The West Bear property was excised from the original Hidden Bay land claims in 2017. Anomalous nickel and cobalt mineralisation has been known to occur in the basin, and 2002-2005 exploration included 13 drill holes which defined a Co-Ni deposit over a 175x75m area, east of the West Bear uranium project. In winter 2018, UEX completed a 41-hole, 4,457m exploration programme which successfully extended the deposit over a 250m strike length by 100m in the down dip direction. Best intercepts included 8m @ 4.9% Co and 2.08% Ni from 77m down hole. A maiden resource was declared on the Co-Ni deposit in July 2018 including 3.172Mlbs Co and 1.928Mlbs Ni (US$74m in-situ value) at grades of 0.37% Co and 0.22% Ni. The resource was updated in December 2019 to 5.12Mlbs Co and 5.66Mlbs Ni at 0.19% Co and 0.21% Ni (US$142m insitu, ~US$116/t).

Figure 74. (A) Regional Geology and (B) Regional map of conductors and 2021 drilling targets



Source: UEX Corporation

Cobalt and nickel mineralisation occurs at depths of 30-110m below surface and is hosted in a graphitic package that varies from a few metres up to 10 metres beneath the West Bear uranium deposit and thickens moving east up to 80m thick, with higher grades associated with the wider portions of the graphitic package. Mineralisation is hosted in faults that develop along the boundary of the graphitic package. Athabasca sandstone covers the SW portion of the licence package; in these areas paleo-weather is found to extend to 20-50m. Cobalt and nickel occur at the unconformity but the majority of the Co-Ni is hosted in the basement and is coincident with intense clay alteration.

Figure 75. Summary of NI 43-101 compliant resources at West Bear

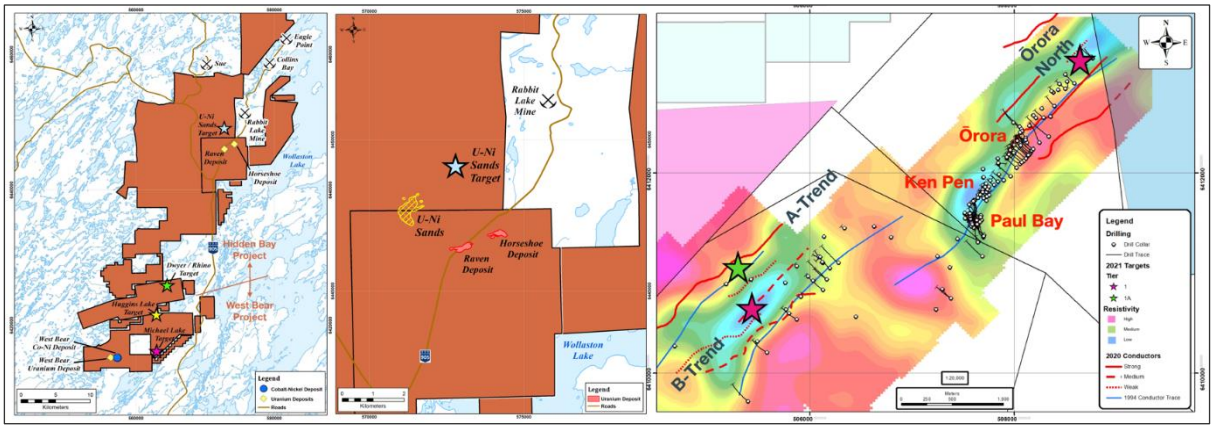
Property	UEX Ownership	Classification	kt	%U3O8	klbs U3O8	% Co	klbs Co	% Ni	klbs Ni
West Bear Uranium	100.0%	Inferred	79	0.91%	1,579	0.91%	1,579	0.91%	0
West Bear Co-Ni	100.0%	Inferred	1,223	--	--	0.19%	5,112	0.21%	5,662

Source: UEX Corporation

2021 Exploration Plan

Hidden Bay / West Bear: UEX's 2021 winter Phase I programme will target prospects at the Huggins Lake and Michael Lake areas of the West Bear project with 8 holes at Huggins Lake totalling 900m targeting uranium and Ni-Co mineralisation. A six-hole 800m programme is planned for the Michael Lake area. Both areas are amenable to shallow holes as no Athabasca sandstone cover is expected. On the Hidden Bay Project, UEX has planned a 15-hole 2,500m drill programme to test four targets in the Dwyer Lake Area to follow up on an open ended alteration zone and untested IP and resistivity anomalies. UEX has planned 10-12 holes at the U-Ni sands area, north of Horseshoe and Raven, NE of where anomalous U-Ni boulders have been encountered. Tracing the source of mineralised boulders has been an effective pathfinding technique in the basin. Christie Lake: Follow up drilling in summer 2021 will target the Orora North resistivity anomaly, the B trend resistivity target to the S-SW, and the adjacent "A" conductor trend SW of currently defined mineralisation.

Figure 76. 2021 Exploration Targets (A) Hidden Bay/West Bear; (B) U-Ni Sands; (C) Christie Lake



Source: UEX Corporation

Corporate

UEX listed in 2002, acquiring the large Hidden Bay project in the eastern basin, south of the McClean Lake, Rabbit Lake, Collins Bay and Eagle Point uranium mines along the Wollaston Belt of the eastern basin. The company also acquired the Riou Lake and Black Lake Projects on the northern periphery of the basin from Pioneer Uranium. In 2003 UEX entered a JV to acquire 49% of the Shea Creek from COGEMA (now Orano) by funding C$30m of exploration, which was satisfied by December 2007. In 2015 UEX entered a JV with JCU to earn into up to a 70% ownership of the Christie Lake project near Cameco's Cigar Lake project. The company earned into 60% for C$6m cash and funding C$10m of exploration but did not earn into 70%, instead earning up to the 60% level and increasing its stake to 64% when JCU did not elect to fund its portion of the exploration budget for 2019. The exploration focus in recent years has been the Christie Lake uranium project and cobalt-nickel exploration on the West Bear / Hidden Bay properties. The share structure is clean with 406.7m shares at the end of 3Q20, 45.5m shares raised in December 2020 for 452.2m basic shares. 39.9m options and warrants are outstanding of which 37.3m are currently ITM for a fully diluted share count of 489.5m with C$8.0m of cash, C$0.2m of lease principle payments and C$7.3m of ITM option proceeds.

Risks

Geological: We view this as high as there as much of our thesis depends on new discovery which cannot be assured at this time. However, the existing mineralisation at Shea Creek, Christie Lake and Horseshoe Raven are well drilled, and are located in historically prolific areas of the basin.

Mining: We view this risk as high as detailed geotechnical testing and mining methods have not been progressed to the PFS or DFS level for any of the projects.

Processing: We view this risk as moderate as there are established processing facilities nearby for Christie Lake and Horseshoe Raven, and we believe a mill in the Western Athabasca is highly likely over the coming years. For Co-Ni mineralisation we view this risk as high, as there is not currently a processing facility in the basin and detailed met testing results have not been made public at this time.

Funding: We view this risk as high, as the company is well funded for its 2021 exploration plans but does not currently have the finances to fund a new discovery project into production.

Geopolitical: We view this risk as low. Saskatchewan is consistently ranked a top 5 mining jurisdiction with low crime, a stable legal and political environment.

Permitting: We view this risk as low. The permitting process for uranium facilities in Saskatchewan is rigorous but also clear and codified, and a large number of mines have been permitted, operated and in some cases decommissioned and rehabilitated in the province. There are no notable cases of a mine being denied permits without the opportunity to address and resolve concerns.

Appendix I: The Athabasca Basin

The Athabasca basin is located in north-western Saskatchewan, and stretches into north-east Alberta, covering ~100,000km^2. It is home to some of largest current and former uranium mines in the world, including Cameco's operating Cigar Lake mine (18Mlbs pa) and McArthur River Mines (20Mlbs pa), which is on care and maintenance. The basin is a Paleoproterozoic (2,500-1,600 Ma) flat-lying red-bed sedimentary basin with the overlying sandstone unit varying from 100-1000m in thickness. The majority of the uranium deposits found in the basin are at the contact between the sandstone and the underlying basement units, which are the Hearne (Paleoproterozoic granitoid gneisses) to the east, the Taltson Magmatic Zone (Paleoproterozoic) and the Rae to the West (metasedimentary supracrustal sequences as well as granitoids). Uranium was discovered in the 1940s and the first mine built was the Rabbit Lake Mine, which was discovered in 1968 and opened in 1975. The basin has consistently been one of the most important uranium producing regions, at 23% of global production from 2015-2017 and 13% in 2019.

Uranium operations

Table 77: (A) Athabasca uranium projects and mines and (B) Current milling facilities

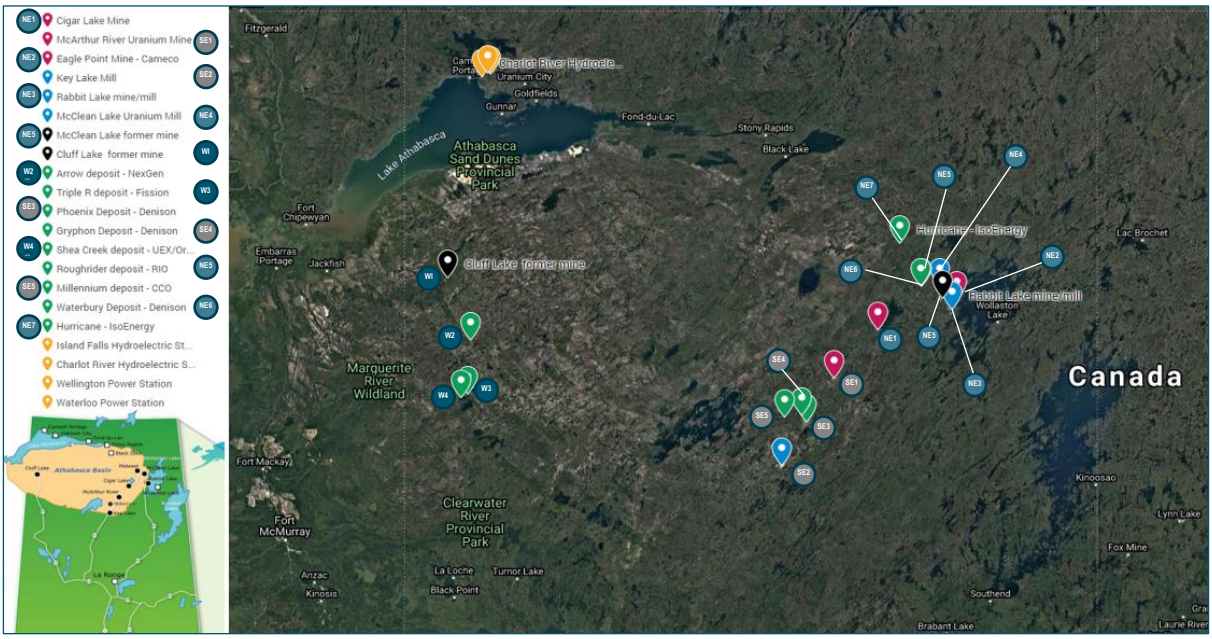
	Projects								Producing	Care and Maintenance	
	NexGen	Denison	Denison	Fission	Rio Tinto	Cameco	UEX	Denison	Cameco	Cameco	Cameco
Project	Rook I	Wheeler River		Patterson Lake South	Roughrider	Millennium	Shea Creek	Waterbury Lake	Cigar Lake	McArthur River	Rabbit Lake
Deposit	Arrow	Phoenix	Gryphon	Triple R	Roughrider	Millennium	Shea Creek	Tthe Heldeth Tué	Cigar Lake	McArthur River	Eagle Point
Location in basin	W	SE	SE	W	NE	SE	W	NE	NE	SE	NE
Ownership	100%	Denison 90%, JCU 10%		100%	100%	69.9% CCO / 30.1% Orano	50.1% Orano, 49.9% UEX	DML 66.9%, Korean 33.1%	CCO 50.025%, AREVA 37.1%, Japanese 12.775%	CCO 69.805%, Orano 31.895%	100%
Permits	EA commenced April 2019	EA restarted December 2020		EA submitted April 2020	Exploration	Exploration	Exploration	Exploration	Producing, permitted to 2029	C&M, permitted to 2042	C&M, permitted to 2023
Study	2018 PFS	2019 PFS	2019 PFS	2019 PFS	2011 PEA (Hathor)	2019 YE R&R	2013 Resource	2020 PEA	2015 Tech Report	2018 Tech Report	2019 YE R&R
Deposit type	Ingress	Egress	Ingress	Ingress	Ingress	Ingress	Egress	Egress	Egress	Egress	Ingress
Hosted	Basement	Unconformity	Mostly Basement	Mostly Basement	Mostly Basement	Mostly Basement	Unconformity	Unconformity	Unconformity	Unconformity	Basement
Depth (m)	110-980m	390-420m	520-850m	50-330m	250-350m east zone 190-290m west zone	650m	650-800m	195-230m	410-450m	500-640	5-360m below bedrock (under Collins Bay)
Reserves (kt)	3,433	141	1,257	2,298	732	--	--	178	553	2,573	--
Reserve grade (% U3O8)	3.09%	19.13%	1.79%	1.61%	1.72%	--	--	2.48%	14.48%	6.91%	--
Reseves (Mlbs)	234.1	59.7	49.7	81.4	27.8	--	--	9.7	176.6	391.9	--
Resources (M,I&I)	7,726.0	330.3	1,716.0	3,437.0	555.8	1,855.0	3,340.1	559.0	1,053.9	2,796.3	4,297.4
Grade (% U3O8)	1.99%	8.76%	1.88%	1.78%	4.73%	2.64%	1.30%	1.50%	12.99%	6.55%	0.76%
Contained (Mlbs U3O8)	338.3	63.8	71.3	135.2	57.9	107.9	95.9	18.5	301.9	404.0	72.3
Mine type	UG	ISR	UG	UG	UG	UG	UG	UG	UG	UG	UG
Mine method	LH stoping	Freeze wall ISR	LH Stoping	LH stoping	Freeze wall, raise bore	--	--	Freeze wall ISR	Freeze wall, jet boring	Freeze wall, raise boring	Vertical longhole stoping
Mill	Build	truck to McClean Lake		Build	Build	--	--	McClean Lake	McClean Lake	Key Lake	Rabbit Lake
Throughput (tpd)	1,300	n/a	n/a	1,000	193	--	--	111	126	306	Mill up to 1500tpd
Annual production (Mlbs)	25.4	5.4	6.1	10.7	5.0	--	--	1.6	20.0	18.0	4.2 [3]
LOM total production (Mlbs)	228.4	58.8	48.8	75.2	52.0	--	--	9.7	229.9	397.2	n/a
Initial Capex (C$m)	1,318	341	659	1,244	567.0	--	--	111.6	2,900.0 [2]	n/a	n/a
Initial capex intensity (C$/lb LOM)	5.77	5.80	13.49	16.55	10.90	--	--	11.51	12.61	n/a	n/a
Operating cash cost (C$/lb)	5.81	4.44	15.60	9.57	14.40	--	--	16.27	18.57	14.97	22.5 [4]
AISC (C$/lb)	12.11	11.10	22.23	14.25	21.80	--	--	22.0	31.6	27.8	n/a

(1) Mine inventory used, as no compliant reserve estimate currently. (2) Reported by CCO in its 2016 Cigar Lake Technical Report (3) 2015 actual. (4) From S&P Market Intelligence, converted from USD to CAD at 0.75

Mill	Owners	Capacity	Commentary
Key Lake	Cameco 83.33% / Orano 16.67%	25.0Mlbs	Processes ore from McArthur River, currently idled along with the mine
McClean Lake	Orano 70%, Denison 22.5%, OURD Canada (Japanese) 7.5%	24.0Mlbs	Toll treats ore from Cigar Lake Mine
Rabbit Lake	Cameco 100%	16.9Mlbs	Treats ore from the Eagle Point Mine, idled since 2016

Source: SCP, company disclosures

Figure 78: Regional map of the Athabasca basin with a regional road map in bottom left



Source: SCPe, Google Maps, Cameco (Map), SaskPower, Company disclosures

Cigar Lake Mine (Cameco 50.025%, Orano 37.1%, Idemitsu 7.875%, Tepco 5%): Cigar Lake commenced production in 2015 and produces 18Mlbs per year at a cash cost of ~$15/lb. Ore is crushed at Cigar Lake and trucked as a slurry in special containers to the McClean Lake Mill for leaching, purification and yellowcake production and packaging. The deposit is a high-grade tabular orebody hosted at the uniformity, (current reserve of 177Mlbs at 14.5%$U_30_{8)}$. Ground conditions are very challenging due to the weak sandstone, and high water pressures. The hanging wall is frozen prior to mining (freeze wall), and the deposit is accessed using an undercut, and mined by remote hydro jets (jet boring), with ore and broker rock carried pumped to surface in a slurry. The mine has two levels – 480m and 500m and the mine is accessed using two shafts. During its development, water flooded the partially completed shaft and mine workings, which were remediated in 2010-2011, enabling commercial production in 2015. Cigar Lake is expected to have 9 years of remaining mine life.

McArthur River Mine (Cameco 69.805%, Orano 30.195%): McArthur River has produced 323Mlbs since 1999, with 1.27Mt at 11.72% mined from 1999-2018. The mine and the Key Lake Mill were placed on care and maintenance in late 2017 for economic reasons, with C$75-80m ($6.5m/month) of C&M costs. The deposit is a high-grade tabular shaped orebody hosted at the unconformity. The hanging wall is frozen prior to mining and accessed by over and undercuts, and mined using a reaming head (raise bore mining). Ore is milled underground, slurried, thickened and trucked to the Key Lake Mill for precipitation, calcining and yellow cake packaging. McArthur River is estimated to have

Rabbit Lake Mine (100% Cameco): Opened in 1975, this was the first mine in the area and was mined out in 1984. The mill continued to process ore from other deposits, produced 203Mlbs over 41 years and was placed on care and maintenance in 2016 due to low prices. The Eagle Point mine, which had been feeding the mill, has a current resource estimate 38.6Mlbs at 0.95% U_30_8. The operation is licenced until 2023 to produce up to 16.9Mlbs per year.

Historic Mines

Cluff Lake Mine: Was operated by COGEMA (now Orano) from 1980-2002 and was the first mine in the western basin. The mine and mill produced 62Mlbs over from 1980-2002 and have been decommissioned and reclaimed. The mine was serviced by its own airport. Mining was a combination of open pit and underground mining.

Key Lake: Mining occurred from 1983 to 1997, fed by two open pit orebodies, Gaertner and Deilmann at ~2% U3O8. The mill has processed ore from Cameco's McArthur River mine since 1997 and is licenced for 25Mlbs per year, but was idled in 2018 along with the McArthur River Mine.

McClean Lake: Developed in 1994 by Orano and was mined from five open pits until 2008. The mill now treats ore from Cameco's Cigar Lake mine and was upsized (including its licenced capacity) from 13 to 24Mlbs per year to accommodate Cigar Lake.

Infrastructure

Access: The main roads going north through the basin are north-south from the populated communities. Regional highway 914 moves north from Pinehouse, past the Key Lake Mill, and terminates at the McArthur River Mine. The Cigar Lake Mine connects to the Rabbit and Key Lake mills to the NE, which are connected by regional highway 905 that proceeds north-west to community of Black Lake and onto the communities north of Lake Athabasca. Highway 955 runs up the western edge of the basin from La Loche and terminates just north of the former Cluff Lake mine. There is an airstrip at Collins Bay, near the Rabbit Lake and McClean Lake mills, with another at Cigar Lake and one at Cluff Lake. Both NexGen and Fission have proposed airstrips as part of their mine developments.

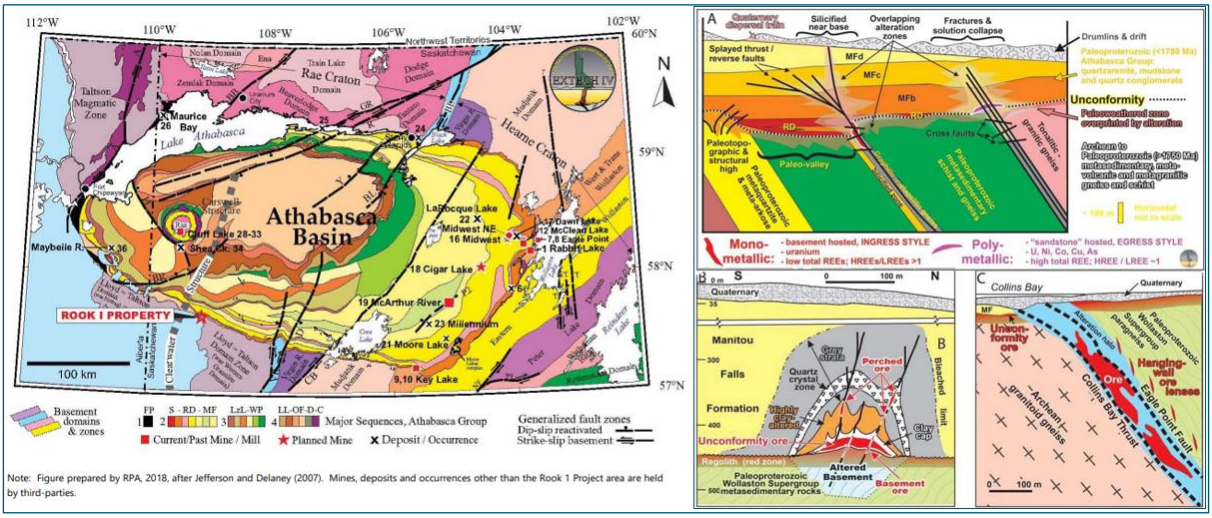
There is a proposed connector extension of highways 905 to 914 to join the McArthur River and Cigar Lake mines to enable ore to be transported from the Phoenix, Gryphon (both Denison) and Millennium deposits (Cameco) to the McClean Lake or Rabbit Lake mills. The Government of Saskatchewan has agreed to fund half the road construction cost subject to a positive development decision.

Power: Grid power is supplied to the eastern Athabasca by a 138-kv overhead power line. The nearest power generation stations are a 111MW hydroelectric facility at Sandy Bay to the SW of the basin and there are three hydroelectric stations totalling 23MW on the northern shores of Lake Athabasca.

Deposit Types

The deposits in the Athabasca occur below, across and/or immediately above the unconformity. Monometallic generally basement-hosted uraninite fills beings, breccia fillings and replacements in fault zones caused by fluid-rock reactions between oxidising sandstone brine entering basement fault zones. Notable examples of this *ingress*-type deposit include Rabbit Lake and Eagle point, which were mined as underground mines with relatively stable ground conditions thanks to the basement hosted setting. Poly-metallic sub horizontal deposits form just above or straddling the unconformity with variable amounts of uranium, Ni, Co and As. These *egress*-type deposits were formed due to the mixing of oxidising sandstone fluids mixing with relatively reduced fluids issuing from the basement into the sandstone.

Figure 79: (A) Geological map of the Athabasca Basin, (B) General features of unconformity deposits: Egress type – Cigar Lake, Ingress Type – Eagle Point



Source: NexGen 2018 PFS, RPA,

Exploration Techniques:

Egress: Since the discovery of the Key Lake Mine in 1975, the Key Lake exploration model emphasized airborne and EM surveys to map conductive pelite units, targeting locations where basement graphitic pelite units in the basement met the Athabasca Sandstone. The McArthur River emphasized basement quartzite units which are more competent than other sedimentary basement rocks and therefore control major thrust, reverse and strike slip faults. Due to a lack of conductivity and magnetic susceptibility, this exploration model instead targets the large alteration halos typical of this deposit through ground resistivity surveys and changes in minerologies. Both models target egress style deposits in which alteration tends to appear in the sandstone units, and not the underlying basement, therefore drill depth is generally to or just below the unconformity.

Ingress**:** The development of Eagle Point and the discoveries of Arrow, Triple R and Millennium have increased the importance of this exploration style. Exploration targets recognition of significant fault zones within basement metasediments (often associated with graphite) with associated basement clay and geochemical alteration halos. Airborne magnetic and radiometric can be useful in identifying basement faults, shear zones and areas of complexity. Mineralisation may be spatially associated with gravity lows that could indicate clay alteration.

Royalties and Taxation

All uranium mining in Saskatchewan is subject to a 5% gross sales royalty, less a 0.75% Saskatchewan Resource credit. In addition, there is a profit royalty of 10% of profits up to C$23.29/kg (C$10.54/lb) U3O8 plus 15% on profits per kg in excess of that. Profits are determined as net of certain operating, exploration, reclamation and capital costs. Resource corporations in Saskatchewan also pay a corporate sales surcharge of 3.0% (revenues net of transportation costs). The applicable income tax is 27% (15% federal and 12% provincial).

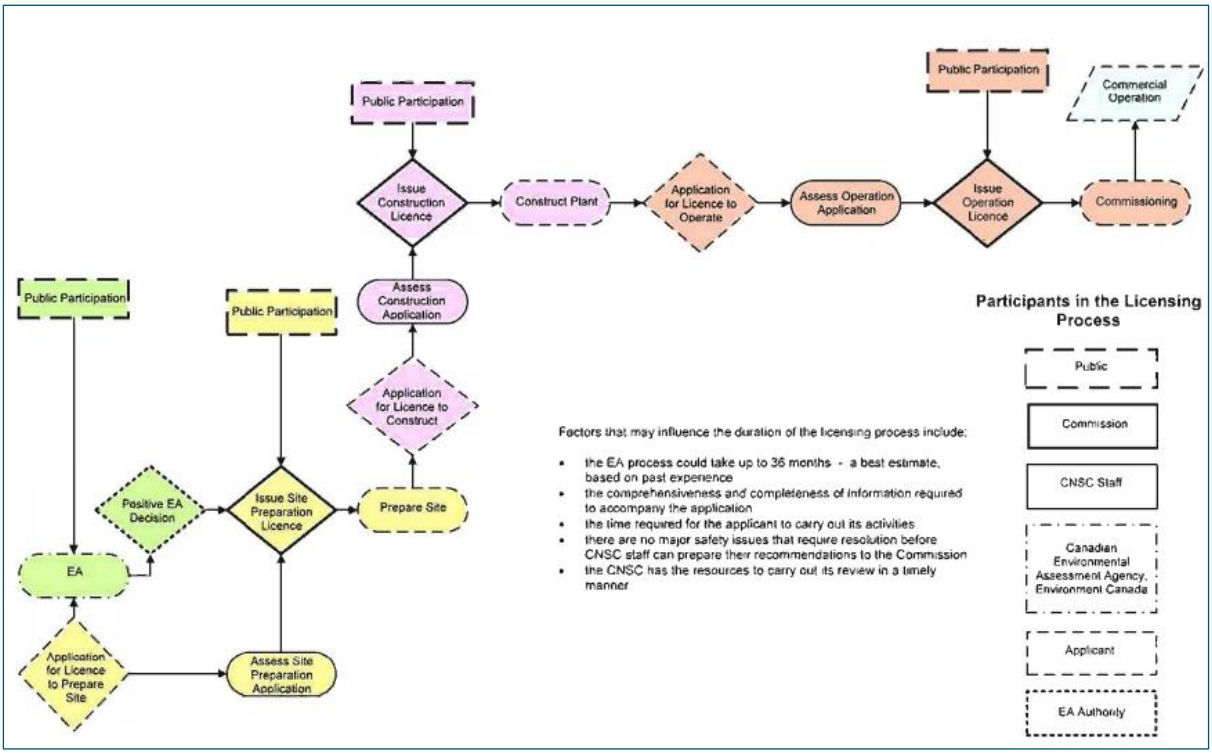
Figure 80: CNSC new mine licensing process

Royalty (C$/lb) - Uranium price vs Op Costs	Price: US$30/lb	Price: US$40/lb	Price: US$50/lb	Price: US$60/lb	Price: US$70/lb
Pre-tax costs: C$10.00/lb	$6.87	$9.84	$12.81	$15.77	$18.74
Pre-tax costs: C$20.00/lb	$5.37	$8.34	$11.31	$14.27	$17.24
Pre-tax costs: C$30.00/lb	$3.90	$6.84	$9.81	$12.77	$15.74
Pre-tax costs: C$40.00/lb	$2.90	$5.34	$8.31	$11.27	$14.24
Pre-tax costs: C$50.00/lb	$2.90	$4.20	$6.81	$9.77	$12.74

Source: SCPe

Permitting

Figure 81: CNSC new mine licensing process



Source: CNSC, March 2007

Uranium mines are overseen by the Canadian Nuclear Safety Commission. The permitting process includes a series of licences, but the key permit is the Environmental Assessment (EA), which confirms that the project conforms with the applicable environmental and safety regulations. Guidance is that the process could take up to 36-months from EIS submission, which was in line with Cigar Lake's timeline when it was granted approval in 2004. In parallel, the CNSC undertakes a review of the application and if the EA is approved, the project moves to a two-day public hearing process. Assuming any issues are resolved, the project is then advanced to a document decision and licences are distributed. For precedent, Cigar Lake's FS was completed in 2001, followed by EA submission. The EA was approved by in April 2004, and the Licence to Construct was granted four months following EA approval.

Precedents

Cigar Lake: An Environmental Impact Statement (EIS) was submitted to the joint Federal-Provincial review panel in 1995. In 1997, the panel recommended the project should proceed, subjected to identification of a suitable waste rock disposal location. In 1998 the project was approved in principle. In August 2001 a waste rock EIS was submitted and it was approved in August 2003. In February 2004, Cameco submitted an environmental assessment study report (EASR) investigating the impacts of construction, operation and decommissioning of the mine, which was accepted by the CNSC. The construction licence was received in December 2004.

McArthur River: Cameco filed an EIS for McArthur River in 1992 that was approved in 1993. In 1995 Cameco submitted an EIS that covered proposed mining activities at McArthur River and milling activities at Key lake. Federal and provincial EIS approval was granted in 1997 and construction approval was granted in 1997.

DISCLOSURES & DISCLAIMERS

This research report (as defined in IIROC Rule 3400) is issued and approved for distribution in Canada by Sprott Capital Partners LP ("SCP"), an investment dealer who is a member of the Investment Industry Regulatory Organization of Canada ("IIROC") and the Canadian Investor Protection Fund ("CIPF"). The general partner of SCP is Sprott Capital Partners GP Inc. and SCP is a wholly-owned subsidiary of Sprott Inc., which is a publicly listed company on the Toronto Stock Exchange under the symbol "SII". Sprott Asset Management LP ("SAM"), a registered investment manager to the Sprott Funds and is an affiliate of SCP. This research report is provided to retail clients and institutional investors for information purposes only. The opinions expressed in this report are the opinions of the author and readers should not assume they reflect the opinions or recommendations of SCP's research department. The information in this report is drawn from sources believed to be reliable but the accuracy or completeness of the information is not guaranteed, nor in providing it does SCP and/or affiliated companies or persons assume any responsibility or liability whatsoever. This report is not to be construed as an offer to sell or a solicitation of an offer to buy any securities. SCP accepts no liability whatsoever for any loss arising from any use or reliance on this research report or the information contained herein. Past performance is not a guarantee of future results, and no representation or warranty, expressed or implied, is made regarding future performance of any security mentioned in this research report. The price of the securities mentioned in this research report and the income they generate may fluctuate and/or be adversely affected by market factors or exchange rates, and investors may realize losses on investments in such securities, including the loss of investment principal. Furthermore, the securities discussed in this research report may not be liquid investments, may have a high level of volatility or may be subject to additional and special risks associated with securities and investments in emerging markets and/or foreign countries that may give rise to substantial risk and are not suitable for all investors. SCP may participate in an underwriting of, have a position in, or make a market in, the securities mentioned herein, including options, futures or other derivatives instruments thereon, and may, as a principal or agent, buy or sell such products.

DISSEMINATION OF RESEARCH: SCP's research is distributed electronically through email or available in hard copy upon request. Research is disseminated concurrently to a pre-determined list of clients provided by SCP's Institutional Sales Representative and retail Investment Advisors. Should you wish to no longer receive electronic communications from us, please contact unsubscribe@sprott.com and indicate in the subject line your full name and/or corporate entity name and that you wish to unsubscribe from receiving research.

RESEARCH ANALYST CERTIFICATION: Each Research Analyst and/or Associate who is involved in the preparation of this research report hereby certifies that:

- The views and recommendations expressed herein accurately reflect his/her personal views about any and all of the securities or issuers that are the subject matter of this research report;
- His/her compensation is not and will not be directly related to the specific recommendations or view expressed by the Research analyst in this research report;
- They have not affected a trade in a security of any class of the issuer within the 30-day period prior to the publication of this research report;
- They have not distributed or discussed this Research Report to/with the issuer, investment banking group or any other third party except for the sole purpose of verifying factual information; and
- They are unaware of any other potential conflicts of interest.

UK RESIDENTS: Sprott Partners UK Limited ("Sprott") is an appointed representative of PillarFour Securities LLP which is authorized and regulated by the Financial Conduct Authority. This document has been approved under section 21(1) of the FMSA 2000 by PillarFour Securities LLP ("PillarFour") for communication only to eligible counterparties and professional clients as those terms are defined by the rules of the Financial Conduct Authority. Its contents are not directed at UK retail clients. PillarFour does not provide investment services to retail clients. PillarFour publishes this document as non-independent research which is a marketing communication under the Conduct of Business rules. It has not been prepared in accordance with the regulatory rules relating to independent research, nor is it subject to the prohibition on dealing ahead of the dissemination of investment research. It does not constitute a personal recommendation and does not constitute an offer or a solicitation to buy or sell any security. Sprott and PillarFour consider this note to be an acceptable minor non-monetary benefit as defined by the FCA which may be received without charge. This is because the content is either considered to be commissioned by Sprott's clients as part of their advisory services to them or is short term market commentary. Neither Sprott nor PillarFour nor any of its directors, officers, employees or agents shall have any liability, howsoever arising, for any error or incompleteness of fact or opinion in it or lack of care in its preparation or publication; provided that this shall not exclude liability to the extent that this is impermissible under the law relating to financial services. All statements and opinions are made as of the date on the face of this document and are not held out as applicable thereafter. This document is intended for distribution only in those jurisdictions where PillarFour is permitted to distribute its research.

IMPORTANT DISCLOSURES FOR U.S. PERSONS: This research report was prepared by Sprott Capital Partners LP ("SCP"), a company authorized to engage in securities activities in Canada. SCP is not a registered broker/dealer in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This research report is provided for distribution to "major U.S. institutional investors" in reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act"). Any U.S. recipient of this research report wishing to effect any transaction to buy or sell securities or related financial instruments based on the information provided in this research report should do so only through Sprott Global Resource Investments Ltd. ("SGRIL"), a broker dealer in the United States registered with the Securities Exchange Commission ("SEC"), the Financial Industry Authority ("FINRA"), and a member of the Securities Investor Protection Corporation ("SIPC"). Under no circumstances should any recipient of this research report effect any transaction to buy or sell securities or related financial instruments through SCP.

SGRIL accepts responsibility for the contents of this research report, subject to the terms set out below, to the extent that it is delivered to a U.S. person other than a major U.S. institutional investor. The analyst whose name appears in this research report is not licensed, registered, or qualified as a research analyst with FINRA and may not be an associated person of SGRIL and, therefore, may not be subject to applicable restrictions under FINRA Rule 2241 regarding communications by a research analyst with a subject company, public appearances by the research analyst, and trading securities held by a research analyst account. To make further inquiries related to this report, United States residents should contact their SGRIL representative.

ANALYST CERTIFICATION / REGULATION AC: The analyst and associate certify that the views expressed in this research report accurately reflect their personal views about the subject securities or issuers. In addition, the analyst and associate certify that no part of their compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

SPROTT CAPITAL PARTNERS EXPLANATION OF RECCOMENDATIONS: Should SCP issue research with recommendations, the research rating guidelines will be based on the following recommendations:

BUY: The stocks total returns are expected to be materially better than the overall market with higher return expectations needed for more risky securities markets

NEUTRAL: The stock's total returns are expected to be in line with the overall market

SELL: The stocks total returns are expected to be materially lower than the overall market

TENDER: The analyst recommends tendering shares to a formal tender offering

UNDER REVIEW: The stock will be placed under review when there is a significant material event with further information pending; and/or when the research analyst determines it is necessary to await adequate information that could potentially lead to a re-evaluation of the rating, target price or forecast; and/or when coverage of a particular security is transferred from one analyst to another to give the new analyst time to reconfirm the rating, target price or forecast.

NOT RATED ((N/R): The stock is not currently rated

	Research Disclosure	**Response**
1	SCP and its affiliates collectively beneficially owns 1% or more of any class of the issuer's equity securities[4]	**YES**
2	The analyst or any associate of the analyst responsible for the report or recommendation or any individual directly involved in the preparation of the report holds or is short any of the issuer's securities directly or through derivatives	**NO**
3	An SCP partner, director, officer or analyst involved in the preparation of a report on the issuer, has during the preceding 12 months provided services to the issuer for remuneration other than normal course investment advisory or trading execution services	**NO**
4	SCP has provided investment banking services for the issuer during the 12 months preceding the date of issuance of the research report or recommendation	**YES**
5	Name of any director, officer, employee or agent of SCP who is an officer, director or employee of the issuer, or who serves in an advisory capacity to the issuer	**NO**
6	SCP is making a market in an equity or equity related security of the issuer	**NO**
7	The analyst preparing this report received compensation based upon SCP's investment banking revenue for the issuer	**NO**
8	The analyst has conducted a site visit and has viewed a major facility or operation of the issuer	**NO**
9	The analyst has been reimbursed for travel expenses for a site visit by the issuer	**NO**

Sprott Capital Partners Equity Research Ratings:

Summary of Recommendations as of February 2021	
BUY:	33
HOLD:	0
SELL:	0
UNDER REVIEW:	0
TENDER:	0
NOT RATED:	0
TOTAL	33

[4] As at the end of the month immediately preceding the date of issuance of the research report or the end of the second most recent month if the issue date is less than 10 calendar days after the end of the most recent month