



Azarga Uranium Corp.

(AZZ-T)

SECTOR: Metals & Mining

STOCK PRICE \$0.175
RATING **BUY**
TARGET PRICE \$0.50

DEWEY BURDOCK PEA UPDATE

PEA on Dewey Indicates Robust Economics

OUR TAKE: The PEA effectively integrates a major resource update at Dewey published in November 2018 (small update with PEA). The revised resource was 47% larger than that underpinning the original 2015 PEA and delivers stronger economics over a longer mine-life at a 15% lower uranium price assumption (US\$55/lb U₃O₈). The PEA suggests robust economics for this higher-grade undeveloped ISR project and confirms our thesis regrading Dewey Burdock's potential to evolve into a lower-cost, low CAPEX uranium producing operation in the U.S. All eyes will now shift to a **critical and imminent U.S. Atomic Safety and Licensing Board (ASLB) decision (due December 16, 2019)** with respect to the Dewey Burdock project's Federal NRC License (initially received in 2014).

KEY HIGHLIGHTS

- ◆ **PEA shows major improvement over the prior with tolerance for lower prices.** We summarize the numbers below, which show improvement in all key cost and operating metrics with a slight increase in initial CAPEX. As important as the base-case (US\$55/lb U₃O₈) is to us, given our bullish view on uranium prices, it is reassuring to see a US\$63M NPV_{8%} / 28% IRR (pre-tax) at US\$40/lb, more than 150% greater than AZZ's market cap. With all-in pre-tax cost of production of US\$29/lb, Dewey Burdock should be a very resilient project capable of generating positive cash-flow even at currently depressed term market prices.
- ◆ **PEA Highlights (vs 2015 PEA):**
 - **Mine-life: 16 years, including ramp-up** (+45%)
 - **Production: 1 Mlbpa U₃O₈** (unchanged)
 - **Life-of-mine Production: 14.3 Mlb U₃O₈** (+47%)
 - **Cash OPEX: US\$10.46/lb U₃O₈** (-16.5%)
 - **Total pre-tax Production Cost: US\$28.88/lb U₃O₈** (-12%)
 - **CAPEX: US\$31.7M** (+17% from US\$27M)
 - **Pre-Tax NPV/IRR (US\$55/lb): US\$171M / 55%** (prior US\$65/lb, US\$149M / 67%)
 - **After-Tax NPV/IRR @ US\$55/lb: US\$147.5M / 50%** (prior US\$65/lb, US\$114M / 57%)
- ◆ **Dewey Burdock NRC License decision:** We are optimistic that the final contestation to the existing NRC license will be removed by the ASLB on December 16th, but we have no way of predicting that outcome and a negative decision would seriously delay progress in advancing the project. The NRC License decision regarding the last outstanding contestation represents the biggest risk to investors in Azarga.

OUTLOOK & RECOMMENDED ACTION

We recommend owning Azarga with the below catalysts in mind.

- ◆ **Positive PEA sets stage for big share price move if ASLB renders positive decision next week.** The Dewey Burdock PEA improves on the prior 2015 iteration on all important metrics. The sub US\$11/lb OPEX, <\$29/lb total operating costs (pre-tax), and low CAPEX, highlight the potential for this project to become one of the next U.S.-based production sources. Azarga is trading at less than 0.3x our corporate NAV and we view it as highly attractive at its current price, but again highlight the binary nature of the imminent ASLB decision on the Dewey Burdock NRC license.

CATALYSTS

1. **December 16, 2019** – A decision by the ASLB on the Evidentiary Hearing regarding the Dewey Burdock NRC License final contestation.
2. **2019/20** – Growing U.S. political support for Nuclear and potential for a positive outcome or conclusion from the Trump-appointed U.S. Nuclear Fuel Working Group study of domestic uranium / nuclear fuel supply chain.

PROJECTED RETURN

186%

RISK FACTOR

Very High

SCENARIO ANALYSIS

Downside Scenario	Current Price	Price Target
\$0.10	\$0.175	\$0.50
↓43%		↑186%

KEY STATISTICS AND METRICS

52-Week High/Low	\$0.28/\$0.11
YTD Performance	-34%
Dividend Yield	NA
Shares O/S	184
Market Capitalization	\$33M
Cash	\$0.3M
Debt	Nil
Enterprise Value	\$33M
Daily Volume (3 mos.)	138,630
Currency	C\$ unless noted

HAYWOOD ESTIMATES (USD)

	2019E	2020E	2021E
Revenue (\$M)	0	0	0
EBITDA (\$M)	(3.2)	(3.4)	(3.5)

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.

INVESTMENT THESIS

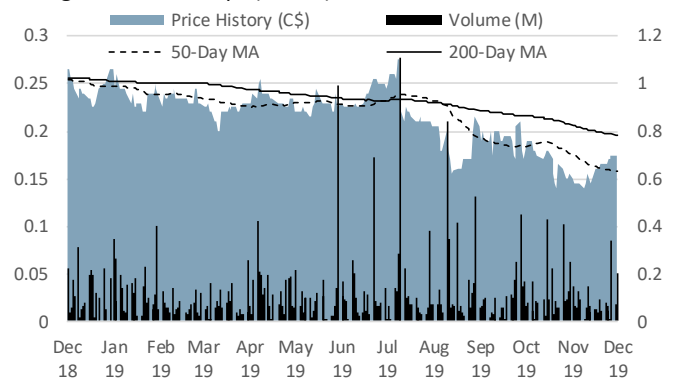
- Making the Grade.** Average resource grades of 0.11% U₃O₈ (Measured at 0.132%) position Dewey Burdock **among the highest grade undeveloped ISR uranium project in the U.S.**, and well above some existing producers. Although many factors determine the successful extraction of uranium in an ISR operation, 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
- 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 was followed up by an update to the Preliminary Economic Assessment (PEA) of the project in December 2019 with significant improvement in all core metrics, suggesting a 1.0Mlbpa U₃O₈ mine, with a 16 year life, cash costs <US\$11/lb and all-in production costs <\$29/lb. A positive decision from the ASLB this December regarding the NRC License would unlock the stock.

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 December 16, 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.

SCENARIO ANALYSIS

Azarga Uranium Corp. (AZZ-T)



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.

Our downside scenario price is a theoretical case based on notional valuation metrics and market assumptions. The downside price is solely intended for demonstrative purposes and is not to be regarded as a reflection of all market possibilities. It is not a guarantee that this company's share price will not drop below this price level and hence should not be taken as such.

Company Website

www.azargauranium.com

Key Management

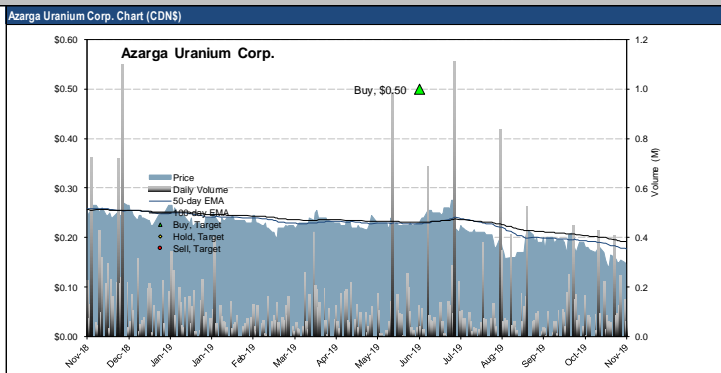
Blake Steele (President & CEO)



Azarga Uranium (AZZ-T)

Azarga Uranium Corp. TSX:AZZ Price: **\$0.18** Shares O/S (M) **183.7** Rating: Buy
 December 4, 2019 MCAP (C\$ M) **\$32** Target (C\$): **\$0.50** Return: **186%**

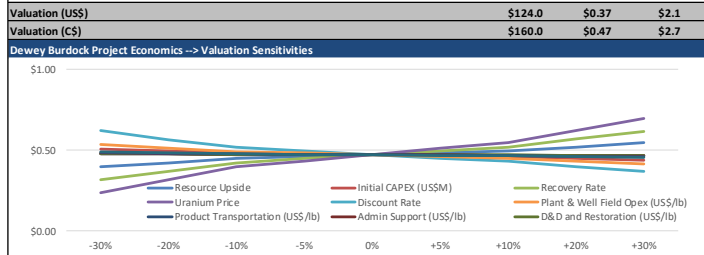
Investment Highlights
 Azarga is a junior uranium development company with a U.S.-based suite of assets.
Catalysts:
December 16, 2019 – A decision by the ASLB on the Evidentiary Hearing regarding the Dewey Burdock NRC License final contestation.
2019/20 – Growing U.S. political support for Nuclear and potential for a positive outcome or conclusion from the Trump-appointed U.S. Nuclear Fuel Working Group study of domestic uranium / nuclear fuel supply chain.



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	\$3.4	\$3.5	\$3.5	\$3.6	\$3.7
EBITDA (US\$)	(\$3.2)	(\$3.4)	(\$3.5)	(\$3.5)	(\$5.9)	(\$12.5)
Weighted Avg. S/O (Basic)	227	227	227	227	240	276
Weighted Avg. S/O (Diluted)	240	240	240	240	254	289
Earnings (US\$M)	(\$3.8)	(\$5.8)	(\$3.5)	(\$3.5)	(\$6.2)	(\$21.8)
EPS (US\$)	(\$0.02)	(\$0.03)	(\$0.02)	(\$0.02)	(\$0.03)	(\$0.08)
Free Cash Flow (US\$M)	(\$3.84)	(\$2.41)	(\$17.59)	(\$9.32)	(\$11.77)	(\$26.02)

Trading Statistics (C\$): Capital Structure		52 Week High/Low		\$0.28		\$0.11		Average Daily Volume		138,630	
Ownership (M)		Insider / Institutional									
Shares		14,904,973		11,176,308							
% O/S		8.0%		6.0%							
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		0.00		\$0			
Warrants		\$0.35		7.52		0.00		\$0			
Total Cash & ITM		\$0.38		13.21		0.00		\$0			

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	\$175.1	\$0.52	\$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	\$206.7	\$0.61	\$3.5
Corp. Adjustments				(\$0.02)	\$0.00	
P/NAV Multiple	0.6x					
Valuation (US\$)				\$124.0	\$0.37	\$2.1
Valuation (C\$)				\$160.0	\$0.47	\$2.7



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

Target Price Sensitivities	Valuation/Shr							
Model Input	Base	-30%	-20%	-10%	-5%	+5%	+10%	+20%
Resource Upside	\$0.47	\$0.40	\$0.42	\$0.45	\$0.46	\$0.49	\$0.50	\$0.52
Initial CAPEX (US\$M)	\$0.47	\$0.51	\$0.49	\$0.48	\$0.48	\$0.47	\$0.46	\$0.45
Recovery Rate	\$0.47	\$0.32	\$0.37	\$0.42	\$0.45	\$0.50	\$0.52	\$0.57
Uranium Price	\$0.47	\$0.24	\$0.32	\$0.40	\$0.44	\$0.51	\$0.55	\$0.63
Discount Rate	\$0.47	\$0.62	\$0.57	\$0.52	\$0.49	\$0.45	\$0.43	\$0.40
P/NAV Multiple	\$0.47	\$0.33	\$0.38	\$0.43	\$0.45	\$0.50	\$0.52	\$0.57
Leverage	\$0.47	\$0.46	\$0.46	\$0.47	\$0.47	\$0.48	\$0.48	\$0.48
Interest Rate	\$0.47	\$0.48	\$0.48	\$0.47	\$0.47	\$0.47	\$0.47	\$0.47
Equity Issue Price	\$0.47	\$0.40	\$0.43	\$0.45	\$0.46	\$0.48	\$0.49	\$0.51
USD/CAD	\$0.47	\$0.33	\$0.38	\$0.43	\$0.45	\$0.50	\$0.52	\$0.57
Surface Royalties	\$0.47	\$0.49	\$0.48	\$0.48	\$0.48	\$0.47	\$0.47	\$0.46
Average	\$0.47	Min	\$0.24	Max	\$0.63	Std. Dev	6.4%	

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

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 Colin Healey, MBA - Research Analyst **Aazan Habib, CFA, CMT - Research Associate**
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Source: Bloomberg, Capital IQ, Company Reports, and Haywood Securities

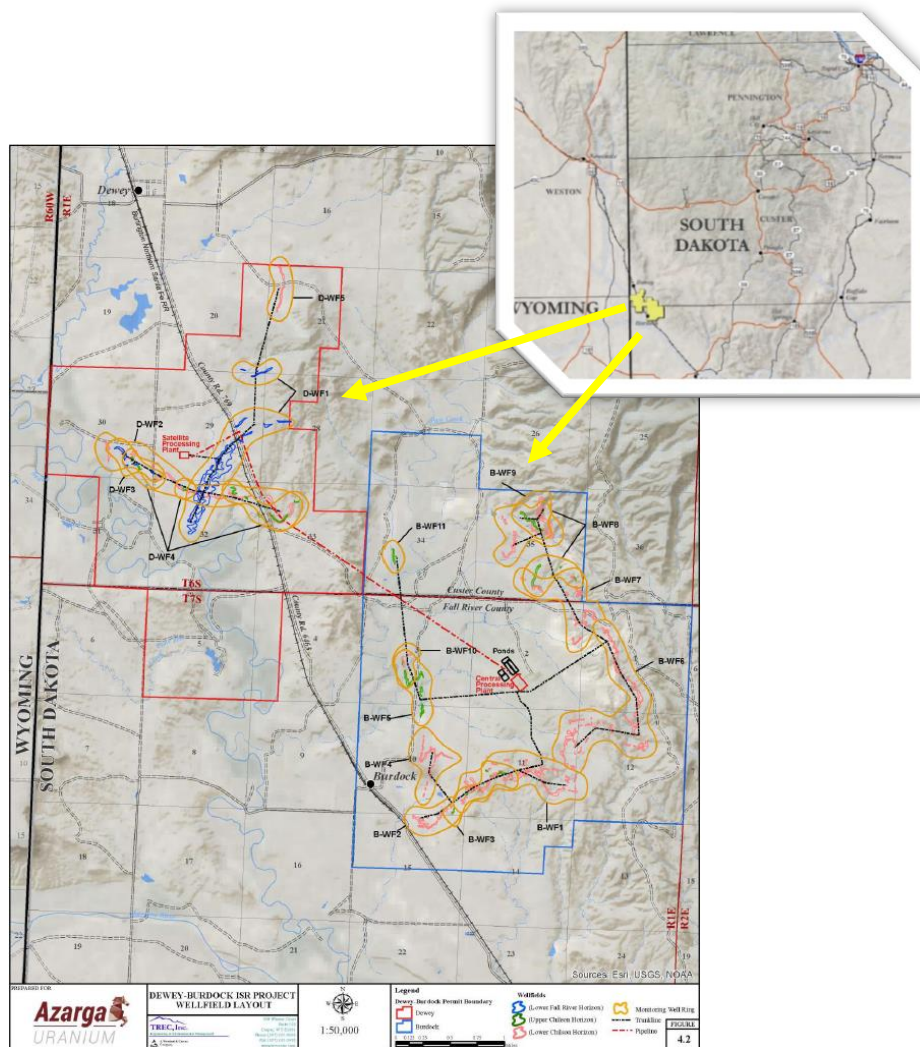


Dewey Burdock PEA Highlights Robust Project

PEA Significantly Improves on Prior – Demonstrates Solid Economics at close to current Term price

Background: Azarga’s flagship Dewey Burdock ISR uranium project (100%-owned) is located in southwestern South Dakota right near the Wyoming border and less than 100 miles east of Wyoming’s newest ISR uranium mines (Figure 1). The Dewey Burdock (DB) project December 2019 Preliminary Economic Assessment (PEA), outlines a low-capex, low-OPEX ISR uranium mining operation with a ~16-year life, producing ~1.0 Mlb/year at steady state. The PEA integrates an updated resource estimate for DB totaling 17.8 Mlb U₃O₈ (96% Meas. & ind.). A summary of the PEA mining scope and economics is provided in Figure 5.

Figure 1: 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 U₃O₈.



December 2019 minor Resource update: The DB project resources are divided into the Dewey and Burdock deposits with collective defined “ISR amenable” resources (M,Ind.&Inf.) of 17.83 Mlb U₃O₈ (0.111% U₃O₈ average grade at a GT cutoff of ≥0.20 and grade cut-off of 0.02% U₃O₈) (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.

Making the Grade: With the 2018 resource update, the DB all-categories resources increased 47%. The December 2019 minor update released concurrently with the PEA saw average resource grades of 0.111% U₃O₈ (Measured at 0.132%) at a GT cutoff consistent with the majority of current U.S. ISR deposit resource estimates. 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 and could be a sustainable advantage.

Figure 2: Dewey Burdock Resource (December 2019)

Dewey Burdock ISR Amenable Resource Estimate (Dec. 2019)

Category	Mt	Avg. GT	U ₃ O ₈ (%)	U ₃ O ₈ (lb)
Measured	5.420	0.73	0.132%	14,285,988
Indicated	1.968	0.41	0.072%	2,836,159
Inferred	0.646	0.32	0.055%	712,624
Global	8.034	0.62	0.111%	17,834,771

*At 0.05% U₃O₈ 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 ₃ O ₈ (%)	U ₃ O ₈ (lb)
Measured	0.844		0.057%	1,060,000
Global	0.844		0.057%	1,060,000

*At 0.02% U₃O₈ Cut-off & GT Cut-off of 0.2 (M&Ind.), 0.2 (Inf.)

Source: Azarga Uranium, Haywood presentation and calculation of “Global”

2019 PEA Highlights & Changes vs 2015 Iteration: Below is a summary of the economics of the new 2019 Preliminary Economic Assessment of Dewey Burdock (at US\$55/lb U₃O₈). The 2015 PEA numbers were based on an 18% higher uranium price assumption (US\$65/lb).

Figure 3: Summary of Dewey Burdock 2019 PEA (Δ from 2015 PEA)

- Mine-life: 16 years, including ramp-up (+45%)
- Production: 1 Mlbp U₃O₈ (unchanged)
- Life-of-mine Production: 14.3 Mlb U₃O₈ (+47%)
- Cash OPEX: US\$10.46/lb U₃O₈ (-16.5%)
- Total pre-tax Production Cost: US\$28.88/lb U₃O₈ (-12%)
- CAPEX: US\$31.7M (+17% from US\$27M)
- Pre-Tax NPV/IRR (US\$55/lb): US\$171M / 55% (prior US\$65/lb, US\$149M / 67%)
- After-Tax NPV/IRR @ US\$55/lb: US\$147.5M / 50% (prior US\$65/lb, US\$114M / 57%)

Source: Azarga Uranium

New PEA indicates a very robust project vs the 2015 concept, providing better resistance to low prices and more torque to prices:

The **2019 PEA** sensitivity analysis (Figure 4) showed a ~\$27M pre-tax NPV at US\$35/lb U₃O₈ (IRR: 17%).

- ◆ With each US\$5.00/lb U₃O₈ change in uranium price assumption, the pre-tax NPV_{8%} changes ±US\$36M

This is much more robust, both from an absolute NPV standpoint and from a torque standpoint when compared to the **2015 PEA** where sensitivity analysis showed:



- ◆ A ~\$1M pre/post-tax NPV at US\$35/lb U₃O₈ (IRR: 8%), and suggested that with each US\$5.00/lb U₃O₈ change in uranium price assumption, the pre-tax NPV_{8%} changed ±US\$27.5M.

Figure 4: December 2019 PEA NPV / IRR sensitivity to Uranium Price

Uranium price scenario	NPV	IRR
US\$35/lb	US\$26.6m	17%
US\$40/lb	US\$62.8m	28%
US\$45/lb	US\$98.9m	37%
US\$50/lb	US\$135.1m	46%
US\$55/lb (base case)	US\$171.3m	55%
US\$60/lb	US\$207.4m	64%
US\$65/lb	US\$243.6m	72%
US\$70/lb	US\$279.7m	80%
US\$75/lb	US\$315.9m	88%

Source: Azarga Uranium

A Clear Path to Clearing the NRC licensing Phase has been Established: A decision date from the ASLB set for December 16th, 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.”

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.

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.

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 ~\$26/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.



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 at a higher production rate and resource base than the current PEA. 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\$171.3 in the December 2019 PEA base-case. See Figure 6 for a summary of the differences between the 2019 PEA assumptions and our model.

Figure 5: Dewey Burdock Haywood Model Inputs & Assumptions, Ranked by Target Price Sensitivity

Input Sensitivities		
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



Figure 6. Haywood Model Assumptions vs. 2019 PEA

Dewey Burdock	PEA (Dec 2019)	Haywood	Δ
Resource Estimates			
Measured Resource (lbs)	14,285,988	4,122,000	
Indicated Resource (lbs)	2,836,159	4,460,000	
Inferred Resource (lbs)	712,624	15,638,000	
Total Resource (lbs)	17,834,771	24,220,000	36%
Costs & Production			
Initial CAPEX (US\$M)	\$31.7	\$30.0	-5%
LoM Sustaining CAPEX (US\$M)	\$136.2	\$146.4	7%
LoM Cash Operating Cost (US\$/lb)	\$10.5	\$17.3	65%
LoM Total Cash Opex & Capex (US\$/lb)	\$28.9	\$26.5	-8%
U Recovery Rate (%)	80%	80%	0%
Steady State Annual Production (M lbs)	0.89	1.76	97%
LoM Production (M Lbs)	14.30	19.02	33%
Mine Life (Y)	16.00	11.00	-31%
LoM Gross Revenue (US\$M)	\$784.7	\$1,331.7	70%
LoM Operating CF (US\$M)	\$562.1	\$863.8	54%
Financial Assumptions			
Uranium Price (US\$/lb)	\$55.00	\$70.00	27%
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	21.0%	21.0%	
Project Economics (Post-Tax)			
IRR	50%	59%	89 bps
NPV (US\$)	\$147.5	\$175.1	19%

Source: Haywood Securities



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 then apply a 0.6x multiple to our corporate NAVPS and assume a 1.29 USD/CAD exchange rate to arrive at our target.

Figure 7. 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

Technical picture starting to improve. The stock exhibited bullish momentum divergence over the past few months where the new low in price was not confirmed by the RSI and MACD indicators. We have now seen the stock price move above its 50-day moving average and its relative strength against the Global X Uranium ETF (URA) start to turn around. These are all positive developments, but the overall technical profile for the stock remains weak. A sustained break above the \$0.23-0.26 resistance zone would signal sufficient buying pressure to get through overhead supply and would make the chart look substantially more bullish.



Figure 8. Technical Chart



Source: Stockcharts.com, Haywood



Uranium Comparables

Figure 9: Select Uranium Company Comparables

Company (Ticker)	Share Price	Consensus Targets IBES		Shares Outst. (millions)	Market Capitalization (millions)	In-Situ Comps - EWib U3O8			NAV Comps		Cash Flow Comps						
		Consensus Target	Implied Return			Enterprise Value (USD) (millions)	Total Reserves & Resources (M lb) (M lb)	USD EV/lb Resource	Consensus NAV	Price / Nav	CFPS (LoC)			P/CFPS			
											2018	2019	2020	2018	2019	2020	
PRODUCERS																	
Haywood Covered Names bold																	
Cameco Corporation (CCO-T)	\$12.31	\$15.53	26%	396	\$4,872	\$3,731	1,051	\$3.55	\$14.15	0.87x	\$1.19	\$0.82	\$0.58	10.4x	15.1x	21.1x	
Energy Fuels (UUUU-US)	\$1.88	\$3.64	93%	99	\$187.2	\$183.5	131.3	\$1.40	\$3.34	0.57x	(\$0.16)	(\$0.02)	\$0.02			80.8x	
Uranium Energy (UEC-US)	\$0.85	\$2.75	224%	181	\$153.8	\$152.3	111.5	\$1.37	\$2.73	0.31x	(\$0.10)	(\$0.06)	(\$0.43)				
Ur-Energy Inc. (URE-T)	\$0.72	\$1.01	40%	160	\$115.2	\$93.1	41.6	\$2.24	\$1.20	0.60x	(\$0.01)	\$0.04	\$0.01		18.0x	54.0x	
Peninsula Energy (PEN-AU)	\$0.18	\$0.95	428%	295	\$53.2	\$45.7	53.6	\$0.85	\$0.90	0.20x	(\$0.01)	(\$0.03)					
Energy Resources (ERA-AU)	\$0.15			518	\$75.1	(\$187.7)	431.1		\$0.25	0.58x	\$0.07	\$0.12	\$0.03	2.1x	1.2x	4.8x	
Group Average - Producers								\$1.88		0.52x				6.2x	11.4x	40.2x	
DEVELOPERS																	
NexGen Energy (NXE-T)	\$1.62	\$5.01	209%	356	\$576	\$487.6	348.8	\$1.40	\$5.69	0.28x	(\$0.02)	(\$0.05)	(\$0.05)				
Denison Mines (DML-T)	\$0.55	\$1.13	106%	590	\$324.6	\$236.9	179.5	\$1.32	\$1.57	0.35x	(\$0.03)	(\$0.03)	(\$0.02)				
Fission Uranium (FCU-T)	\$0.27	\$1.60	493%	486	\$131.3	\$97.4	135.2	\$0.72	\$1.54	0.18x	(\$0.01)	(\$0.01)	(\$0.01)				
Boss Resources (BOE-AU)	\$0.06			1,587	\$87.3	\$55.4	71.4	\$0.78									
GovEx Uranium (GXU-V)	\$0.14			423	\$57.1	\$56.0	215.6	\$0.26									
Global Atomic (GLO-T)	\$0.49			145	\$71.2	\$49.7	292.5	\$0.17									
Deep Yellow (DYL-AU)	\$0.27	\$0.40	48%	238	\$64.2	\$33.7	155.6	\$0.22									
UEX Corporation (UEX-T)	\$0.12	\$0.45	291%	394	\$45.3	\$32.7	98.6	\$0.33			(\$0.02)						
Laramide Resources (LAM-T)	\$0.20			143	\$27.8	\$28.0	122.7	\$0.23									
Toro Energy (TOE-AU)	\$0.01			2,490	\$17.4	\$19.3	75.7	\$0.26									
Azarga Uranium (AZZ-T)	\$0.18	\$0.30	74%	186	\$32.5	\$23.7	43.2	\$0.55	\$0.41	0.42x		(\$0.03)	(\$0.02)				
Forsys Metals (FSY-T)	\$0.12			157	\$18.0	\$12.3	127.0	\$0.10									
Vimy Resources (VMY-AU)	\$0.05	\$0.34	608%	619	\$29.7	\$19.7	117.0	\$0.17			(\$0.02)	(\$0.01)	(\$0.01)				
Bannerman Resources (BMN-AU)	\$0.04			1,059	\$41.3	\$23.8	257.2	\$0.09									
A-Cap Energy (ACB-AU)	\$0.01			872	\$8.7	\$9.7	190.6	\$0.05									
Western Uranium (WUC-L)	\$0.74			30	\$22.3	\$14.4	99.2	\$0.14									
Plateau Energy (PLU-V)	\$0.28	\$2.00	627%	86	\$23.5	\$16.6	123.4	\$0.13	\$4.94	0.06x	(\$0.06)	(\$0.09)	(\$0.09)				
Energy Metals (EME-AU)	\$0.09			210	\$17.8	\$0.3	61.1	\$0.00									
U3O8 Corp. (UWE-T)	\$0.05			23	\$1.0	\$1.4	47.7	\$0.03									
Berkeley Energia (BKY-AU)	\$0.23	\$1.09	387%	258	\$58.2	(\$1.7)	89.4				(\$0.09)	(\$0.05)	(\$0.05)				
Group Average - Developers								\$0.37		0.26x							
EXPLORERS																	
Aurania Resources (ARU-V)	\$4.22	\$4.25	1%	35	\$147.6	\$114.1											
IsoEnergy Ltd. (ISO-V)	\$0.42			83	\$34.4	\$25.6	8.2	\$3.12									
Mega Uranium (MGA-T)	\$0.09			326	\$29.4	\$17.2	17.0	\$1.01									
ValOre Metals (VO-V)	\$0.28			85	\$23.4	\$17.9	43.5	\$0.41									
enCore Energy (EU-V)	\$0.12			142	\$17.0	\$11.2	56.4	\$0.20									
Globex Mining (GMX-T)	\$0.35			54	\$18.8	\$11.7											
Azimut Exploration (AZM-V)	\$0.47			57	\$27.0	\$16.5											
Skyharbour Resources (SYH-V)	\$0.17	\$1.01	512%	75	\$12.4	\$8.7	7.0	\$1.26									
Purepoint Uranium (PTU-V)	\$0.06			215	\$11.8	\$7.7											
CanAlaska Uranium (CWV-V)	\$0.17			47	\$7.9	\$3.6											
Blue Sky (BSK-V)	\$0.11			120	\$12.6	\$10.0	22.7	\$0.44									
Anfield Energy (AEC-V)	\$0.10	\$0.40	300%	75	\$7.5	\$5.4	37.1	\$0.15	\$0.42	0.24x							
Marenica Energy (MEY-AU)	\$0.07			90	\$6.3	\$4.0	46.0	\$0.09									
Forum Energy (FMC-V)	\$0.07			109	\$7.6	\$5.6	0.6	\$8.99									
Fission 3.0 (FUU-V)	\$0.05			142	\$7.1	\$3.9											
Cauldron Energy (CXU-AU)	\$0.03			329	\$8.2	\$4.4	30.9	\$0.14									
Eros Resources (ERC-V)	\$0.07			48	\$3.4	\$2.4											
X-Terra Resources (XTT-V)	\$0.12			62	\$7.4	\$4.7											
Aurupa Minerals (AVU-V)	\$0.05			110	\$5.0	\$3.3											
Zadar Ventures (ZAD-V)	\$0.10			18	\$1.7	\$1.0											
Tarku Resources (TKU-V)	\$0.02			76	\$1.1	\$0.8											
Uravan Minerals (UVN-V)	\$0.04			42	\$1.5	\$1.1											
Vanadian Energy (VEC-V)	\$0.02			41	\$0.6	\$0.5	43.2	\$0.01									
Roughrider Exploration (REL-V)	\$0.06			14	\$0.8	\$0.5											
Group Average - Explorers								\$1.44									
INVENTORY FUNDS																	
Uranium Participation (U-T)	\$4.14	\$5.49	33%	138	\$571.6	\$426.2	17.8	\$23.92	\$4.90	0.85x							
Yellow Cake (YCALN)	£1.91	£2.77	45%	88	£168.8	\$212.4	9.6	\$22.09									

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



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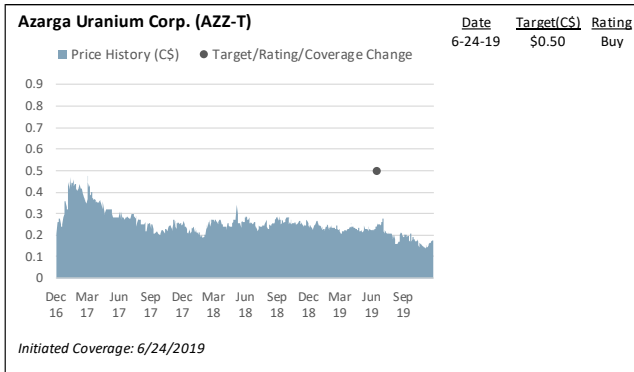
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