CAPITAL MARKETS HAYWOOD

Azarga Uranium Corp.

(AZZ-T)

SECTOR: Mining

STOCK PRICE	$0.24
RATING	BUY
TARGET PRICE	$0.50

INITIATING COVERAGE

Catalyst Rich U.S.-Based Uranium Developer

INVESTMENT BRIEF: We are initiating coverage of Azarga Uranium Corp. (AZZ-T) with a target of $0.50 per share, BUY rating, and Very High risk rating. AZZ is U.S.-based developer poised to benefit from a potential policy shift on domestic uranium production, as well as from developments relating to its flagship Dewey Burdock project.

KEY HIGHLIGHTS

- Azarga completed a merger with URZ Energy in July 2018, creating a U.S.-based uranium junior developer with a diversified asset base hosting combined all-categories NI 43-101 uranium resources of over 46 Mlb U_3O_8 (87% Meas.&Ind.) within South Dakota, Wyoming and Colorado.
- **Well-Positioned to Deliver Torque to U.S. Policy Shift on Domestic Uranium:** The U.S. Department of Commerce has carried out an investigation of the domestic uranium supply chain as it pertains to national security under Section 232 of the U.S. Trade Expansion Act of 1962. The results and recommendations of that investigation were delivered to the White House in April of 2019. The President now has until mid-July 2019 to make a decision based on those recommendations and we believe this is likely to result in some type of incentive for domestic uranium suppliers in the form of tariffs or import quotas, which will lead to higher realized prices for uranium in the U.S. Azarga is a development stage company with a significant U.S. asset base including the advanced-stage Dewey Burdock ISR uranium project in South Dakota, which is one of the highest-grade undeveloped ISR projects in the country.
- **Dewey Burdock (DB) Poised to Deliver Stock-Catalyzing News Flow in 2019:** The Company delivered an updated NI 43-101 resource for DB in Q4/18 in which Meas. & Ind. Resources grew 97% (ISR-amenable all-categories resource ↑47%). The resource update is a prelude to the anticipated update to the Preliminary Economic Assessment (PEA) of the project expected this summer. We expect the additional resources to contribute favourably to project economics and act as a catalyst for the stock. The current (2015) PEA demonstrated attractive economics with relatively small initial financial outlay (US$27M), suggesting a post-tax $NPV_{8\%}$ of US$113M and a post-tax IRR of 57% (at US$65/lb uranium, and 35% federal tax rate. The applicable federal tax rate has since reduced to 21%, which is not reflected in the existing PEA.)
- **Path to Clearing the NRC Licensing Phase has been Established:** Dewey Burdock licensing/permitting is well advanced, with one significant hurdle remaining: a single outstanding contestation to the project's Nuclear Regulatory Commission (NRC) License. Azarga has demonstrated success in removing other contestations to the license and is taking a strategic approach to resolving the final one. A resolution tactic and timeline have been established with respect to this outstanding contention lodged with the Atomic Safety and Licensing Board (ASLB). In April 2019 an agreement among concerned parties outlined an ASLB licensing decision timeline for the final contention of November 2019. We expect that a positive decision from the ASLB would be a substantial catalyst for Azarga.

OUTLOOK & RECOMMENDED ACTION

We recommend owning Azarga with the below catalysts in mind.

- **Weak tape for uranium warrants taking a steady accumulation/scaling-in entry approach**. However, we do recommend having exposure ahead of the below mentioned catalysts as they could drive a breakout in the stock price.

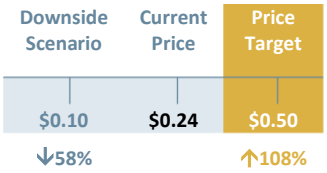
CATALYSTS

1. **July 2019 –** The POTUS must render a decision by July 13th, 2019, on the U.S. Section 232 investigation conclusions and recommendations issued by the U.S. DoC.
2. **July/August 2019 –** Update to Dewey Burdock Preliminary Economic Assessment.
3. **November 2019 –** A decision by the ASLB on the Evidentiary Hearing regarding the Dewey Burdock NRC License final contestation.

PROJECTED RETURN 108%

RISK FACTOR Very High

SCENARIO ANALYSIS



KEY STATISTICS AND METRICS

52-Week High/Low	$0.30/$0.20
YTD Performance	-9.4%
Dividend Yield	NA
Shares O/S	184
Market Capitalization	$44M
Cash	$2M
Debt	Nil
Enterprise Value	$43M
Daily Volume (3 mos.)	68,240
Currency	C$ unless noted

HAYWOOD ESTIMATES (USD)

	2019E	2020E	2021E
Revenue ($M)	0	0	0
EBITDA ($M)	(3.2)	(3.3)	(3.4)

VALUATION

Our $0.50/share target is primarily based on an $NPV_{10\%}$ on the Dewey Burdock project, assuming a US$70/lb uranium price. Including credit for its other projects and corporate adjustments, we apply a 0.6x P/NAV multiple to arrive at our target.

Colin Healey, MBA, 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

For Important Disclosures and Analyst Certification See Page 34

INVESTMENT THESIS

Azarga: Poised for Success in the U.S.

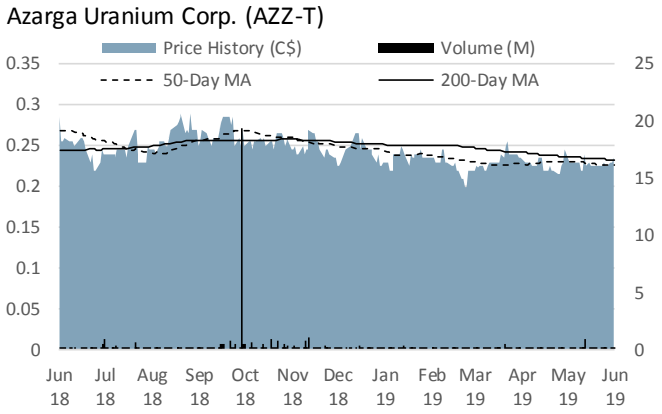
- **Making the Grade.** Average resource grades of 0.11% U_3O_8 (Measured at 0.13%) position Dewey Burdock **among the highest grade undeveloped ISR uranium project in the U.S.**, and well above some existing producers. Although many factors determine the successful extraction of uranium in an ISR operation, higher concentrations of uranium will help to reduce sustaining capex in the form of well-field development costs per pound of production, on a relative basis, and could prove to be a sustainable advantage. We believe the advanced-stage Dewey Burdock uranium project could reach production by 2023, coincident with a time when uranium prices are forecast to have increased significantly from current levels.
- **Dewey Burdock (DB) Poised to Deliver Stock-Catalyzing News Flow in 2019: The Company expects to deliver an updated PEA integrating the 47% increase in total resources defined in November 2018.** The 2015 PEA demonstrated attractive economics with relatively small initial financial outlay (US$27M), suggesting a post-tax $NPV_{8\%}$ of US$113M and a post-tax IRR of 57% *(at US$65/lb uranium, and 35% federal tax rate. The applicable federal tax rate has since reduced to 21%, which is not reflected in the PEA)*.
    - We note that since the 2015 PEA, Azarga has significantly increased the resource base at DB (+47% all-categories). The 2019 PEA, expected this summer will include the larger resource base and should lead to a longer mine-life, and/or an increased production rate with improved economics.
    - We expect a low capex hurdle to remain in the updated study and continue to believe Azarga is well-positioned to advance DB through to production over the next 4 years in an improving uranium price environment.
- **Poised to Benefit from Pending U.S. Section 232 Investigation.** The U.S. Department of Commerce has carried out an investigation of the domestic uranium/nuclear industry and delivered the results and recommendations to the White House in April. By mid-July the President will render a decision based on those recommendations and we believe this is likely to result in some type of incentive for domestic uranium suppliers in the form of tariffs or import quotas, which will lead to higher realized prices for uranium in the U.S. Azarga is a development stage company with a significant U.S. asset base including the advanced-stage Dewey Burdock ISR uranium project in South Dakota, which ranks among the highest-grade undeveloped ISR projects in the country.
- **A Clear Path to Clearing the NRC Licensing Phase has been Established:** Licensing/permitting is well advanced, and importantly, the Company now has a well-defined timeline with respect to the final steps involving the last remaining contention to the NRC License lodged with the Atomic Safety and Licensing Board (ASLB). Azarga has obtained a Source and By-product Materials License from the U.S. Nuclear Regulatory Commission (NRC) for Dewey Burdock (issued in April 2014, amended in 2016). **Currently, the NRC License contestation represents the biggest risk to investors in Azarga**. Great strides were made to acquire the NRC License and remove other contestations, but a negative outcome in resolving the final contestation could stall the project for an indeterminant period. That said, a positive outcome could remove overhang from the stock and inject new life. We believe Azarga will ultimately be successful in resolving the NRC license issues.
    - The ASLB is part of a checks-and-balances process for the NRC licensing process. During the ASLB process several contentions to the NRC License were raised. Only one remains to be resolved.
    - In April of 2019, the ASLB granted the NRC's motion for an evidentiary hearing to address the final contestation. The evidentiary hearing is set for August 28th, 2019 and mandates that the ASLB render a decision on the matter no later than November 29th, 2019. The contestation in question was put forth by the Oglala Sioux Tribe pertaining to "the identification and protection of historic and cultural resources for the purposes of compliance with the National Environmental Policy Act." The hearing will provide the opportunity for both sides to be heard in front of a panel of three judges, which according to Azarga management, have been overseeing the process all along and are well versed in the issues.
- **Optionality beyond Dewey Burdock:** Following the merger with URZ Energy Corp. in July 2018, Azarga now controls the Gas Hills uranium project in Wyoming. The earlier-stage Gas Hills project has a modest NI 43-101 Indicated + Inferred resource of 7.3 Mlb U3O8 (2017) and no preliminary economics. The resources at Gas Hills are contained within roll-front style sandstones and the recent focus has been investigating the amenability of the deposits to potential ISR uranium extraction. Initial work in this regard has suggested that three of the primary mineralized zones were "principally located within a confined aquifer that contains current hydrostatic head well above the minimum requirements to allow for the successful use of ISR mining techniques." A follow-up study of the permeability of the host formation returned very encouraging results, which indicated a permeability range of 0.8-2.7, which compares favourably to other successful U.S.-based ISR production operations in Wyoming. The Gas Hills project has further resource expansion potential along trend and Azarga has identified "numerous high priority exploration targets within the project". Although our valuation includes only a minor credit for Gas Hills, based on the promising initial investigation in the ISR amenability of the deposits at Gas Hills and the exploration potential, we believe this project adds some powerful optionality to the Azarga story.

Colin Healey, 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

COMPANY PROFILE

- **Azarga Uranium** completed a merger with URZ Energy in July 2018, creating a U.S.-based uranium junior developer with a diversified asset base with combined all-categories NI 43-101 uranium resources of over 46 Mlb U3O8 (87% Meas.&Ind.) within South Dakota, Wyoming and Colorado.
- **Dewey Burdock (DB) Poised to Deliver Stock-Catalyzing News Flow in 2019:** The Company delivered an updated NI 43-101 resource for DB in Q4/18 in which Meas. & Ind. Resources grew 97% (ISR-amenable all-categories resource ↑47%). The resource update is a prelude to the anticipated update to the Preliminary Economic Assessment (PEA) of the project expected this summer. We expect the additional resources to contribute favourably to project economics and act as a catalyst for the stock.

SCENARIO ANALYSIS



Source: Capital IQ, and Haywood Securities

TARGET PRICE

Our $0.50/share target is primarily based on an $NPV_{10\%}$ on the Dewey Burdock project, assuming a US$70/lb uranium price. Including credit for its other projects and corporate adjustments, we apply a 0.6x P/NAV multiple to arrive at our target.

DOWNSIDE CASE

Our downside case takes a 0.1x multiple to our base case valuation including the $NVP_{10\%}$ on Dewey Burdock and gives no credit for Azarga's other projects.

KEY RISKS

- **NRC License:** While AZZ has an NRC Source Materials License for the flagship Dewey Burdock project, there remains a single final contestation before the ASLB that must be resolved before advancement. The process is underway and a decision from the ASLB is expected in November 2019.
- **Financial:** Azarga is a pre-revenue, development-stage company, and will almost certainly rely on external funding source in the form of future equity dilution or debt capital.
- **Commodity Price:** Our forecasts include a substantial increase in uranium price from current market prices. Failure for this to materialize would negatively impact our valuation.

Company Website

www.azargauranium.com

Key Management

Blake Steele (President & CEO)

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Azarga Uranium Corp.	TSX:AZZ Price:	$0.24	Shares O/S (M)	183.7	Rating:	Buy	
June 21, 2019			MCap (C$ M)	$44	Target (C$):	$0.50	Return: 108%

Investment Highlights

Azarga is a junior uranium development company with a U.S.-based suite of assets.

Catalysts:

July 2019 – The POTUS must render a decision by July 13th, 2019, on the U.S. Section 232 investigation conclusions and recommendations issued by the U.S. DoC.

July/August 2019 – Update to Dewey Burdock Preliminary Economic Assessment.

November 2019 – A decision by the ASLB on the Evidentiary Hearing regarding the Dewey Burdock NRC License final contestation.

#REFRESH Chart (CDN$)

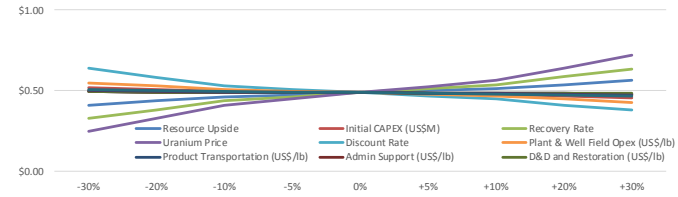
Financials & Model Assumptions	2019	2020	2021	2022	2023	2024
	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Spot Uranium Price (US$/lb U3O8)	$39	$47	$55	$64	$70	$70
LT Uranium Price (US$/lb U3O8)	$46	$55	$63	$70	$70	$70
USD/CAD	1.29	1.29	1.29	1.29	1.29	1.29
Revenue (US$)	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$11.1**
Total Project Costs (US$)	$0.0	$0.0	$0.0	$0.0	$2.3	$20.0
Corporate G&A (US$)	$3.2	$3.3	$3.4	$3.4	$3.5	$3.6
EBITDA (US$)	**($3.2)**	**($3.3)**	**($3.4)**	**($3.4)**	**($5.8)**	**($12.4)**
Weighted Avg. S/O (Basic)	227	227	227	227	234	263
Weighted Avg. S/O (Diluted)	240	240	240	240	248	276
Earnings (US$M)	**($3.8)**	**($3.3)**	**($3.4)**	**($3.4)**	**($6.1)**	**($21.7)**
EPS (US$)	($0.02)	($0.01)	($0.01)	($0.02)	($0.03)	($0.08)
Free Cash Flow (US$M)	($3.84)	$0.05	($17.49)	($9.21)	($11.66)	($25.93)

Trading Statistics (C$); Capital Structure				
52 Week High/Low	$0.30	$0.20	Average Daily Volume	68,240
Ownership (M)	Insider / Institutional			
Shares	20,993,424	9,666,305		
% O/S	11.4%	5.3%		
Last Financings				
Shares O/S (M) - Basic/Diluted	184	197		
(C$M)		Av Strike (C$)	Units (M)	ITM Units (M)	Proceeds (C$)
Working Capital					
Options		$0.43	5.68	5.68	$2
Warrants		$0.35	7.52	7.52	$3
Total Cash & ITM		$0.38	13.21	13.21	$5

Sum-of-Parts Valuation

Project	Location	M&I Resource (lbs)	Forecast Resource	Valuation	Per Share	EV/lb
Dewey Burdock	S. Dakota, USA	8.58	24.22	$175.4	$0.53	$7.2
Gas Hills	Wyoming, USA	4.73	7.26	$14.2	$0.04	$2.0
Aladdin	Wyoming, USA	1.04	1.14	$1.0	$0.00	$0.9
Juniper Ridge	Wyoming, USA	6.01	6.19	$6.0	$0.02	$1.0
Shirley Basin	Wyoming, USA	0.00	0.00	$0.0	$0.00	NM
Dewey Terrace	Wyoming, USA	0.00	0.00	$0.0	$0.00	NM
Savageton	Wyoming, USA	0.00	0.00	$0.0	$0.00	NM
Centennial	Colorado, USA	10.37	12.70	$10.4	$0.03	$0.8
Kyzyl Ompul (70%)	Kazakhstan	0.00	7.51	$0.0	$0.00	$0.0
Total		**30.7**	**59.0**	**$207.0**	**$0.62**	**$3.5**
Corp. Adjustments				($0.19)	$0.01	
P/NAV Multiple	0.6x					
Valuation (US$)				**$124.1**	**$0.38**	**$2.1**
Valuation (C$)				**$160.1**	**$0.49**	**$2.7**

Dewey Burdock Project Economics --> Valuation Sensitivities



Target Price Sensitivities	Valuation/Shr							
Model Input	**Base**	**-30%**	**-20%**	**-10%**	**-5%**	**+5%**	**+10%**	**+20%**
Resource Upside	$0.49	$0.41	$0.44	$0.46	$0.48	$0.50	$0.51	$0.54
Initial CAPEX (US$M)	$0.49	$0.52	$0.51	$0.50	$0.49	$0.48	$0.48	$0.47
Recovery Rate	$0.49	$0.33	$0.38	$0.44	$0.46	$0.51	$0.54	$0.59
Uranium Price	$0.49	$0.25	$0.33	$0.41	$0.45	$0.53	$0.57	$0.64
Discount Rate	$0.49	$0.64	$0.58	$0.53	$0.51	$0.47	$0.45	$0.41
P/NAV Multiple	$0.49	$0.34	$0.39	$0.44	$0.46	$0.51	$0.54	$0.59
Leverage	$0.49	$0.48	$0.48	$0.48	$0.49	$0.49	$0.49	$0.50
Interest Rate	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49
Equity Issue Price	$0.49	$0.42	$0.44	$0.47	$0.48	$0.50	$0.51	$0.52
USD/CAD	$0.49	$0.34	$0.39	$0.44	$0.46	$0.51	$0.54	$0.59
Surface Royalties	$0.49	$0.50	$0.50	$0.49	$0.49	$0.49	$0.48	$0.48
Average	**$0.48**	**Min**	**$0.25**	**Max**	**$0.64**	**Std. Dev**	**6.6%**	

Dewey Burdock Resource & Haywood Mining Concept

Current Resource (M&I)	Current Resource (Total)	Forecast Resource	Grade	Recovery	Dilution	Process Yield
8,582,000	12,110,000	24,220,000	0.2%	80%	2%	100%

CAPEX/OPEX		Other Model Assumptions	
Initial CAPEX (US$M)	$30	Steady State Annual Production (M lbs)	1.76
LoM Sustaining CAPEX (US$M)	$146	LoM Production (M Lbs)	19.02
LoM Cash Operating Cost (US$/lb)	$17	Mine Life (Y)	11.00
LoM Total Cash Opex & Capex (US$/lb)	$27	LoM Gross Revenue (US$M)	$1,332
		LoM Operating CF (US$M)	$864

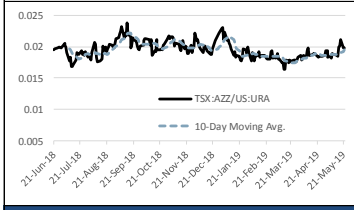
Risk/Return Metrics

Trailing Annualized Volatility	27%	Trailing Information Ratio	-0.22
Trailing Calmar Ratio	-0.19	Target-Implied Information Ratio	4.01
Trailing Sharpe Ratio	-0.29	Max Drawdown (TTM)	-31%

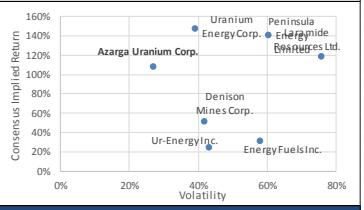
Comparable Companies

Name	Share Price	Cons. Target	Return	Market Cap (M)	EV (M)	EV/lb	P/NAV
Denison Mines (DML-T)	$0.71	$1.07	51%	$419	$299	$1.7	0.6x
Energy Fuels (UUUU-US)	$3.25	$4.26	31%	$304	$289	$2.2	0.7x
Uranium Energy (UEC-US)	$1.34	$3.30	147%	$241	$240	$2.2	0.4x
Ur-Energy Inc. (URE-T)	$1.22	$1.51	24%	$195	$157	$3.8	0.8x
Laramide Resources (LAM-T)	$0.32	$0.70	119%	$43	$40	$0.3	0.4x
Peninsula Energy (PEN-AU)	$0.28	$0.68	141%	$69	$55	$1.0	0.5x
Azarga Uranium (AZZ-T)	**#REFRESH**	**$0.50**	**#VALUE!**	**#VALUE!**	**$44.1**	**$0.75**	**0.4x**
Group Avg. (Ex-AZZ)						**$1.85**	**0.5x**

Relative Strength Chart - AZZ/Global X Uranium ETF (URA) Price Ratio



Peer Group Return/Volatility Profiles



Dewey Burdock Production Profile	2023	2024	2025	2026	2027	2028
Total Uranium Production (lbs)	**176,145**	**1,233,018**	**1,761,455**	**1,761,455**	**1,761,455**	**1,761,455**
Reserve Profile (lbs)	19,203,308	17,994,467	16,267,551	14,540,635	12,813,718	11,086,802

Corporate Contact

Website:	www.azargauranium.com	**Tel:**	604-536-2711
Key Executive:	Steele, Blake	CEO & Director	

Colin Healey, MBA - Research Analyst
chealey@haywood.com 604-697-6089

Aazan Habib, CFA, CMT - Research Associate
ahabib@haywood.com 604-697-6030

Source: Bloomberg, Capital IQ, Company Reports, and Haywood Securities

Catalysts

Game Changing Events & Supportive Items

- **Clearing of Final Contestation to NRC License:** We have highlighted throughout this report the importance of removing the final contestation to Azarga's NRC license for the Dewey Burdock ISR uranium project. The timing of the hearing in front of the Atomic Safety and Licensing Board is now set for August, and we expect to know the outcome definitively by November 2019. A decision in favour of Azarga should act as the single biggest catalyst for the stock, as it removes a major risk hurdle and paves the way for EPA permitting and ultimately development and production. **Other required permits ahead of construction** include the U.S. EPA Underground Injection Control (UIC) permits (issued in Draft form in March 2017); and three State permits submitted (deemed complete and recommended for approval) to the South Dakota Department of Environment and Natural Resources (Groundwater Disposal Plan, Water Rights and Large-Scale Mine Plan permits).

- **Preliminary Economic Assessment Update in H2/2019:** In November 2018, Azarga updated the resource estimate at Dewey Burdock, increasing the Measured and Indicated ISR amenable resources by 97% to 16.9 Mlb U_3O_8 (7.5 Mt grading 0.113% U_3O_8), at the same time growing the ISR-amenable 'all-categories' resource 47% to 17.75 Mlb U_3O_8 (grading 0.11% U_3O_8) from 12.1 Mlb U_3O_8. **With over 95% of project resources reporting to higher-certainty Measured & Indicated categories, the updated PEA should provide a good estimate of the potential of the project. The newer resource at Dewey is substantially larger, while average grade was reduced compared to the prior resource. Despite this, resource grades remain at the high-end of the typical U.S. ISR asset range. The latest resource update falls within Azarga's existing NRC license boundary and could confidently be integrated into an updated Preliminary Economic Assessment (PEA) of the project, with real potential to improve preliminary project economics.** We expect Azarga to integrate the updated resource into a PEA in the second half of this year. As one of the highest-grade undeveloped ISR assets in the U.S., the 2015 PEA on Dewey demonstrated the potential for a low-cost 11-year mine producing ~1.0 Mlb U_3O_8 per year, with up-front CAPEX of just US$27M, and cash costs of US$12.53/lb (Figure 5). *(PEA at US$65/lb uranium, and 35% federal tax rate. The applicable federal tax rate has since been reduced to 21%, which is not reflected in the PEA)*.

- **U.S. Section 232 POTUS Decision could Drive U.S. Uranium Names to the Forefront:** We continue to highlight the outcome of the President's decision on the confidential results and recommendations of the US Department of Commerce's (DoC) investigation into the domestic uranium supply chain as a potential catalyst for uranium equities with significant U.S. assets by mid-July 2019. As a refresher, a group led by domestic uranium producers successfully lobbied the government under Section 232 of the Trade Expansion Act of 1962 calling for an investigation into the impacts of uranium imports on national security. Petitioners argued that the domestic uranium mining industry, which has struggled to compete with heavily-subsidized foreign producers, is vital to national security and that steps need to be taken to ensure its long-term survival. In its petition, the group's proposed solutions include a quota on imports and a requirement for utilities to purchase domestically sourced uranium (in accordance with the President's "Buy American" policy).

    - Domestic uranium production in the U.S. has declined by ~90% since peaking in 1980 at ~43M lbs U_3O_8 (source: EIA), and now accounts for ~2-4% of the country's consumption, compared to 49% in 1987. The remainder of U.S. uranium requirements are filled by imports from Canada (~25%), Kazakhstan (~24%), Australia (~20%), and Russia (~14%) to support the 99 nuclear reactors that produce 20% of the country's electricity.

    - The DoC launched its investigation in mid-July 2018 and has delivered its results and recommendations in a report to the POTUS. POTUS now has 90 days to act on any such recommendations, which should expire on July 13th, 2019. We believe investors should increase near-term weightings to U.S.-based uranium equities like Azarga, as we believe a positive outcome could act as a substantial catalyst.

- **Uranium Price Appreciation on Fundamental Improvement in Global Demand/Supply Dynamic:** The increasing frequency of news relating to production cuts through 2017/18 has helped stabilize the declining trend in spot and long-term uranium prices that has prevailed since Fukushima. We have seen a strong recovery in UxC spot prices since the lows of ~$18/lb in December 2016 to ~$25/lb today with more producer and speculative/investor interest in the market. At the same time, the important UxC Long-Term price indicator has been much stickier, currently sitting at $32/lb, just $2 above its 2016-2018 low of $30/lb. The Long-Term contracting market is historically where ~70% of utility buying is sourced and a metric we have long focused on as an indicator of the deeper fundamental health of the sector. We believe that emergence of a positive trend in the Long-Term price will be coincident with much improved supply/demand fundamentals. Production cuts and net new reactors/reactor restarts are poised to support this by chewing through global inventory and eventually shifting the bias toward a sellers' market. Azarga is poised to participate in a sector rally with a well-advanced uranium project.

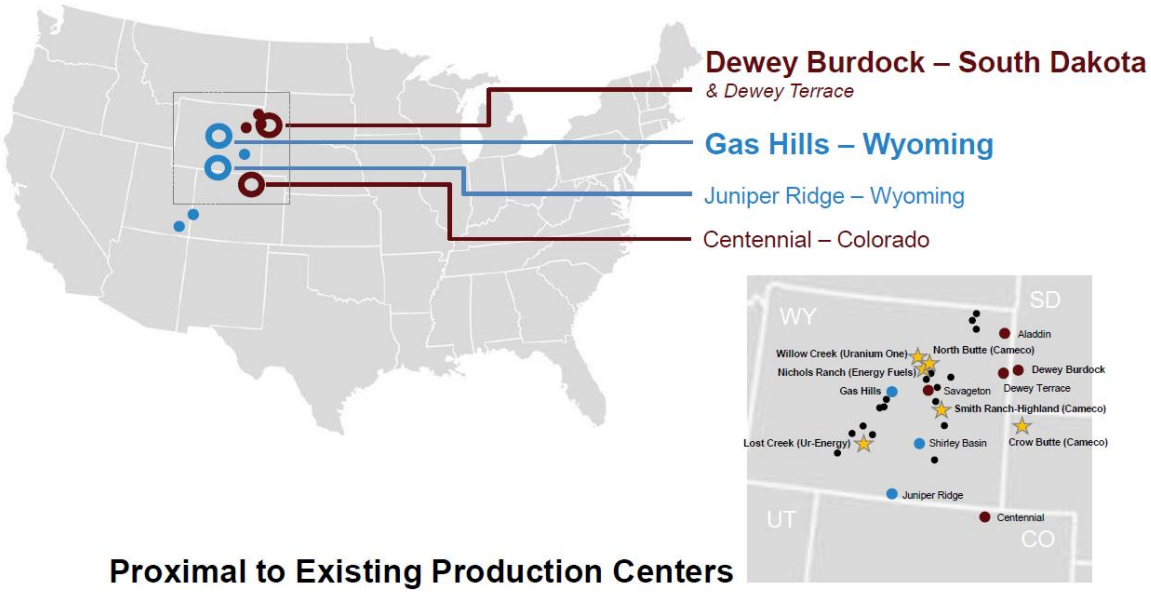
Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Projects Overview

Introduction

Azarga controls 10 uranium projects in the U.S. following a merger with URZ Energy in July 2018, creating a U.S.-based uranium developer with a **diversified asset base with combined all-categories NI 43-101 uranium U.S. resources of over 46 Mlb U_3O_8 (87% Meas. & Ind.)** (SD, WY and CO). Azarga also maintains a 70% interest in the Kyzyl Ompul project (7.5 Mlb U_3O_8 inferred, 100%-basis) in the Kyrgyz Republic. **We assign zero value to assets in the Kyrgyz Republic in our valuation**. In early May 2019, the Kyrgyz Republic voted in favour of a ban on uranium mining and exploration and will proceed with the parliamentary process to put the motion into law. Azarga has suspended activities at this non-core project.

Figure 1: Location of Azarga's Nine (9) U.S.-based Uranium Projects



Source: Azarga Uranium, Haywood Presentation

Figure 2: Summary of Azarga's Portfolio of Uranium Resources

South Dakota

Dewey Burdock ISR Amenable Resource Estimate

Category	Mt	Avg. GT	U_3O_8 (%)	U_3O_8 (lb)
Measured	5.200	0.73	0.132%	13,799,000
Indicated	2.328	0.40	0.068%	3,160,000
Inferred	0.732	0.33	0.056%	818,000
Global	**8.260**	**0.60**	**0.107%**	**17,777,000**

**At 0.05% U_3O_8 Cut-off & GT Cut-off of 0.5 (M&Ind.) or 0.2 (Inf.)*

Dewey Burdock Non-ISR Resource Estimate (above water table)

Category	Mt	Avg. GT	U_3O_8 (%)	U_3O_8 (lb)
Measured	0.844		0.057%	1,060,000
Global	**0.844**		**0.057%**	**1,060,000**

**At 0.02% U_3O_8 Cut-off & GT Cut-off of 0.2 (M&Ind.), 0.2 (Inf.)*

Wyoming

Aladdin Resource (5,100 acres surface rights, 4,600 acres mineral rights)

Category	Mt		U_3O_8 (%)	U_3O_8 (lb)
Indicated	0.466		0.111%	1,038,023
Inferred	0.043		0.119%	101,255
Global	**0.509**		**0.112%**	**1,139,278**

**A a GT Cut-off of 0.2 (M,Ind.&Inf.)*

*** The Ni 43-101 Report also identified an "Exploration Target" of 5.0-11.0 Mlb at a grade range of 0.11% to 0.12% U_3O_8 (0.2 GT cut-off) at the Aladdin Project*

Gas Hills

Category	Mt	Avg. GT	U_3O_8 (%)	U_3O_8 (lb)
Indicated	2.413		0.098%	4,729,000
Inferred	2.342		0.054%	2,529,000
Global	**4.754**	**0.00**	**0.076%**	**7,258,000**

Juniper Ridge

Category	Mt	Avg. GT	U_3O_8 (%)	U_3O_8 (lb)
Indicated	5.178		0.058%	6,006,000
Inferred	0.107		0.085%	182,000
Global	**5.285**		**0.059%**	**6,188,000**

Shirley Basin

Category	Mt	U_3O_8 (%)	U_3O_8 (lb)
Global	**0.000**		**0**

Dewey Terrace (1,834 acres surface rights, 7,514 acres mineral rights)

Category	Mt	U_3O_8 (%)	U_3O_8 (lb)
Global	**0.000**		**0**

Savageton (3,980 acres of Claims and Private Mineral Leases in the PRB)

Category	Mt	U_3O_8 (%)	U_3O_8 (lb)
Historic (non 43-101)			1,000,000

**Calculated by the Colorado School of Mines Research Institute*

Colorado

Centennial Uranium Project

Category	Mt	U_3O_8 (%)	U_3O_8 (lb)
Indicated	6.873	0.090%	10,371,571
Inferred	1.365	0.090%	2,325,514
Global	**8.238**	**0.090%**	**12,697,085**

**A a GT Cut-off of 0.20 (M,Ind.&Inf.)*

Kyrgyz Republic (70%-interest)

Kyzyl Ompul Project

Category	Mt	U_3O_8 (%)	U_3O_8 (lb)
Inferred	15.130	0.023%	7,511,758
Global	**15.130**	**0.023%**	**7,511,758**

**At a 100ppm U_3O_8 Cut-off (M,Ind.&Inf.)*

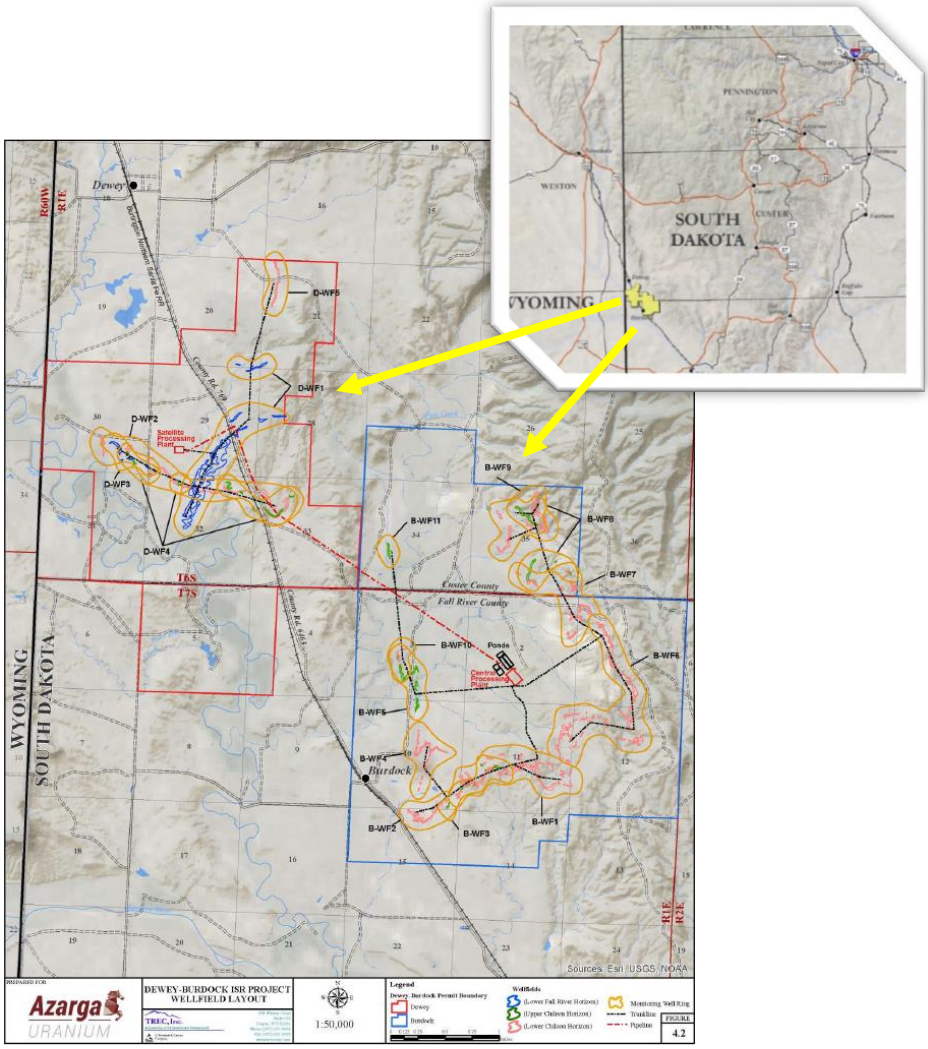
Source: Azarga Uranium, Haywood Presentation

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Dewey Burdock

Background: Azarga's flagship project is the 100%-owned Dewey Burdock ISR uranium project in southwestern South Dakota right near the Wyoming border and less than 100 miles east of Wyoming's newest ISR uranium mines (Figure 3). The Dewey Burdock (DB) project was the subject of a January 2015 Preliminary Economic Assessment (PEA) commissioned by Azarga, which outlined a low-capex, low-OPEX ISR uranium mining operation with an ~11-year life, producing ~1.0 Mlb/year at steady state. The PEA included an updated resource estimate for DB totaling 12.1 Mlb U3O8 (71% Meas. & ind.). A summary of the PEA mining scope and economics is provided in Figure 5.

Figure 3: Dewey Burdock Claims



Source: Dewey Burdock PEA / Azarga Uranium – Haywood modification

Dewey Burdock Project Description: The DB Project is located in southwest South Dakota and is comprised of typical sandstone-hosted roll-front style uranium mineralization. Mineralization occurs in multiple hydrogeologically isolated horizons necessary for in-situ recovery of uranium. Some historic conventional mining of uranium occurred in the 1950s and 60s in shallow open pits of less than 100 ft deep, and adit drives into an exposed ridge. According to the PEA, production records are spotty, but historic mining probably totaled ~200 klb U_3O_8.

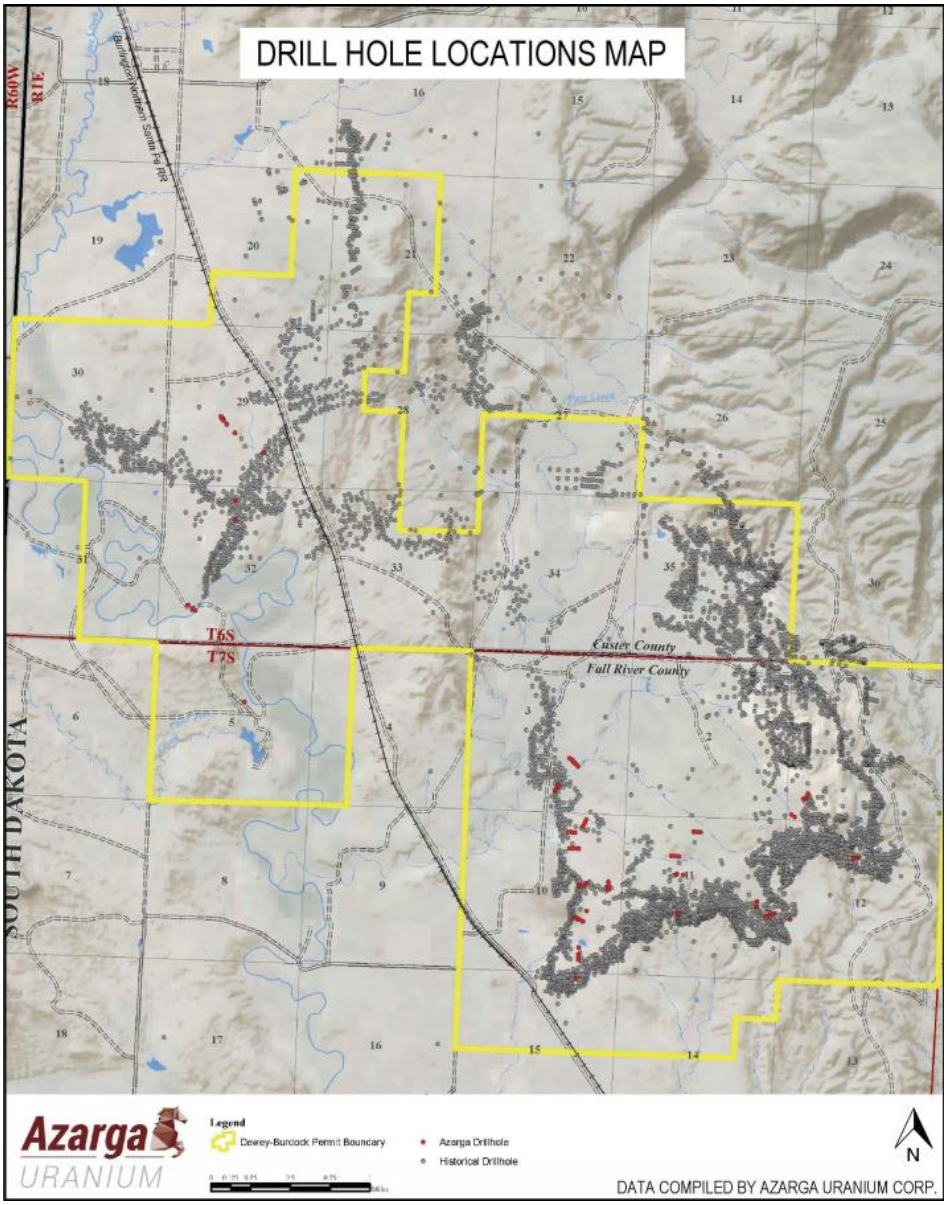
Current Resources: The DB project resources are divided into the Dewey and Burdock deposits with collective defined "ISR amenable" resources (M,Ind.&Inf.) of 17.78 Mlb U_3O_8 (0.107% U_3O_8 average grade at a GT cutoff of ≥0.20) (another ~ 1 Mlb of inferred resources are defined above the water table, not considered to be ISR amenable, see Figure 2). Resources at the deposits occur in multiple stacked lenses ranging from surface to 782 feet below surface at the Burdock deposit and from 184 to 927 feet below surface at the Dewey deposit.

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Making the Grade: With the 2018 resource update, the DB all-categories resources increased 47% while average resource grades of 0.107% U_3O_8 (Measured at 0.132%) were lower, as the GT cutoff was reduced, now consistent with the majority of current U.S. ISR deposit resource estimates. That said, the Dewey Burdock deposits remain among the highest grade undeveloped ISR uranium projects in the U.S., and well above some existing producers using a GT cutoff similar to most recent ISR deposits in the U.S. Although many factors determine the successful extraction of uranium in an ISR operation, higher concentrations of uranium will help to reduce sustaining capex in the form of well-field development costs per pound of production, on a relative basis, and could prove to be a sustainable advantage.

Underlying Data: The resource was defined based on a large database of historic drilling including at least 4,000 drill holes competed prior to 1986 plus confirmatory drilling of 91 holes drilled in 2007-08 (55,302 ft), of which 12 were developed into monitoring wells, and little new drilling has been performed at the project since 2011. The November 2018 resource update and updated PEA at the project due later in 2019 are largely the integration of additional historic data acquired on the project area. The new data substantially increased the dataset and has led to identification of additional resources that will report to the mining concept of the PEA update.

Figure 4: Dewey Burdock Claims



Source: Azarga Uranium

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Ground water studies and pump testing performed in 2007-08 confirmed the permeability and ISR amenability of the deposits, with sustained pumping rates of 25 to 30 gpm and acceptable ground water flow characteristics.

Leach amenability tests performed in 2007 using a sodium bicarbonate solution with hydrogen peroxide showed uranium extraction from core samples ranging from 71.0%-92.8% of uranium into solution and suggest the uranium in the rocks can be mobilized and extracted using standard oxidizing solutions, and thus DB is a good candidate for a uranium ISR mining operation. Although not economically assessed in the PEA, leach testing results included vanadium extraction figures for the DB core highlighting the potential for a by-product credit with further study. Vanadium resources have not been defined at DB.

2015 PEA Highlights: Below we provide a summary of the economics presented in the 2015 Preliminary Economic Assessment of Dewey Burdock (at US$65/lb U_3O_8). The preliminary economics are set to be updated later in 2019 following the Q4/18 resource update. PEA^{2015} sensitivity analysis showed an ~$1M pre/post-tax NPV at US$35/lb U_3O_8 (IRR: 8%), with each US$1.00/lb U_3O_8 change the pre-tax $NPV_{8\%}$ changed ±US$5.5M, or post-tax ±US$3.8M:

Figure 5: Summary of Dewey Burdock 2015 PEA

Mine Life	11 years (incl. 2 year ramp-up)
Annual Production	1.0 Mlbs/yr
LOM Production	9.7 Mlbs
Initial Capital Costs	US$27.0M (US$2.80/lb)
Cash Operating Costs - Plant and well field operation - Restoration / de-commissioning - Site management / overhead	US$12.53/lb US$8.50/lb US$1.25/lb US$2.78/lb
Local Taxes & Royalties	US$6.33/lb
Sustaining Capital Costs	US$14.00/lb
Pre / Post Tax NPV8%(1)	US$149.4M / US$113.8M
Pre / Post Tax IRR(1)	67% / 57%

Source: Azarga Uranium

A Clear Path to Clearing the NRC licensing Phase has been Established: Discussions with management confirm that licensing/permitting is well advanced, but importantly, has a well-defined timeline with respect to the final contention to the NRC License lodged with the Atomic Safety and Licensing Board (ASLB). Azarga has obtained a Source and By-product Materials License from the U.S. Nuclear Regulatory Commission (NRC) for Dewey Burdock (issued in April 2014, amended in 2016). The ASLB is part of a checks-and-balances process for the NRC licensing. During the ASLB process several contentions to the NRC License were raised (only one remains to be resolved). In May of this year **the ASLB "issued an order granting the United States Nuclear Regulatory Commission Staff's motion to set a schedule for an evidentiary hearing pertaining to the final contention for the Company's Dewey Burdock In-Situ Recovery Uranium Project (the "Dewey Burdock Project") NRC License."** That hearing is now scheduled for August with a decision date from the ASLB set for November 29th, 2019. The sole remaining contention to the NRC License for the Dewey Burdock project was put forth by the Oglala Sioux Tribe and pertains to "the identification and protection of historic and cultural resources for the purposes of compliance with the National Environmental Policy Act." The above solidifies a timeline for resolution of the remaining contention.

Other required permits ahead of construction include the U.S. EPA Underground Injection Control (UIC) permits (Class III, V) (issued in Draft form in March 2017), awaiting finalization for review of public comments already provided; and three State permits submitted to, deemed complete and recommended for approval by, the South Dakota Department of Environment and Natural Resources (DENR) [Groundwater Disposal Plan, Water Rights and Large-Scale Mine Plan permits]. The DENR deemed the applications complete and recommended them for approval, with final approval pending a lift of continuance put in place at the State level, pending completion of Federal regulatory approval from the Environmental Protection Agency (EPA) and the NRC.

- **Dewey Burdock Permitting Overview (continued):** The State determined in the fall of 2013 that it would resume final decision steps for these permits following completion of the NRC and EPA processes. A Bureau of Land Management (BLM) Record of Decision on the plan of operations is expected following positive resolution of the remaining NRC contention.

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Dewey Burdock Site: Below we have included some site photos in the direction of the Dewey and Burdock deposits, showing the general lay-of-the-land highlighting the simple topography and low population density of the area. Azarga controls surface and mineral rights for the deposits.

Figure 6: Photos of Dewey / Burdock Claim Areas

Source: Haywood Securities

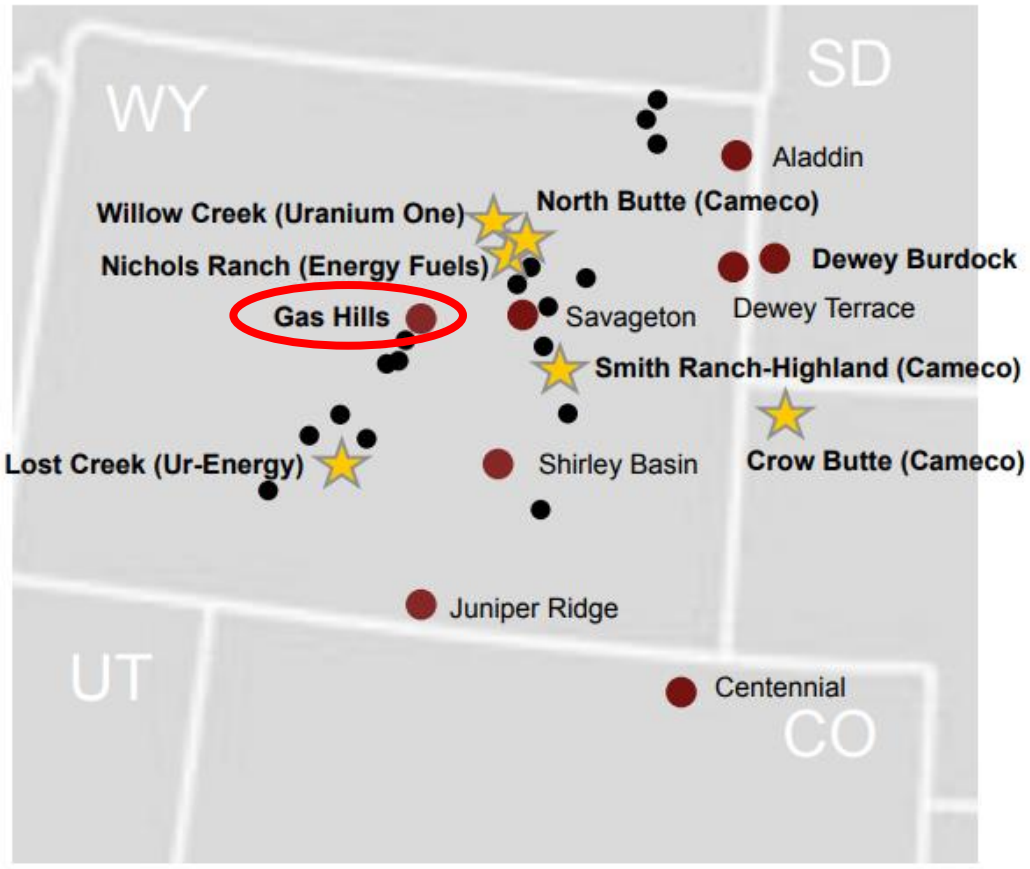
Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Additional resource potential proximal to the Dewey Burdock is represented in the Dewey Terrace property, which could evolve into a satellite deposit to a future mining operation at Dewey Burdock. Dewey Terrace is just over state lines in Wyoming, to the northwest of DB, and has been the subject of significant historic exploration work that demonstrates resource potential. Azarga reports data from 259 mineralized drill holes, including 91 holes with multiple intercepts exceeding the typical GT cut-off of 0.2 at a grade cut-off of 0.02% U_3O_8 used in resource calculations in regional uranium ISR deposits. Within those 91 holes, 129 intercepts above cut averaged 0.062% U_3O_8 at an average thickness of 7.4 feet. Uranium mineralization in 7 mineralized zones was reported over a 2.5-mile trend.

Gas Hills, Wyoming

Background: Azarga acquired the Gas Hills project via merger with URZ Energy in July 2018. Azarga now owns a 100%-interest in Gas Hills, which is favourably located close to good infrastructure in a historic producing region within uranium mining-friendly Wyoming (approximately 100 Mlb U_3O_8 from 50s-80s). The Gas Hills project area is another example of typical roll-front uranium mineralization in sandstones. Just prior to the merger, URZ Energy had made some significant strides in demonstrating the ISR potential of the Gas Hills Resources (Figure 10) in 3 of 5 known deposits. Specifically, hydrology testing indicated sufficient 'head' pressure within the confined aquifer for ISR mining. We expect at some point for Azarga to continue to move the Gas Hills project forward with additional work to increase confidence in its ISR mining potential. We view this as a high-priority exploration/development project for AZZ, with the potential to add value for shareholders with de-risking.

Figure 7: Uranium Projects in Wyoming, including Azarga's Gas Hills Project (circled red)



Source: Azarga Uranium

Figure 8: Gas Hills Project NI 43-101 Resources (June 2017) (0.1 GT cut-off)

Indicated

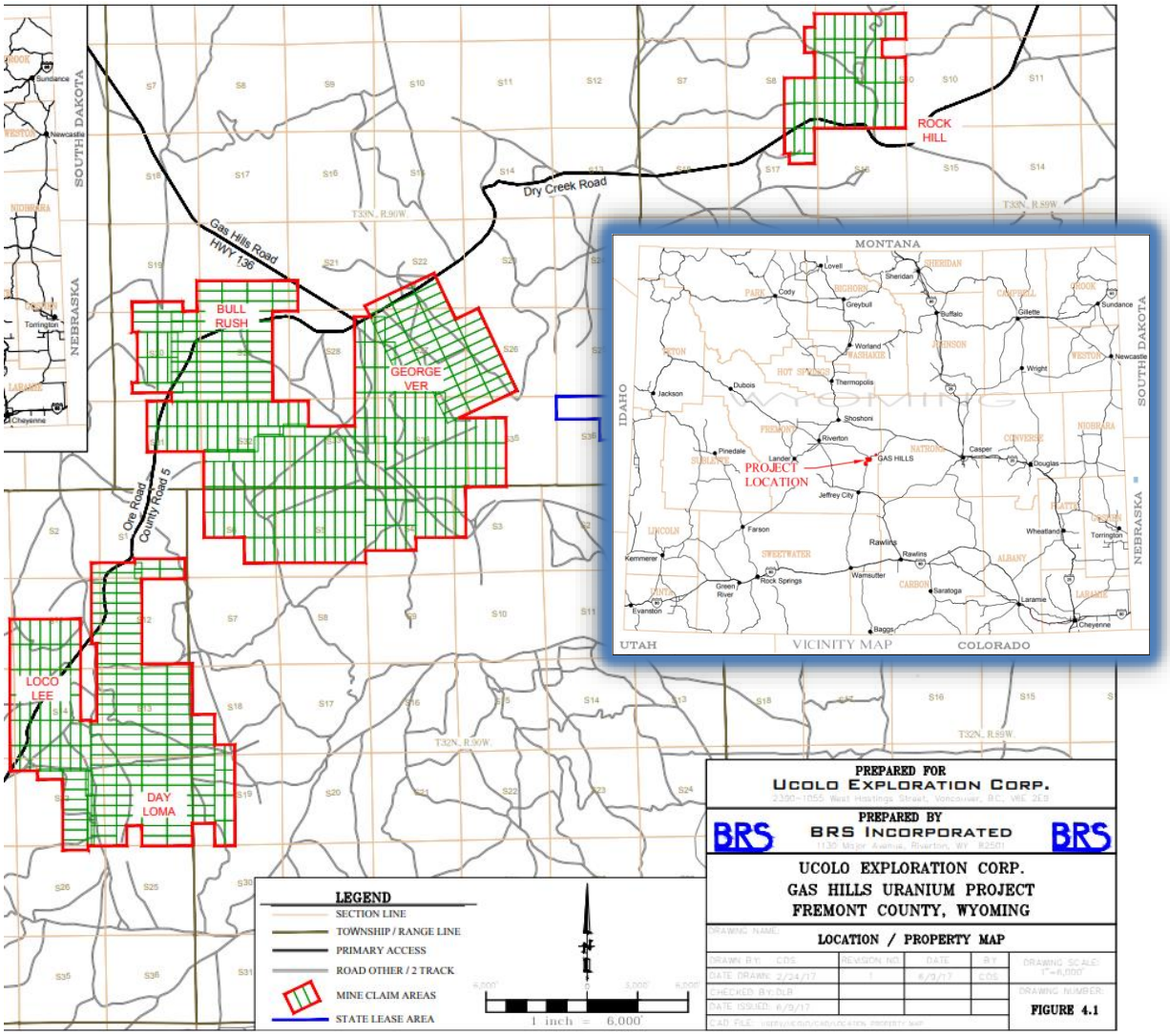
PROPERTY	TONS (x 1,000)	GRADE % eU_3O_8	POUNDS eU_3O_8 (x 1,000)
DAY LOMA	1,342	0.110	2,948
GEORGE-VER	623	0.082	1,027
LOCO-LEE	442	0.085	755
TOTAL	2,407	0.098	4,729

Inferred

PROPERTY	TONS (x 1,000)	GRADE % eU_3O_8	POUNDS eU_3O_8 (x 1,000)
DAY LOMA	136	0.100	271
GEORGE-VER	738	0.064	938
LOCO-LEE	317	0.052	330
ROCK HILL	824	0.036	589
BULL RUSH	310	0.065	401
TOTAL	2,324	0.054	2,529

Source: Azarga Uranium

Figure 9: Gas Hills Project Resource Areas



Source: Company Reports, Haywood Securities

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

2017 NI 43-101 Technical Report Notes: The last Gas Hills project technical report was prepared in the context of a conventional open pit scenario with heap-leach and IX processing, but did recognize that "deeper deposits, and those that extend beyond the limits of historical open pits, could be amenable to in-situ recovery," and that a central plant could function as processor of pregnant solutions from both the heap-leach and ISR mining operations. Prior to the recent merger, following the 2017 resource estimate, URZ Energy conducted preliminary tests to further investigate the ISR exploitation potential of the uranium hosted within the Wind River formation where the resources are contained. Analysis of piezometric surface conditions determined that the Day Loma, George-Ver and Loco-Lee deposits, which contain 6.3 Mlb U_3O_8 of resource (75% of which fall in the 'Indicated' category, equal to 86% of total Gas Hill project resources, refer to Figure 8), are "principally located within a confined aquifer that contains current hydrostatic head well above the minimum requirements to allow for the successful use of ISR mining techniques," which is highly positive with respect to potential future ISR mining amenability. Permeability (hydraulic conductivity pump tests) of the containing aquifer is also critical to establishing ISR amenability. Recent permeability testing of the Gas Hills project delivered results within the ranges of select active and planned ISR uranium mines proximal to Gas Hills (refer to Figure 10), and the Hydro-Engineering conclusion of the study stated that "permeability of the mineralized Wind River formation confined aquifer at Gas Hills is suitable for ISR uranium mining," which is also a very positive testing outcome as it supports future IRS exploitation potential and tells us that the project warrants further investigation.

Figure 10: Summary Results of Permeability Testing at Gas Hills Project

Project Name and Owner	Hydraulic Conductivity Range (feet/day)	Permeability Range (darcy)
Gas Hills; Azarga Uranium	1.0 to 5.7	0.8 to 2.7
Gas Hills (Peach); Cameco	0.5 to 6.0	0.3 to 2.89
Lost Creek; Ur-Energy	0.27 to 2.78	0.13 to 1.3

Source: Azarga Uranium

Future Work on ISR Exploitation Potential, Exploration Targets and Resource Upside Potential: Based on promising results to-date from hydrogeologic studies, Azarga will continue to investigate the ISR extraction potential of Gas Hills, as well as the established resource growth potential there. The 2017 technical report identified an exploration target of 2.5-5.0 million tons at a grade range of 0.04-0.12% U_3O_8 (2.5-12.0 million lb U_3O_8, Figure 11) within 4 of the 5 deposit areas. The 'exploration target' outlined in the report represents 28%-165% resource upside, which could rewrite the future economics of the Gas Hills project, transforming it into a viable standalone ISR uranium project. We view ~12.0 Mlb U_3O_8 of ISR-amenable resources at average grades of >0.06% U_3O_8 as a notional hurdle that would create a platform for a standalone ISR uranium operation at Gas Hills. There are other viable potential options for future exploitation, including a satellite facility and toll-processing at a regional facility, given the project's location proximal to multiple producing operations. We expect Azarga to allocate a budget and work program to Gas Hills following resolution of licensing issues at Dewey Burdock in South Dakota, which is the current focus. That said, the Gas Hills project has the potential to evolve into a second source of future production for Azarga and represents very low overhead optionality for the Azarga investor. For context we include the 2017 technical report recommended path for advancement of the project, noting that, given the current focus of proving the ISR potential of the deposits, it may not be accurate at this time.

Figure 11: Gas Hills Exploration Target Established in 2017 NI 43-101 Technical Report

Exploration Target	Grade % eU_3O_8	Tons (x1,000)
Day Loma and Loco-Lee areas, George-Ver, and Bullrush	0.04 – 0.12	2,500 – 5,000

Source: Azarga Uranium

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Figure 12: Gas Hills 2017 Technical Report Recommended Work Programs

Work Phase	Description	Estimated Cost US$
Phase 1	Drilling, Resource Update, and PEA	
	• Delineation Drilling Program	$380,000
	• Exploration Target Drilling	$150,000
	• Update Mineral Resource Estimates	$40,000
	• Baseline Studies	$80,000
	• Preliminary Economic Assessment	$200,000
Sub-Total		$850,000
Phase 2	Drilling, baseline studies, and PFS preparation	$1,150,000
Total		$2,000,000

Source: Azarga Uranium

Juniper Ridge, Wyoming

Background: Azarga owns 100% of the Juniper Ridge uranium project, a conventional open-pit project located in southwest Wyoming, in an area of widespread past exploration and production. It's a brownfields project with a small amount (0.54 Mlb U_3O_8) of production occurring in the 50s and 60s. The Juniper Ridge project made its way into the Azarga fold with the merger with URZ energy in 2018, and was the subject of a June 2017 PEA based on the current 6.2 Mlb U_3O_8 resource (97% 'Indicated', 0.10 GT cut-off, 0.02% eU_3O_8 cut-off, Figure 13).

2017 Preliminary Economic Assessment Highlights: The PEA used a base-case uranium price of US$65/lb U_3O_8 and 84.5% process recovery to an intermediate concentrate product, which would be processed at a 3rd party processing plant for average recovery of 435 klb U_3O_8/year over 10-years in an open-pit/heap-leach mining operation with a 15.4:1 waste:ore strip ratio (Figure 14). The concept generated a pre- and post-tax IRR of 26% and 22% respectively, and a pre- and post-tax $NPV_{8\%}$ of US$27.3M and US$19.9M respectively. Sensitivity analysis to uranium price suggested a breakeven uranium price of US$47/lb U_3O_8, and a post-tax $NPV_{8\%}$ of US$331k at US$55/lb uranium (Figure 15). CAPEX was estimated to be US$36.7M. Direct operating costs were estimated to average US$39.77/lb U_3O_8 LoM (Figure 16). The PEA concept included an open pit mine with heap leach and intermediate processing plant to load resin from pregnant leach solution via ion-exchange (IX) followed by shipping to a 3rd party processing plant for elution, precipitation, filtering, drying and packaging.

Deposit Description & Historic Work: The Juniper Ridge uranium project lode mining claims cover ~3,240 acres, with mineralization ranging from near-surface to <300 feet below surface, averaging 100ft deep. The deposit is described as flat lying with less than 5° dip, with an average thickness of just over 10ft at the 0.02% U_3O_8 cut-off. Historic production of 536klb U_3O_8 was sourced from 12 open pits and 2 shallow underground mines. Historic data for Juniper ridge includes results of radiometric sampling from >5,400 regional drill holes (868k feet) plus 200 cored holes with chemical assays. The PEA resource was underpinned by 2,167 drill holes with eU_3O_8 data, assays from 400 holes from 2011 drilling, eU_3O_8 data from 149 holes drilled in 2012, of which 40 holes also have prompt fission neutron (PFN) data.

Permitting Status: Azarga has not prepared/submitted applications for the permits required to mine Juniper Ridge.

Development Plans: The PEA outlined a battery of phased studies and project work to move Juniper Ridge forward toward Feasibility Study, including drilling, met-work, Prefeasibility Study, and baseline environmental work, with later phase work to be amended based on earlier phase work. Phase I recommendations include US$400k of confirmation and delineation drilling and an updated resource estimate, plus US$220k in exploration drilling. This would be preliminarily followed up with ~US$2.0M in Phase 2 drilling, metallurgical studies, PFS work and baseline studies.

Our Take: The Juniper Ridge project is not a development priority for Azarga and we don't expect a significant budget allocation until we see substantial appreciation in realizable uranium price for U.S. producers. Nominal value for the project is captured within our "other projects" credit. That said, given our forecast for uranium price appreciation in coming years, and U.S.-specific catalyst potential, we believe the Juniper Ridge project provides further optionality to Azarga investors and increases the stock's torque to rising commodity price.

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Figure 13: Juniper Ridge project Resources (2017 NI 43-101 PEA)

Class	Cut-off	Tons (x1,000)(1)	Weighted Average Grade (% eU_3O_8)	Pounds eU_3O_8 (x1,000)(1)
Indicated	0.10 GT	5,139	0.058	6,006
Inferred	0.10 GT	107	0.085	182

Source: Azarga Uranium

Figure 14: Juniper Ridge Project 2010 PEA Mining Concept

Life of Mine	10 years
Capex	$36.7 M
Total Direct Cost per lb U produced	$39.77
Assumed Uranium price	$65.00/lb
Pre-tax IRR	26%
Post-tax IRR	22%
Pre-tax NPV @8% discount rate (x1000)	$27,349
Post-tax NPV @8% discount rate (x1000)	$19,908
Payback period	3 years after start of construction
Tons Included in PEA Mine Plan	
Indicated	3,978 ktons @ 0.064% eU_3O_8 grade
Inferred	25 ktons @ 0.133% eU_3O_8 grade
Average Process Recovery	84.5%
Strip Ratio (Tons waste:Tons processed)	15.4 : 1

Source: Azarga Uranium

Figure 15: Juniper Ridge Project Economics Sensitivity to Uranium Price (PVs are 'pre-tax')

Juniper Ridge Project	Pre US Income Tax ($ x 1,000)		
U Price	$55/lb	$65/lb	$75/lb
Discount Rate			
NPV 5% ($ x1,000)	$ 14,356	$ 39,927	$ 65,498
NPV 8% ($ x1,000)	$ 7,854	$ 27,349	$ 46,845
NPV 10% ($ x1,000)	$ 4,644	$ 21,022	$ 37,400
NPV 12% ($ x1,000)	$ 2,126	$ 15,955	$ 29,783
IRR	14%	26%	35%
Juniper Ridge Project	Post US Income Tax ($ x 1,000)		
U Price	$55/lb	$65/lb	$75/lb
Discount Rate			
NPV 5% ($ x1,000)	$ 4,568	$ 30,245	$ 55,710
NPV 8% ($ x1,000)	$ 331	$ 19,908	$ 39,322
NPV 10% ($ x1,000)	$ -1,694	$ 14,753	$ 31,322
NPV 12% ($ x1,000)	$ -3,230	$ 10,656	$ 24,426
IRR	8%	22%	32%

Source: Azarga Uranium

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Figure 16: Juniper Ridge Project 2010 PEA-Estimated CAPEX (upper) and OPEX (lower)

($ x 1,000)

Capital Expenditures:	YEAR -4	YEAR -3	YEAR -2	YEAR -1	STARTUP	TOTAL
Baseline and Permitting		$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 4,000
Pre-Development Project Design	$ 83	$ 250	$ 250	$ 500		$ 1,083
Annual Holding Costs	$ 32	$ 32	$ 32	$ 32		$ 127
OP Mine Equipment					$ 10,702	$ 10,702
Office, Shop					$ 1,890	$ 1,890
Mineral Processing					$ 18,877	$ 18,877
TOTAL	**$ 115**	**$ 1,282**	**$ 1,282**	**$ 1,532**	**$ 32,469**	**$ 36,678**

($ x 1,000)

Surface Mine				Total Cost	$/lb U
Strip	$ 1,734	per yr		$ 18,211	$ 4.19
Support Equipment	$ 803	per yr		$ 8,434	$ 1.94
Mining	$ 867	per yr		$ 8,236	$ 1.89
Staff	$ 996	per yr		$ 10,460	$ 2.40
Total Surface Mine	$ 4,578	per yr		$ 45,341	$ 10.42
Reclamation and Closure					
NRC Annual Inspection Fees				$ 520	$ 0.12
Mine Reclamation	Included with Stripping			$ 4,032	$ 0.93
Final Grading and Revegetation	per acre	1000		$ 3,788	$ 0.87
Plant Decommissioning and Reclamation				$ 6,808	$ 1.56
Total Reclamation and Closure				$ 15,148	$ 3.48
Heap Leach					
Average Costs per year	$ 7,822	per yr		$ 74,652	$ 17.16
Total Heap Leach				$ 74,652	$ 17.16
Reclamation Bond Mine and Heap	$ 15,000	bond, 2% fee		$ 3,900	$ 0.90
Taxes & Royalties					
Gross Products tax per/lb U	by price	per pound	$ 2.12	$ 9,225	$ 2.12
Severance Tax per/lb U	by price	per pound	$ 1.09	$ 4,752	$ 1.09
Claim royalties (expunged)	rec. lbs. x price		0	$ 0.00	$ 0.00
Total Taxes and Royalties				$ 13,977	$ 3.21
Resin Transport and Final Product Finishing					
Transport Resin up to 400 Miles				$ 3,046	$ 0.70
CPP Resin/Packaging Cost*				$ 16,970	$ 3.90
Total Product Finishing					$ 4.60
TOTAL DIRECT COSTS				$ 173,033	$ 39.77

*Unit cost Juniper Ridge PEA 2014 (Beahm and McNulty, 2014) was $2.60 per pound at EFR's White Mesa mill. The Author escalated this unit cost by 50% to account for EFR handling costs and profit.

Source: Azarga Uranium

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Centennial Project, Colorado

Background: Azarga owns 100% of the Centennial uranium project, an ISR-focused uranium project lying on the north central/eastern corner of Colorado in Weld County. The Centennial uranium resources are contained within typical sandstone hosted roll front deposits. Centennial was the subject of a 2010 Preliminary Economic Assessment (PEA), which was based on the current 12.7 Mlb U_3O_8 resource (82% 'Indicated', 0.20 GT cut-off, Figure 17).

2010 Preliminary Economic Assessment Highlights: The PEA used a base-case uranium price of US$65/lb U_3O_8 and 75% total metal recovery for a 700 klb U_3O_8/year, 14-year mining operation (Figure 18), which generated a modest 18% IRR, and a US$52M $NPV_{8\%}$, which falls of rapidly at US$60/lb uranium to an $NPV_{8\%}$ of US$27M in that study (Figure 19). Initial CAPEX was estimated to be US$71M (plus US$58M LoM sustaining, Figure 20). Operating costs (all-in, less sustaining CAPEX) were estimated to average US$34.95/lb LoM (Figure 20). The PEA concept included a central processing plant (CPP) located near the northern deposits, with a satellite plant servicing the southern deposits.

Deposit Description & Historic Work: Centennial has been the subject of fairly extensive exploration work over the last 40 years with drilling totaling more than 300,000 metres in 3,500 holes, including drilling in 2009 that was comprised of 16 water wells designed to conduct aquifer testing to study groundwater quality and aquifer characteristics in the area of the planned wellfield. The uranium deposits are located 100-500 feet from surface in three discrete horizons. The project's northern section deposits are located below the water table and the PEA determined the deposits sit within conditions favourable to ISR mining extraction. The southern area deposits sit above the water table, and the PEA noted that the water table will require "localized enhancement" in the form of a "well field encircling freshwater injection fence to facilitate ISR mining methods."

Permitting Status: Azarga has not prepared/submitted applications for the majority of the permits required to mine Centennial, but did complete its Class 1 Underground Injection Control (UIC) permit application, which was submitted to the U.S. Environmental Protection Agency (EPA) in late 2010 and deemed complete by the EPA; however, the application has been withdrawn and can be resumed when Azarga deems appropriate.

Development Plans: Centennial remains in a holding pattern as a non-priority project for Azarga. The 2010 PEA did recommend the typical post-PEA project advancement items such as additional hydrogeological study, further definition drilling, studying wastewater disposal method options, etc.

Our Take: The Centennial project is not a development priority for Azarga and we don't expect a significant budget allocation until we see substantial appreciation in realizable uranium price for U.S. producers. Nominal value for the project is captured within our "other projects" credit. That said, given our forecast for uranium price appreciation in coming years, and U.S.-specific catalyst potential, we believe the Centennial project provides further optionality to Azarga investors and increases the stock's torque to rising commodity price.

Figure 17: Centennial Project Resources Established in 2010 NI 43-101 PEA

Classification	Tons	Average Grade (eU_3O_8)	Pounds (U_3O_8)
Indicated Resources	6,873,199	0.09%	10,371,571
Inferred Resources	1,364,703	0.09%	2,325,514

Source: Azarga Uranium

Figure 18: Centennial Project 2010 PEA Mining Concept

Statistic	Units	Value
Centennial total resources	U_3O_8 lb	12,697,085
Estimated overall recovery		75%
Total reserves recovered	U_3O_8 lb	9,522,813
Annual yellowcake production	U_3O_8 lb/year	700,000
Est. mine life	years	14
Daily operating schedule	Hours/day	24
Annual operating schedule	Days/year	350
Daily production required	U_3O_8 lb/day	2,000

Source: Azarga Uranium

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Figure 19: Centennial Project Economics Sensitivity to Uranium Price (PVs are 'pre-tax')

Item	Units				
U_3O_8 Price	$/lb	$42	$60	$65	$80
Free Cash Flow	$000s	(38,916)	$112,159	156,878	$285,356
IRR	$000s	-7%	13%	18%	32%
$PV_{8\%}$	$000s	(56,334)	$27,076	51,774	$122,728

Source: Azarga Uranium

Figure 20: Centennial Project 2010 PEA-Estimated CAPEX (upper) and OPEX (lower)

Description	Initial Cost	Sustaining Cost	LoM Cost
CPP/Gen Facilities	$43,874	$11,223	$55,097
Well Fields	$5,359	$8,849	$14,208
Capital Labor	$852	$823	$1,675
G&A	$9,142	$4,463	$13,605
Replacement Capital	$0	$12,568	$12,568
subtotal	**$59,227**	**$37,926**	**$97,153**
Contingency	$11,845	$7,585	$19,547
Mine Closure	$0	$12,584	$12,584
Total	**$71,073**	**$58,213**	**$129,286**

Description	LoM Cost ($000s)	Unit Cost ($/lb U_3O_8)
Central Plant/Ponds	$61,919	$6.502
Satellite/Well Field	$135,862	$14.267
Restoration	$9,404	$0.988
Decommissioning	$4,466	$0.469
Site Management	$21,339	$2.241
Contingency	$46,598	$4.893
Production Taxes	$53,231	$5.590
Total	**$332,819**	**$34.950**

Source: Azarga Uranium

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Figure 21: Centennial Project 2010 PEA-Estimated CAPEX (upper) and OPEX (lower)

		units	Value
Net Revenue			
U3O8 Price ($/lb)		$/lb-U3O8	$65.00
Prod.		klbs	9,523
	Gross Revenue	**$000s**	**618,983**
Transportation		$000s	(1,428)
Severance Tax		$000s	(4,928)
Surface Royalty		$000s	(12,380)
Mineral Royalty		$000s	(30,949)
Property Tax		$000s	(4,974)
	Net Revenue	**$000s**	**564,324**
Production Costs			
Central Plant/Ponds		$000s	61,919
Satellite/Well Field		$000s	135,862
Restoration		$000s	9,404
Decommissioning		$000s	4,466
G&A Labor		$000s	14,311
Corporate Overhead		$000s	5,600
Contingency		$000s	46,598
	Production Costs	**$000s**	**278,160**
	Gross Margin	**$000s**	**286,164**
Project Capital (Equity)		$000s	(129,286)
Income Tax		$000s	0
	Free Cash Flow	**$000s**	**156,878**
	IRR	**-**	**18%**
	Present Value	**-**	**51,774**

Source: Azarga Uranium

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Azarga Capital Structure

Figure 22 outlines Azarga's current share count and dilutive instruments. In Figure 23, we present our model assumptions for Azarga's future share count from equity raises and debt proceeds for the life of the Dewey Burdock project. We conservatively assume an equity issue price of $0.23/share and total capital raised of US$67M (~30% leverage at 10% cost of debt).

Figure 22: Azarga Options and Warrants Dilution Summary

Shares Outstanding	183,719,147
Options	12,640,836
Warrants	17,380,339
Fully Diluted	**213,740,322**

Options Dilution Summary

Shares Represented	Options WASP		Total Value	Total ITM	Total ITM Value
12,640,836	**$0.242**		**$3,057,853**	**12,640,836**	**$3,057,853**
Options	Strike	Expiry	Value	ITM	ITM Value
393,336	$1.20	27-Oct-19	$472,003	393,336	$472,003
870,000	$0.335	19-May-20	$291,450	870,000	$291,450
1,165,000	$0.36	19-May-21	$419,400	1,165,000	$419,400
2,040,000	$0.32	16-May-22	$652,800	2,040,000	$652,800
3,692,500	$0.24	22-Aug-23	$886,200	3,692,500	$886,200
4,480,000	$0.075	14-Mar-27	$336,000	4,480,000	$336,000

Warrants Dilution Summary

Shares Represented	Options WASP		Total Value	Total ITM	Total ITM Value
17,380,339	**$0.34**		**$5,901,942**	**17,380,339**	**$5,901,942**
Warrants	Strike	Expiry	Value	ITM	ITM Value
4,621,665	$0.35	23-Sep-19	$1,617,583	4,621,665	$1,617,583
2,333,968	$0.36	27-Jul-20	$840,228	2,333,968	$840,228
1,567,500	$0.35	22-Dec-20	$548,625	1,567,500	$548,625
2,304,184	$0.375	19-Jun-19	$864,069	2,304,184	$864,069
6,553,022	$0.31	20-Mar-22	$2,031,437	6,553,022	$2,031,437

Source: Company Reports, Haywood Securities

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Figure 23: Modeled Capital Structure

Capital Structure Forecast	
Share Price	$0.24
Current S/O	183.7
Weighted Avg. Forecast S/O	331.9
Current Market Cap	$44.1
Implied Market Cap	$162.2
Total Forecast Equity Proceeds (US$M)	$46
Total Shares Issued Over Mine Life	163.8
Weighted Avg. Issue Price	$0.23
Total Forecast Debt Issued (US$M)	$21

Source: Haywood Securities

Outlook & Estimates

Dewey Burdock Mining Concept

We outline below our key model inputs for the Dewey Burdock project, ranked by the sensitivity (measured by standard deviation) to our valuation. Our model assumes production commencing in 2023 and ramping up to full scale by 2025, with a mine life of 11 years. The most important overall input in our model is obviously the uranium price, while the most significant operational input is recovery rates. Using these inputs, we arrive at an $NPV_{10\%}$ of US$173.2M compared to an $NPV_{8\%}$ of US$113.8M in the April 2015 PEA. See Figure 25 for a summary of the differences between the 2015 PEA assumptions and our model.

Figure 24: Dewey Burdock Haywood Model Inputs & Assumptions, Ranked by Target Price Sensitivity

Input Sensitivies		
Model Input	**Base Case**	**Standard Deviation**
Uranium Price	**70.00**	14.7%
Recovery Rate	**80%**	9.6%
P/NAV Multiple	**0.6x**	9.2%
USD/CAD	**1.29**	9.2%
Discount Rate	**10%**	8.2%
Resource Upside	**1.00**	4.8%
Equity Issue Price	**0.23**	3.9%
Plant & Well Field Opex (US$/lb)	**13.00**	3.9%
Federal Income Tax	**21%**	2.6%
Initial CAPEX (US$M)	**30.00**	2.1%
Well Field Capital Costs	**70.00**	1.2%
Leverage	**30%**	0.9%
Well Field Labour	**50.00**	0.9%
Surface Royalties	**5%**	0.8%
Severance & Cons. Tax	**5%**	0.7%
Product Transportation (US$/lb)	**1.60**	0.5%
Admin Support (US$/lb)	**1.60**	0.5%
D&D and Restoration (US$/lb)	**2.00**	0.3%
Interest Rate	**10%**	0.2%
Property Tax	**1%**	0.1%

Source: Haywood Securities

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Figure 25. Haywood Model Assumptions vs. 2015 PEA

Dewey Burdock	PEA (April 2015)	Haywood	Δ
Resource Estimates			
Measured Resource (lbs)	4,122,000	4,122,000	0%
Indicated Resource (lbs)	4,460,000	4,460,000	0%
Inferred Resource (lbs)	3,528,000	15,638,000	343%
Total Resource (lbs)	12,110,000	24,220,000	100%
Costs & Production			
Initial CAPEX (US$M)	$27.0	$30.0	11%
LoM Sustaining CAPEX (US$M)	$135.8	$146.4	8%
LoM Cash Operating Cost (US$/lb)	$18.9	$17.3	-8%
LoM Total Cash Opex & Capex (US$/lb)	$35.7	$26.5	-26%
U Recovery Rate (%)	80%	80%	0%
Steady State Annual Production (M lbs)	0.88	1.76	100%
LoM Production (M Lbs)	9.69	19.02	96%
Mine Life (Y)	11.00	11.00	0%
LoM Gross Revenue (US$M)	$629.7	$1,331.7	111%
LoM Operating CF (US$M)	$447.0	$863.8	93%
Financial Assumptions			
Uranium Price (US$/lb)	$65.00	$70.00	8%
Discount Rate	8%	10%	20 bps
Royalties & Taxes			
Surface & Mineral Royalties	5.25%	5.25%	0%
Severance & Conservation Tax	4.7%	4.7%	0%
Property Tax	1.2%	1.2%	0%
U.S. Federal Income Tax	NA	22.0%	
Project Economics (Post-Tax)			
IRR	57%	59%	15 bps
NPV (US$)	$113.8	$173.2	52%

Source: Haywood Securities

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Valuation, Target Price, & Recommended Action

Dewey Burdock NPV, Asset Credits and Corporate NAV

Our valuation and **$0.50/share target price** for AZZ is primarily driven by the $NPV_{10\%}$ of the Dewey Burdock Project, which comprises 84% of our corporate NAVPS estimate. We also include US$0.09/share from resource credits for Azarga's other projects (see Figure 27 for details). We then apply a 0.6x multiple to our corporate NAVPS and assume a 1.29 USD/CAD exchange rate to arrive at our target. Our P/NAV multiple reflects the higher end trading range for developers and the average for producers (see comps table in Figure 28). We expect a potential positive surprise from the upcoming PEA to be a catalyst that would warrant upside to our current valuation.

Our downside scenario assumes a 0.1x multiple and zero credit for Azarga's other projects aside from Dewey Burdock, resulting in a $0.10/share downside. From current levels, our return to target vs. our downside risk results in a **1.9x reward/risk ratio**, and we thus recommend the stock as a **BUY**. Given the currently weak tape for uranium equities, we recommend taking a scaling-in approach to accumulating a position in AZZ shares. However, we recommend having an appropriate amount of exposure ahead of the upcoming catalysts (first of which is the POTUS decision on July 13, 2019) that we have outlined in this report.

Figure 26. Azarga Valuation Summary

	Valuation (M)	Per Share
Dewey Burdock NPV (US$)	$175	$0.53
Other Projects (US$)	$32	$0.10
Corp. Adjustments (US$)	$2.5	$0.01
Total Equity Value (US$)	$207	$0.63
P/NAV Multiple		0.6x
Valuation (US$)	$124	$0.38
USD/CAD		1.29
Valuation (C$)	$160	$0.49
Target Price		**$0.50**

Source: Haywood Securities

Figure 27. Asset Credits for Other Projects

Other Projects	Location	M&I Resource (lbs)	EV/lb Multiple	Valuation ($M)	Ownership	Valuation/Share
Gas Hills	Wyoming, USA	4,729,000	3.0x	$14.19	100%	$0.04
Aladdin	Wyoming, USA	1,038,023	1.0x	$1.04	100%	$0.00
Juniper Ridge	Wyoming, USA	6,006,000	1.0x	$6.01	100%	$0.02
Shirley Basin	Wyoming, USA	0	1.0x	$0.00	100%	$0.00
Dewey Terrace	Wyoming, USA	0	1.0x	$0.00	100%	$0.00
Savageton	Wyoming, USA	0	1.0x	$0.00	100%	$0.00
Centennial	Colorado, USA	10,371,571	1.0x	$10.37	100%	$0.03
Kyzyl Ompul	Kyrgyz Republic, Kazakhstan	0	1.0x	$0.00	70%	$0.00
Total		**22,144,594**		**$31.6**		**$0.09**

Source: Company Reports, Haywood Securities

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Uranium Comparables

Figure 28: Select Uranium Company Comparables

	Company (Ticker)	Share	Consensus Targets IBES Consensus	Implied	Shares Outst.	Market Capitalization	In-Situ Comps - EV/lb U3O8 Enterprise Value (USD)	Total Reserves & Resources	USD EV/lb	NAV Comps IBES Consensus	Price /	Cash Flow Comps CFPS (LoC)			P/CFPS		
	Haywood Covered Names bold	Price	Target	Return	(millions)	(millions)	(millions)	(M lb)	Resource	NAV	Nav	2018	2019	2020	2018	2019	2020
PRODUCERS	Cameco Corporation (CCO-T)	$14.03	$17.77	27%	396	$5,553	$4,380			$16.36	0.86x	$1.19	$0.71	$0.90	11.8x	19.8x	15.6x
	Energy Fuels (UUUU-US)	$3.24	$4.26	31%	93	$302.9	$289.0			$4.63	0.70x	($0.16)	($0.16)	$0.25			13.0x
	Uranium Energy (UEC-US)	$1.36	$3.30	144%	181	$244.8	$240.4			$3.37	0.40x	($0.10)	$0.01	$0.08		135.5x	16.9x
	Ur-Energy Inc. (URE-T)	$1.22	$1.51	24%	160	$195.0	$157.2			$1.58	0.77x	($0.01)	$0.03			40.7x	
	Peninsula Energy (PEN-AU)	$0.28	$0.68	141%	247	$69.2	$54.6			$0.60	0.46x	($0.01)	($0.04)	($0.03)			
	Energy Resources (ERA-AU)	$0.21			518	$106.1	($143.7)			$0.31	0.66x	$0.07	$0.12	$0.03	2.9x	1.7x	6.8x
	Group Average - Producers										**0.64x**				**7.4x**	**49.4x**	**13.1x**
DEVELOPERS	**NexGen Energy (NXE-T)**	$2.08	$5.74	176%	353	$735	$581.8			$4.85	0.43x	($0.02)	($0.07)	($0.05)			
	Denison Mines (DML-T)	$0.71	$1.07	51%	590	$418.6	$298.6			$1.27	0.56x	($0.03)	($0.03)	($0.02)			
	Fission Uranium (FCU-T)	$0.48	$1.55	226%	486	$230.9	$157.9			$1.56	0.30x	($0.01)	($0.01)	($0.01)			
	GoviEx Uranium (GXU-V)	$0.15			423	$63.5	$47.8										
	UEX Corporation (UEX-T)	$0.17	$0.45	165%	381	$64.8	$43.7			$0.54	0.31x	($0.02)					
	Global Atomic (GLO-T)	$0.47			143	$66.3	$43.6	113.2	$0.39								
	Boss Resources (BOE-AU)	$0.04	$0.09	98%	1,584	$69.7	$42.2						($0.00)	($0.00)			
	Laramide Resources (LAM-T)	$0.32	$0.70	122%	136	$42.8	$40.4			$0.86	0.37x						
	Deep Yellow (DYL-AU)	$0.32			230	$73.7	$45.2										
	Toro Energy (TOE-AU)	$0.02			2,172	$45.6	$37.8										
	Plateau Energy (PLU-V)	$0.62	$2.85	360%	80	$49.3	$32.8			$3.38	0.18x	($0.06)	($0.07)	($0.04)			
	Azarga Uranium (AZZ-T)	$0.24	$0.38	56%	184	$44.1	$30.9			$0.59	0.41x						
	Western Uranium (WUC-L)	$1.49			30	$44.8	$32.4										
	Bannerman Resources (BMN-AU)	$0.04			1,042	$45.8	$26.4										
	A-Cap Energy (ACB-AU)	$0.03			872	$26.2	$18.8										
	Forsys Metals (FSY-T)	$0.16			157	$25.1	$19.1										
	Vimy Resources (VMY-AU)	$0.05	$0.34	530%	485	$26.2	$15.6			$0.30	0.18x	($0.02)	($0.01)	($0.01)			
	Energy Metals (EME-AU)	$0.16			210	$32.5	$9.8										
	Berkeley Energia (BKY-AU)	$0.38	$1.15	202%	258	$98.2	$9.6			$1.53	0.25x	($0.09)	($0.05)	($0.05)			
	U3O8 Corp. (UWE-T)	$0.14			23	$3.1	$2.3										
	Group Average - Developers								**$0.39**		**0.33x**						
EXPLORERS	Aurania Resources (ARU-V)	$2.99	$4.00	34%	35	$104.5	$80.9										
	IsoEnergy Ltd. (ISO-V)	$0.47			68	$32.1	$21.5										
	Mega Uranium (MGA-T)	$0.10			326	$32.6	$21.6										
	Skyharbour Resources (SYH-V)	$0.33	$1.01	211%	64	$20.8	$13.5										
	Globex Mining (GMX-T)	$0.35			51	$18.0	$11.7										
	enCore Energy (:EU-V)	$0.13			140	$18.2	$13.0										
	Purepoint Uranium (PTU-V)	$0.08			215	$16.1	$10.7										
	Blue Sky (BSK-V)	$0.15			112	$16.8	$12.4										
	Azimut Exploration (AZM-V)	$0.32			53	$17.1	$10.9										
	Anfield Energy (AEC-V)	$0.19			75	$14.2	$10.2										
	ValOre Metals (VO-V)	$0.25			49	$12.3	$7.8										
	CanAlaska Uranium (CVV-V)	$0.26			45	$11.6	$7.9										
	Fission 3.0 (FUU-V)	$0.10			142	$13.5	$6.3										
	Forum Energy (FMC-V)	$0.05			107	$5.4	$4.5										
	Marenica Energy (MEY-AU)	$0.09			73	$6.6	$3.6										
	Cauldron Energy (CXU-AU)	$0.01			329	$4.6	$1.6										
	Eros Resources (ERC-V)	$0.07			48	$3.4	$2.2										
	X-Terra Resources (XTT-V)	$0.08			38	$3.0	$2.1										
	Avrupa Minerals (AVU-V)	$0.03	$0.20	567%	110	$3.3	$2.5										
	Zadar Ventures (ZAD-V)	$0.11			18	$1.9	$1.5										
	Tarku Resources (TKU-V)	$0.03			75	$1.9	$1.3										
	Uravan Minerals (UVN-V)	$0.03			42	$1.3	$0.9										
	Vanadian Energy (VEC-V)	$0.03			41	$1.2	$0.7										
	Roughrider Exploration (REL-V)	$0.06			14	$0.8	$0.5										
	Group Average - Explorers																
INVENTORY FUNDS	**Uranium Participation (U-T)**	$4.22	$6.00	42%	138	$582.6	$450.1	17.8	$25.26	$5.60	0.75x						
	Yellow Cake (YCA-LN)	£2.05	£3.00	47%	88	£180.4	$219.5	9.6	$22.82								

All data sourced from S&P Capital IQ, SNL Financial, Bloomberg, Haywood Securities, Company Reports

Source: S&P Capital IQ, SNL Financial, Bloomberg, Haywood Securities, Company Reports

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Uranium Sector Fundamentals

Overview

The prevailing theme and driving force behind our bullishness on the uranium sector continues to be supply-side driven production cuts (see below) from the world's largest suppliers, designed to improve the fundamental demand-supply balance and increase uranium prices in the near-term.

Supply & Demand Fundamentals

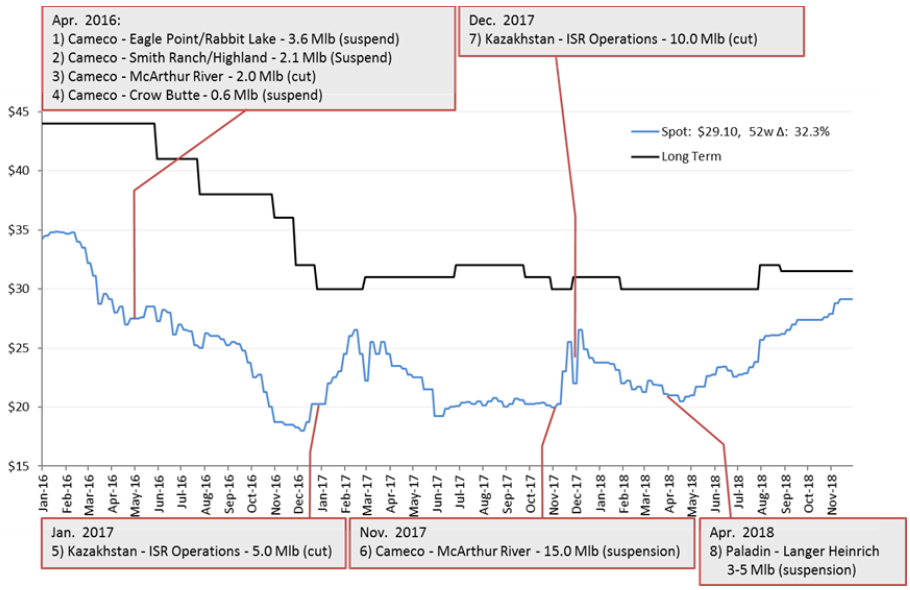
More recent supply-side driven production cuts (see below) from the world's largest suppliers are a response to persistently low prices resulting from several years of oversupply. The oversupply situation of the last 7-8 years was partly a result of reactor shutdowns in Japan following the Fukushima disaster, but mainly resulted from aggressive production increases in Kazakhstan and Canada, and a general lack of discipline from the supply-side. Producer debt, attractive contract pricing, or contract commitments caused money-losing mines to continue to operate. With major producers taking steps to curtail production and correct the fundamental demand-supply balance, we expect to see upward pressure on prices in the near- and mid-term. Supply-side discipline and mine depletion in conjunction with a global nuclear fleet projected to grow to ~520 operating reactors from 415 currently (+25%) by 2035 underpins our uranium price forecast shown below.

We believe substantially higher prices will be required to incentivize new mine construction to backfill the accelerating supply shortfall we outline from 2027 onward in our demand/supply forecast. The commodity price impact on shortfalls depicted in earlier years is expected to be moderated by global inventory surplus. Given the above, we believe that the uranium sector is currently poised to provide investors with its most compelling value proposition since pre-Fukushima, accelerating into the 2020s.

The emerging theme from the supply-side over the last three years has been discipline. For more than five years post-Fukushima, uranium producers aggressively ramped up supply in the face of a steadily declining uranium price creating and exacerbating an oversupply situation that resulted in inventory surplus and further price weakness in the face of an almost completely inelastic demand-side. In recent years we have seen significant recognition of this and subsequent moves by major and smaller producers alike to address this situation.

Supply-Side Spending on Mine Development Decreasing: The IAEA 2018 Red Book reports that world-wide mine development expenditures decreased from $2.1B to $664M (-69%) from 2014 to 2016, and we believe this reduced spending trend has continued into 2019. It is fair to note that there were some major contributors to the 2014-16 decline including completion of Cigar Lake in Canada and reduced expenditure at Husab in Namibia, but numbers also include major reductions in spending from Kazakhstan, which reduced development spending by more than 60% in 2016 vs 2015. Below we outline the material sequential supply-side curtailments since 2016 that have led to a 'Primary Supply' deficit as we exited 2018, while acknowledging the role of secondary supply and excess inventory in price action moderation of the commodity. That said, we believe reduced investment in new production and the shuttering or curtailment of existing production through the informed action of major producers will ultimately have the desired effect of higher prices.

Figure 29: Notable Supply-Side Uranium Production Cuts since 2016



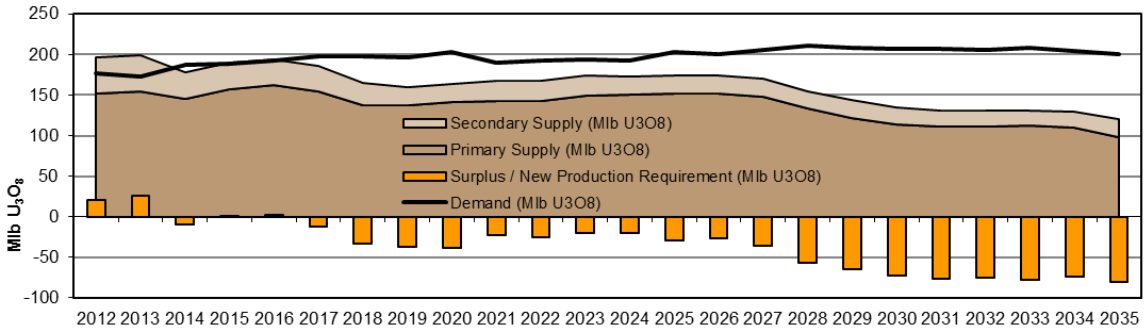
Source: Haywood Securities Inc., Company Press Releases

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Uranium Price Forecast to Accelerate into the Next Decade: Our uranium supply/demand forecast is based on our forward assumptions about the growth in size of the global reactor fleet and the depletion of existing mine supply. The supply shortfall suggested by the orange bars represents estimated future additional mine production requirements given demand.

The current global reactor fleet includes 415 operating reactors (446 classified by the WNA as 'operable,' with the difference in semantics attributable to Japan's fleet). Our demand forecast includes ~25% growth in 'operating' reactors from 415 currently to 520 by 2035. This includes the eventual restart of a significant group classified as 'operable' in Japan, for the addition of 79 net* new reactors globally (*net of forecast reactor retirements). To put this into context, current global reactors under construction (54, WNA) plus restarts in Japan (21-26 estimated, Haywood) account for 78-83 of our 'net new' reactors before accounting for movement of any of the 111 reactors marked 'Planned' by the WNA. Our estimates of net change in the global reactor fleet are slightly more conservative than those of the WNA's reference scenario, which outlines 140 reactor retirements and 224 reactor builds and Japanese restarts (net +84 units).

Figure 30: Haywood Uranium Sector Demand/Supply and Uranium Price Forecast

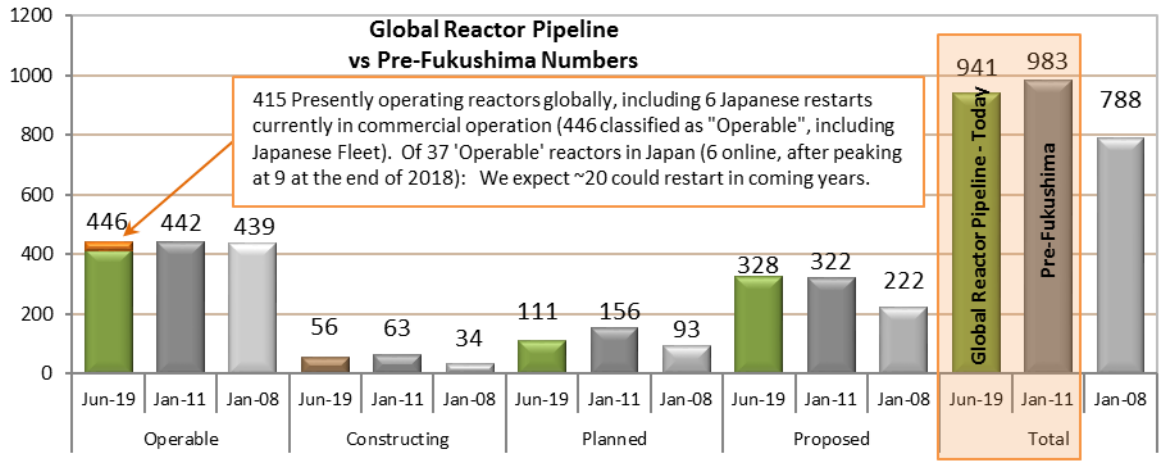


Commodity Price Forecast	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Spot price (US$/lb U_3O_8)	$28.0	$37	$26	$22	$25	$39	$47	$55	$64	$70	$70	$70
Long Term price (US$/lb U_3O_8)	$32.0	$47	$40	$31	$31	$46	$55	$63	$70	$70	$70	$70

Source: Haywood Securities Inc., IAEA, WNA, UxC

The Global Reactor Pipeline Remains Robust: We have often commented on the global reactor pipeline (WNA data) and how it compares to pre-Fukushima numbers. Importantly, the number of operating reactors is inching ever closer to the pre-Fukushima era as Japan made significant strides to bring reactors back online over the last 2 years. Reactors under construction have declined slightly since January 2011, but there is an underlying success story here that keeps us bullish. Since 2014, China has completed construction on and commissioned 26 reactors, increasing its operating fleet to 45 (+125% in just 5 years). China makes up 23% (13 units) of the current global 'under construction' pipeline, with another 7 in India, 6 in Russia and 4 in South Korea. We like the concentration from a demand perspective in Nation States with a track record of successful execution.

Figure 31: Global Reactor Pipeline Evolution



Source: Haywood Securities Inc., WNA

Market Moving Catalyst Potential for U.S.-based Uranium Names in 2019: We continue to highlight the President's decision on the U.S. Department of Commerce's (DoC) investigation into the domestic uranium supply chain as a potential catalyst for uranium equities with significant U.S. assets in mid-July 2019. As a refresher, a group led by domestic uranium producers successfully lobbied the government under Section 232 of the Trade Expansion Act of 1962 calling for an investigation into the impacts of uranium imports on national security. Petitioners argued that the domestic uranium mining industry, which has struggled to compete with heavily-subsidized foreign producers, is vital to national security and that steps need to be taken to ensure its long-term survival. In its petition, the group's proposed solutions include a quota on imports and a requirement for utilities to purchase domestically sourced uranium (in accordance with the President's "Buy American" policy).

Domestic uranium production in the U.S. has declined by ~90% since peaking in 1980 at ~43M lbs U3O8 (source: EIA), and now accounts for ~5% of the country's consumption (projected to be ~2% in 2018), compared to 49% in 1987. The remainder of U.S. uranium requirements are filled by imports from Canada (~25%), Kazakhstan (~24%), Australia (~20%), and Russia (~14%) to support the 97 nuclear reactors that produce 20% of the country's electricity.

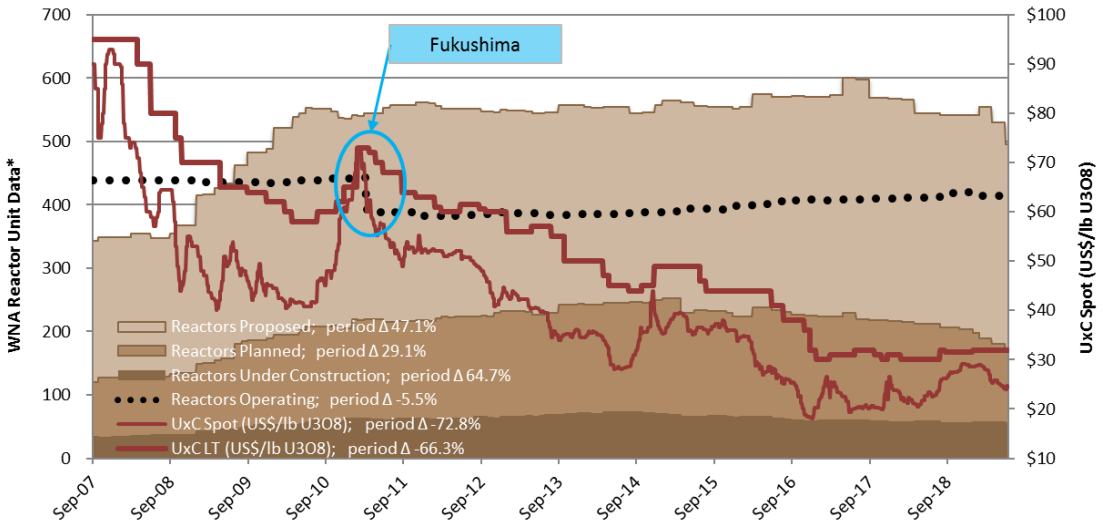
The DoC launched its investigation in mid-July 2018 and delivered its report and recommendations to the POTUS in April of this year. The POTUS has 90 days from that date to act on any such recommendations, with a deadline of July 13th, 2019. We believe investors should increase near-term weightings to US-based uranium equities like Azarga as we believe a positive outcome could act as a substantial catalyst.

Commodity Price Action and Market Sentiment

Spot Uranium Responding to Stimulus Rallying ~60% from 2016 Lows Before some Retracement to Current Levels: The increasing frequency of news relating to production cuts through 2017/18 helped reverse the declining trend in spot and long-term uranium prices that had prevailed since Fukushima. We have seen a strong recovery in UxC spot prices since the lows of ~$18/lb in December 2016 to $29.15/lb in November 2018 before landing at $24.45/lb today with more producer and speculative/investor interest in the market.

Long-Term Prices Remain Near 3-year Lows: At the same time, the important UxC Long-Term price indicator has been much stickier, currently sitting at $32/lb, just $2 above its 2016/17/18 low of $30/lb. The Long-Term contracting market is historically where ~70% of utility buying is sourced and a metric we have long focused on as an indicator of the deeper fundamental health of the sector. We believe that emergence of a positive trend in the Long-Term price will be coincident with much improved supply/demand fundamentals. Production cuts and net new reactors/reactor restarts are poised to support this by chewing through global inventory and eventually shifting the bias toward a sellers' market. UxC reported term market volumes were up ~9% YoY to 90.5 Mlb U_3O_8 in 2018, for a second consecutive year of volume increases, outpacing the growth in reactor count. We remind readers that new reactors typically are fueled with an initial loading consisting of 3-4 years' worth of fuel. UxC indicates that 65% of term market volume was contracted with just 3 utilities. We expect that U.S. utilities are partially awaiting the outcome of the Section 232 investigation before getting more active in the contract market. The UxC reports that non-U.S. utilities made up 80% of term market volume in 2018 (72 Mlb U_3O_8) while U.S. utilities were ~20%, which isn't far off the proportion of the global reactor fleet they operate.

Figure 32: Uranium Price Action in the Context of the Global Reactor Fleet



Source: Haywood Securities Inc., WNA, CapitalIQ, UxC

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Risks

Significant Investment Risks

Overall Risk – Very High: We rank Azarga as Very High Risk in all sub-categories given the permitting stage and associated challenges, the reliance on core assumptions underpinning our valuation, including a substantial increase in the price of uranium in coming years, and general execution and technical risk associated with undeveloped mines. The flagship Dewey Burdock project and other assets of Azarga have no certainty of future exploration success or expansion of resources and there is no certainty as to the technical feasibility, future development, or cash-flow generation of any of the projects. Significant risk considerations include the following:

- **Licensing & Permitting: In our view, the decision of the Atomic Safety & Licensing Board expected in November 2019 following the scheduled Evidentiary Hearing, is the single most significant risk to our valuation.** The ASLB will be rendering a decision on the final contention to AZZ's NRC Source Materials License for Dewey Burdock, which was originally issued in 2014 and amended in 2016. The license is critical to future permitting and development. Dismissal of the remaining contention would allow Azarga to resume and advance applications of other necessary permits. **Other required permits ahead of construction** include the U.S. EPA Underground Injection Control (UIC) permits (issued in Draft form in March 2017), awaiting finalization for review of public comments already provided; and three State permits submitted to the South Dakota Department of Environment and Natural Resources [Groundwater Disposal Plan, Water Rights and Large-Scale Mine Plan permits], all deemed complete and recommended for approval. All licenses and permits would be required to render a final investment and development decision and are binary. Failure or delay in any stage of licensing or permitting could materially affect our opinion on the investability of Azarga.

- **Technical Feasibility: The 2015 Preliminary Economic Assessment of Dewey Burdock was based on an earlier resource estimate, smaller than we model, with a much higher commodity base price assumption, and was 'preliminary' by definition.** Future work to advance DB to a Feasibility-level technical study will serve to mitigate some of the risks related to development and production success, but a high degree of technical risk will still exist throughout development and into early production. Only then will we know with a high degree of certainty how amenable the deposit is to ISR extraction, the effectiveness of the process plant and thus the true cost of production. Mine development and commissioning has, by nature, a high degree of risk. Early development and production technical challenges are common and could materially affect the value of any of Azarga's projects and we therefore attribute a very high degree of risk.

- **Commodity Price Forecast:** A material component of our investment thesis for Azarga Uranium relates to our commodity price assumption (uranium). Our estimate of the potential present value of future uranium production from the Dewey Burdock asset is highly sensitive to U_3O_8 price. A development and production decision would be dependent on other significant risk factors listed here, but also would require an incentivising uranium price, as we have modelled. A sharp decline in commodity prices could materialize and result in the Company not meeting our development, construction, or production timelines and/or cash-flow expectations.

- **Valuation Risk – Very High:** Given Azarga's development stage (pre-revenue, resources at DB 95% in Measured and Indicated, preliminary economics completed with update pending, NRC License received with one contestation outstanding), the valuation risk is mainly attached to clearing of the final contestation to the NRC License and construction financing. The permitting risks are, as always, quite binary, and as such we assign a 'Very High Valuation Risk' rating, as a failure to clear the NRC license would jeopardize the Company's future production potential and have a material impact on our valuation. Azarga's current market valuation is speculative, likely based on the market's evaluation of the sector and the Company's historical and anticipated press releases, further exploration success, evidence of economic viability, analyst opinion, and corporate communications.

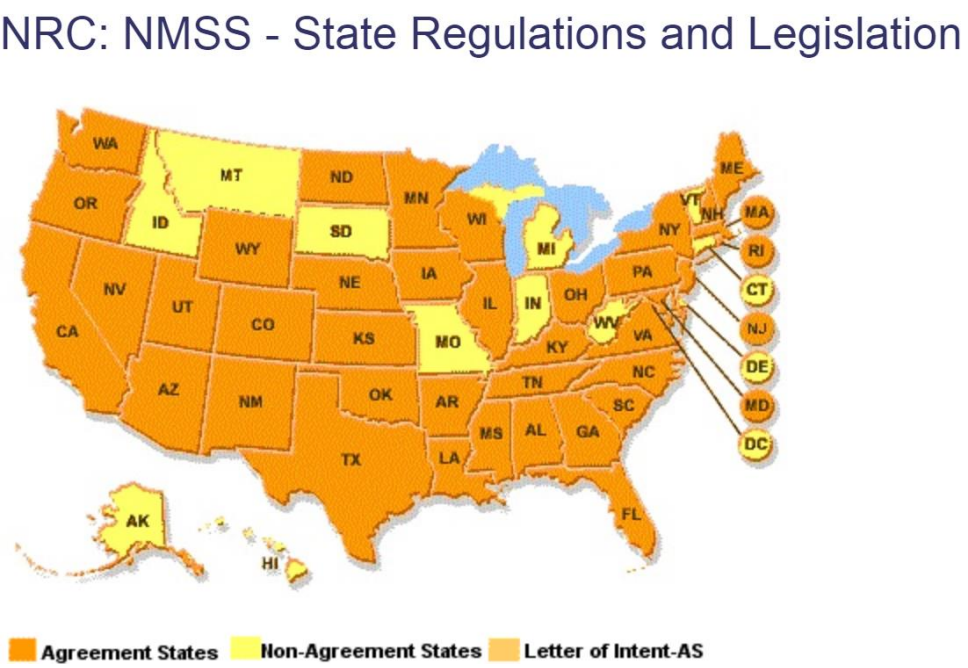
- **Financial Risk – Very High:** Azarga Uranium does not generate any cash flow from the operations of its core business and is not forecast to do so over the next 2 years. The Company will be reliant on external sources of support, including future equity financings to fund ongoing operations.

- **Forecast Risk – Very High:** Every component of our formal valuation involves assumptions that will very likely differ from any eventual outcome to some degree, with each potentially impacting our valuation of Azarga shares. These assumptions include a positive outcome of a detailed assessment of the economic viability of a potential uranium ISR mining and processing operation at Dewey Burdock, permitting and environmental study success, and construction/development of a mining operating meeting or exceeding our assumptions regarding size, grade, recovery and mining/processing costs, as well as commodity and foreign exchange rate forecasts.

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

- **Political Risk – Very High:** Azarga's flagship Dewey Burdock project, which underpins the majority of our valuation, is located in South Dakota where there are currently no active uranium mining operations. Azarga has received a Source and By-product Materials License from the U.S. Federal Nuclear Regulatory Commission (NRC), which remains in good standing, but has a contestation registered against it by the Oglala Sioux Tribe pertaining to "the identification and protection of historic and cultural resources for the purposes of compliance with the National Environmental Policy Act." Contestations are reviewed and overseen by the **Atomic Safety & Licensing Board (ASLB)**, which is a division of the NRC made up of three administrative law judges. The ASLB is currently scheduled to hear arguments regarding the final contestation to Azarga's license in an **evidentiary hearing set for August 28th, 2019. Rules mandate that the ASLB render a decision on the matter by November 29th, 2019**. Azarga reports that the ASLB judges expected to hear arguments have been overseeing the process for some time and are highly familiar with the issues. We take the stance that the NRC License will be upheld and the final contestation will be removed, however, it is possible this will not be the case and a negative outcome from the hearing process would have a material negative impact on Azarga shares with the potential to impair the economic viability of the Dewey Burdock project. We consider it a major milestone and advantage that the DB project already has an NRC license, but must recognize the risks of other important projects in Azarga's pipeline include the Gas Hills project in Wyoming, which has a better-established track record of licensing, permitting, construction and operation of uranium mines in recent years. Wyoming officially became the 38th "Agreement State" in 2018, and now has regulatory authority over the permitting of uranium mines.

Figure 36: NRC Map of Agreement States



Source: Bloomberg, Haywood Securities, Capital IQ

Appendix A - Senior Management

Blake Steele, President and Chief Executive Officer

Mr. Steele joined the company in October 2014 as the Chief Financial Officer and subsequently took on the additional roles of President and Corporate Secretary, before becoming President and Chief Executive Officer. Prior to serving as the Chief Financial Officer of Azarga Resources, which merged with Powertech Uranium to form Azarga Uranium, Mr. Steele worked at SouthGobi Resources (part of the Ivanhoe Mines Group) as Director of Finance and prior to that as Manager, Corporate Development. Mr. Steele began his career with Deloitte & Touche, where he worked in both the audit and financial advisory practices. Mr. Steele graduated from the University of British Columbia with a Bachelor of Commerce degree. He is a Chartered Accountant and Chartered Business Valuator in Canada.

John Mays, Chief Operating Officer

Mr. Mays brings more than 20 years of engineering experience in the uranium industry, focusing on ISR mining in both the U.S. and internationally. He has experience in all facets of ISR mining spanning across design, construction, and operation of ISR uranium mines. From 2006 until joining Powertech Uranium, Mr. Mays served as the Chief In-situ Mining Engineer at UrAsia's three ISR projects in Kazakhstan, and later Uranium One. Prior to joining UrAsia, he held the position of Senior Mining Engineer with Searles Valley Minerals of Trona, California. Mr. Mays also held the position of Superintendent of Well Field Construction for Power Resources Inc on both their Smith Ranch and Highland Uranium Project in Douglas, Wyoming. Mr. Mays holds a Bachelor of Science Degree in Chemical Engineering and Petroleum Refinement from the Colorado School of Mines. John Mays is a licensed professional engineer in South Dakota and Colorado.

Doris Meyer, Corporate Secretary

Doris Meyer is highly regarded as a financial accountant and gained her early experience in the mining industry as Vice President, Finance of Queenstake Resources Ltd. from 1985 to 2003 and Corporate Secretary until 2004. She was the Chief Financial Officer and Corporate Secretary of AuEx from 2004 to 2010, and she played an integral role in the discussions and dealings between AuEx and Fronteer that ultimately led to the acquisition of AuEx by Fronteer. Since 1996 Doris has owned and served as President of Golden Oak Corporate Services Ltd. Golden Oak provides publicly traded mineral exploration companies with administrative, accounting and corporate and regulatory compliance services. Doris serves as an officer and/or director of several mining companies that trade on the exchanges in Canada, London and the USA.

Dan O'Brien, Chief Financial Officer

Dan O'Brien is a Canadian Chartered Professional Accountant with many years of experience working with junior resource companies. Dan works for Golden Oak and serves as Chief Financial Officer for a number of publicly listed exploration companies trading on the TSX and TSX Venture exchanges. Dan was previously a senior manager at a leading Canadian accounting firm where he specialized in the audit of public companies in the mining and resource sector.

Appendix B - Board of Directors

Glenn Catchpole, Non-Executive Chairman

Mr. Catchpole was a member of the Board of Directors and the Chief Executive Officer of Uranerz Energy Corporation ("Uranerz") from March 1, 2005 until June 18, 2015 when the company was sold to Energy Fuels Inc. for more than $150 million, creating the largest integrated uranium producer in the United States. Mr. Catchpole is a licensed engineer who holds an M.S. in civil engineering from Colorado State University. He has been active in the uranium solution mining industry since 1978, holding various positions including wellfield engineer, project manager, general manager and managing director of several uranium solution mining operations. In 1988 Mr. Catchpole joined Uranerz U.S.A., Inc. and Uranerz Exploration and Mining and became Director of Regulatory Affairs, Environmental Engineering and Solution Mining. Mr. Catchpole's responsibilities included the monitoring and oversight of the environmental and regulatory aspects of two large uranium mines in Canada and the operational aspects of one uranium solution mine in the United States. In 1996 Mr. Catchpole was appointed General Manager and Managing Director of the Inkai uranium solution mining project located in the Republic of Kazakhstan (Central Asia). In 1998 Cameco Corporation acquired Uranerz U.S.A. Inc., and Mr. Catchpole continued his post at the Inkai Project for Cameco. Mr. Catchpole spent six years taking the Inkai project from acquisition through feasibility study, joint venture formulation, government licensing, environmental permitting, design, construction and the first phase start-up.

Joseph Havlin, Independent Non-Executive Director

Mr. Havlin has been a director of the Company and audit committee chair since October 2014 and a director of Azarga Resources since 2012. Currently, Mr. Havlin is Vice President Finance with Wyo-Ben, Inc., a bentonite miner and manufacturer of drilling fluids and other bentonite based products as well as a line of drill fluid recycler and reclaimer equipment. Mr. Havlin was also a Director of eBullion, Inc., a gold and silver trading company listed on the US Over the Counter market, from 2012 to 2016. Previously, Mr. Havlin was a director of Black Range Minerals Limited, a uranium exploration and technology company listed on the Australian Stock Exchange, from March 2014 to September 2015. Mr. Havlin is a US CPA with over thirty years' experience holding senior operations and financial management positions in mining, manufacturing and other industries in both public accounting and private industry.

Todd Hilditch, Independent Non-Executive Director

Mr. Hilditch is President, Chief Executive Officer and a Director of Terraco Gold Corp., a TSXV listed gold royalty and exploration company focused in the western United States. He is a Director of Sama Resources Inc./Resources Sama Inc., a TSXV listed base metals company focused in West Africa, and was its President and Chief Executive Officer until 2010. Until 2010, Mr. Hilditch was President, Chief Executive Officer and a Director of Salares Lithium Inc., which was acquired by Australia based Talison Lithium Limited, the world's largest lithium producer and a TSX listed company prior to it being taken over in a $840 million take-over bid transaction. Mr. Hilditch is the President and owner of Rock Management Consulting Ltd., a private mining management services and consulting company. Over the past 20 years, Mr. Hilditch has been responsible for capital raising, negotiating, acquiring and the directing of all other aspects of managing a public company. He holds a Bachelor of Science Management degree from Rensselaer Polytechnic Institute in New York State.

Delos Cy Jamison

Mr. Jamison currently is the founder and principal at the Jamison Group, LLC, which specializes in complex land and resource exchanges, involving Federal assets. From 1994 to 2009, he was a founder and principal at Jamison and Sullivan, Inc., which represented local government and business interests that were before the Congress and the Executive Branch. From 1989 to 1993, he served as National Director of the Bureau of Land Management, overseeing nearly 1/8 of the Nation's surface estate and approximately 600 million acres of mineral estate.

Sandra Mackay

Sandra MacKay has served as General Counsel and Chief Information and Privacy Officer to the Provincial Health Services Authority since July of 2014. Ms. MacKay has over 25 years of experience as a corporate commercial lawyer to clients in the private sector. Ms. MacKay was Senior Vice President, Legal with Uranerz Energy Corporation from 2009 to 2014. Ms. MacKay was Vice President Legal of Aker Chemetics, an international engineering technology company, from 2006 to 2009, and General Counsel 1996 to 2002. Ms. MacKay was corporate counsel to QLT Inc., a dual-listed biotechnology company 2002-2006 and Senior Legal Counsel at Chevron Canada Limited 1987-1995. Ms. MacKay practiced law at the firm of Lawson, Lundell from 1983-1987 before joining their client Chevron Canada. Ms. MacKay is a graduate of the University of British Columbia Law School.

Matthew O'Kane

Mr. O'Kane is currently the CFO of Crater Gold, an ASX listed gold explorer and producer, as well as providing CFO services to a Hong Kong SFC licensed institutional brokerage and asset management firm. He also provides consulting services to minerals and commodities businesses, and is a Director of Northern Territories Resources Pty. Ltd, which owns a significant base metals project in Australia. He was the CFO of a large private commodities trading firm in Hong Kong from August 2014 to August 2016 and was the CFO of Celsius Coal Limited from May 2013 to August 2014, an Australian coal mining company listed on the Australian Stock Exchange. Prior to joining Celsius Coal Limited, Mr. O'Kane was the CFO of SouthGobi Resources Limited, a coal production and development company listed on the Toronto Stock Exchange and the Hong Kong Stock Exchange, from July 2011 to November 2012 and the VP Commercial Operations and Investor Relations of SouthGobi Resources Limited from January 2011 to June 2011. From 2006 to January 2011, Mr. O'Kane was the Finance Director and Executive Director of Volvo Car Australia Pty Ltd., a fully owned subsidiary of Volvo Cars Sweden.

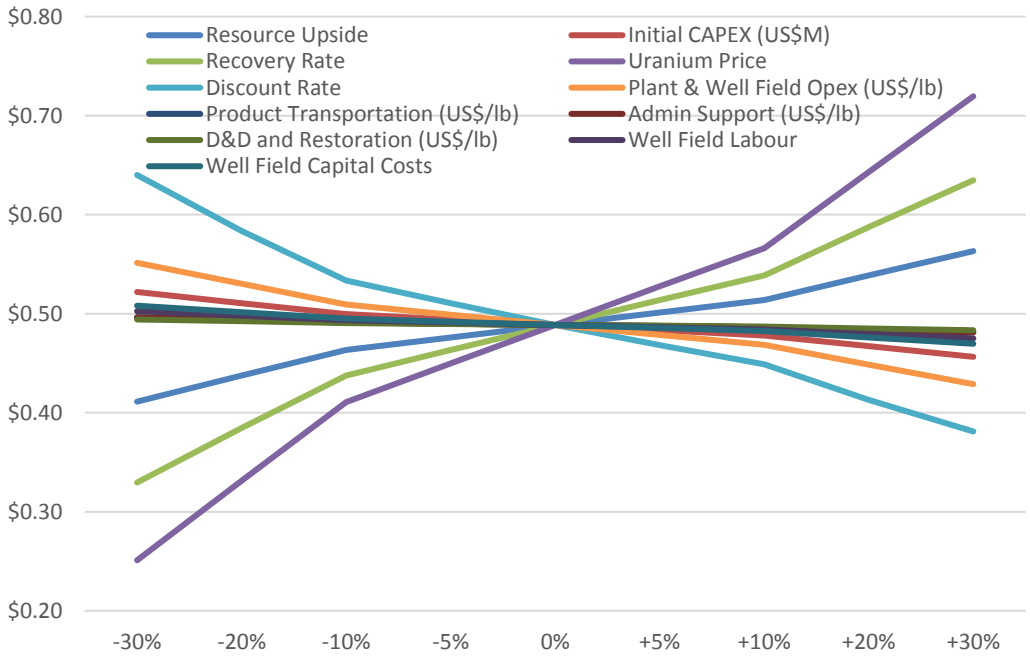
Appendix C – Detailed Sensitivities

Dewey Burdock Sensitivities

Input Sensitivies											
Model Input	**Base Case**	**-30%**	**-20%**	**-10%**	**-5%**	**Base**	**+5%**	**+10%**	**+20%**	**+30%**	**Standard Deviation**
Uranium Price	**70.00**	$0.25	$0.33	$0.41	$0.45	$0.49	$0.53	$0.57	$0.64	$0.72	14.7%
Recovery Rate	**80%**	$0.33	$0.38	$0.44	$0.46	$0.49	$0.51	$0.54	$0.59	$0.63	9.6%
P/NAV Multiple	**0.6x**	$0.34	$0.39	$0.44	$0.46	$0.49	$0.51	$0.54	$0.59	$0.64	9.2%
USD/CAD	**1.29**	$0.34	$0.39	$0.44	$0.46	$0.49	$0.51	$0.54	$0.59	$0.64	9.2%
Discount Rate	**10%**	$0.64	$0.58	$0.53	$0.51	$0.49	$0.47	$0.45	$0.41	$0.38	8.2%
Resource Upside	**1.00**	$0.41	$0.44	$0.46	$0.48	$0.49	$0.50	$0.51	$0.54	$0.56	4.8%
Equity Issue Price	**0.23**	$0.42	$0.44	$0.47	$0.48	$0.49	$0.50	$0.51	$0.52	$0.54	3.9%
Plant & Well Field Opex (US$/lb)	**13.00**	$0.55	$0.53	$0.51	$0.50	$0.49	$0.48	$0.47	$0.45	$0.43	3.9%
Federal Income Tax	**21%**	$0.53	$0.51	$0.50	$0.49	$0.48	$0.48	$0.47	$0.45	$0.44	2.6%
Initial CAPEX (US$M)	**30.00**	$0.52	$0.51	$0.50	$0.49	$0.49	$0.48	$0.48	$0.47	$0.46	2.1%
Well Field Capital Costs	**70.00**	$0.51	$0.50	$0.50	$0.49	$0.49	$0.49	$0.48	$0.48	$0.47	1.2%
Leverage	**30%**	$0.48	$0.48	$0.48	$0.49	$0.49	$0.49	$0.49	$0.50	$0.50	0.9%
Well Field Labour	**50.00**	$0.50	$0.50	$0.49	$0.49	$0.49	$0.49	$0.48	$0.48	$0.48	0.9%
Surface Royalties	**5%**	$0.50	$0.50	$0.49	$0.49	$0.49	$0.49	$0.48	$0.48	$0.48	0.8%
Severance & Cons. Tax	**5%**	$0.50	$0.50	$0.49	$0.49	$0.49	$0.49	$0.48	$0.48	$0.48	0.7%
Product Transportation (US$/lb)	**1.60**	$0.50	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.48	$0.48	0.5%
Admin Support (US$/lb)	**1.60**	$0.50	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.48	$0.48	0.5%
D&D and Restoration (US$/lb)	**2.00**	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.48	0.3%
Interest Rate	**10%**	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	0.2%
Property Tax	**1%**	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	$0.49	0.1%

Source: Haywood Securities Inc.

Dewey Burdock Sensitivities



Source: Haywood Securities Inc.

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com

Important Information and Legal Disclosures

This report may be distributed in the following states: nil. Otherwise, this report may only be distributed into those states with an institutional buyer state securities registration exemption.

Analyst Certification

I, Colin Healey, hereby certify that the views expressed in this report (which includes the rating assigned to the issuer's shares as well as the analytical substance and tone of the report) accurately reflect my/our personal views about the subject securities and the issuer. No part of my/our compensation was, is, or will be directly or indirectly related to the specific recommendations.

Important Disclosures

Of the companies included in the report the following Important Disclosures apply:

- The Analyst(s) preparing this report (or a member of the Analysts' households) have a financial interest in Azarga Uranium Corp (AZZ-T).
- As of the end of the month immediately preceding this publication either Haywood Securities, Inc., one of its subsidiaries, its officers or directors beneficially owned 1% or more of Azarga Uranium Corp (AZZ-T).
- Haywood Securities, Inc. has reviewed lead projects of Azarga Uranium Corp (AZZ-T), Denison Mines Corp. (DML-T), Energy Fuels Inc. (UUUU-US), Uranium Energy Corp. (UEC-US) and a portion of the expenses for this travel may have been reimbursed by the issuer.
- Haywood Securities Inc. or one of its subsidiaries has managed or co-managed or participated as selling group in a public offering of securities for Denison Mines Corp. (DML-T), Uranium Energy Corp. (UEC-US), Uranium Participation Corporation (U-T) in the last 12 months.
- Haywood Securities, Inc. or one of its subsidiaries has received compensation for investment banking services from Azarga Uranium Corp (AZZ-T) in the past 24 months.

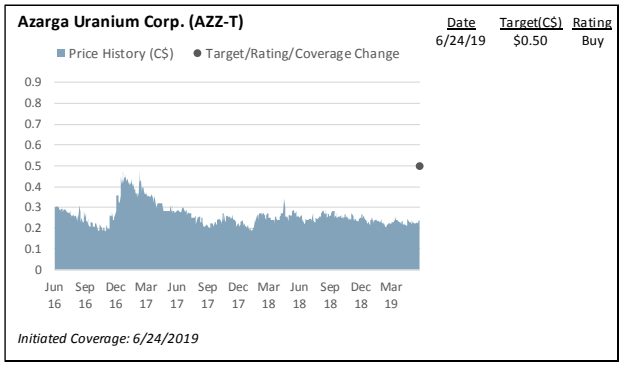
Other material conflict of interest of the research analyst of which the research analyst or Haywood Securities Inc. knows or has reason to know at the time of publication or at the time of public appearance:

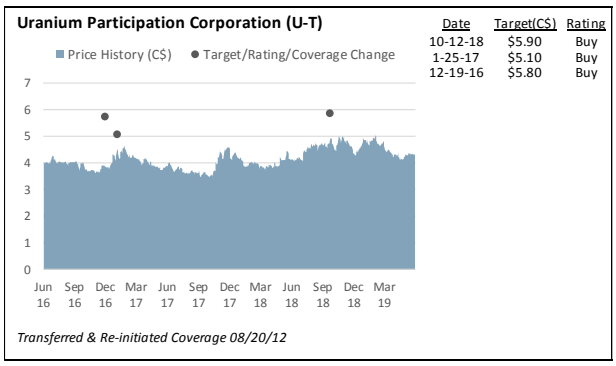
- n/a

Distribution of Ratings (as of June 24, 2019)

	%	#	IB Clients (TTM)
Buy	78.7%	85	100.0%
Hold	4.6%	5	0.0%
Sell	1.9%	2	0.0%
Tender	1.9%	2	0.0%
UR (Buy)	0.0%	0	0.0%
UR (Hold)	0.0%	0	0.0%
UR (Sell)	0.0%	0	0.0%
Dropped (TTM)	13.0%	14	0.0%

Price Chart, Rating and Target Price History (as of June 24, 2019)





B: Buy; H: Hold; S: Sell; T: Tender; UR: Under Review
Source: Capital IQ and Haywood Securities

Link to Research Policy: http://haywood.com/what-we-offer/research/research-policy

Member of the Canadian Investor Protection Fund

Colin Healey, MBA 604-697-6089, chealey@haywood.com
Aazan Habib, CFA, CMT 604-697-6030, ahabib@haywood.com