

# HALLGARTEN + COMPANY

**Initiation of Coverage** 

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# Happy Creek Minerals

(TSX-V: HPY | FSE: A1CTH0 | OTCQB: HPYCF)

Strategy: LONG

| Price (CAD)                 | \$0.13            |
|-----------------------------|-------------------|
| 12-Month Target Price (CAD) | \$0.32            |
| Upside to Target            | 146%              |
| High-low (12 mth)           | \$0.035 - \$0.155 |
| Market Cap (CAD mn)         | 27.35             |
| Shares O/S (millions)       | 210.4             |
| Fully Diluted (millions)    | 260.3             |

# Happy Creek Minerals

# The Premier Pure Explorer in Tungsten

- + Happy Creek Minerals is one of the very few pure explorers in the Tungsten as the spotlight turns again to this long-neglected critical metal
- The Fox Tungsten Project in British Columbia has an extant Mineral Resource showing one of the highest-grade Tungsten projects currently available
- + Tungsten's essential uses in industrial and military applications is driving the resurgence of interest, particularly from Western governments
- + The Tungsten (APT) price initially reacted slowly to the Chinese restrictions on dualuse W exports to the US but then started to attract a strong response breaching \$400 and then \$500 per MTU of APT in rather short order
- + Tungsten price has recently moved above \$600 per MTU in a buying frenzy after over a decade of quiescence
- + A name change to something more task-appropriate is under consideration
- The long slack period in prices since 2014 ravaged the listed players and reduced exploration to almost nil
- The particularly steep rise in Tungsten in recent weeks tempts the thought that there could be a dramatic pullback at some stage
- × China still has the firepower to cause damage by predatory actions (e.g. on price) to the downside
- × Financing of junior explorers is still a hard row to hoe, with a vision/path to production required to attract serious funds

# Tungsten (and Explorers thereof) Arise from the Dead

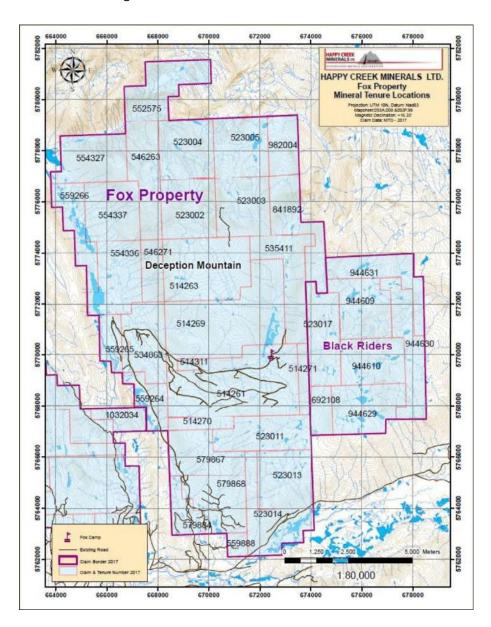
The (listed) Tungsten space suffered somewhat of an "extinction event" during the early part of last decade. Several producers, a handful of developers and almost all pure explorers went to their demise. Happy Creek Minerals was scarcely on the radar during that early time but has soldiered on through the difficult times to emerge at the other end of the long dark tunnel as one of the few pure explorers that is graced by a high-grade Tungsten asset, the Fox Project in British Columbia.

An interesting feature of the Tungsten resurgence is that the producers/developers are looking to hold multiple producing assets (e.g. Almonty, EQR and Guardian Metals), thus making HPY a potential target for these consolidators, while leaving HPY with the choice of developing the Fox asset in its own right.

In this <u>Initiation of Coverage</u>, we shall look at the Fox Tungsten project, the discoveries so far and the next steps likely to be taken. We review the state of the Tungsten metal space as it passes through one of its best moments in decades and the outlook for the next few years. We also look at the other properties that it holds in British Columbia, including its strategic stake in Metal Energy (TSX-v: MERG).

# **Fox Project**

The Fox property is in southern British Columbia approximately 70 km northeast of the town of 100 Mile House, and approximately 30 km east of the former Boss Mountain molybdenum mine in the south-central Cariboo region.



The property consists of 31 converted legacy and new cell claims totaling ~13,589 hectares (135.89 km²). All tenures are 100% owned by Happy Creek. The property has no known environmental liabilities. The 100%-owned, 130 square kilometre Fox Tungsten property has a large scale 10 km by 3 km mineral system with grades that the management claims "are among the best in the industry".

The earliest regional mineral exploration history dates to prospectors moving northward through British Columbia in search of gold in the 1800s.

The southern and central portion of the property are easily accessible by paved and gravel logging roads from 100 Mile House, the largest community in the region. Access from 100 Mile House is via the Canim-Hendrix road, 2 km north of 100 Mile House, which heads northeast for 50 km to the villages of Forest Grove and Eagle Creek.

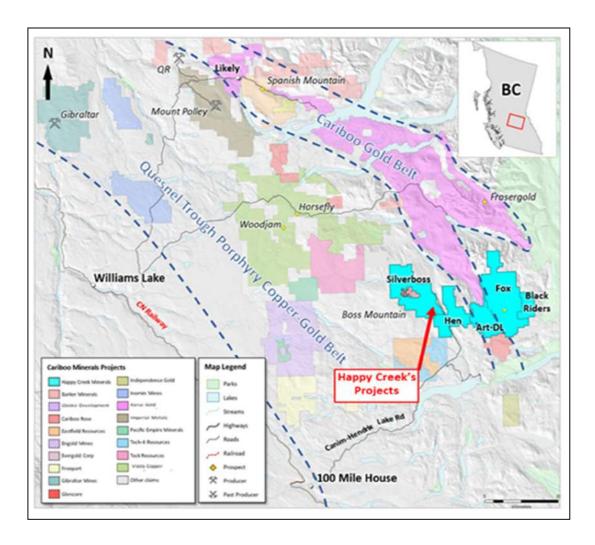
# Ownership

In June 2005, Happy Creek, then a private company, conducted prospecting, geological mapping and grid soil sampling. In June 2005, the company converted the property to the new Mineral Title Online (MTO) cell claims and filed assessment work (Blann and Ridley 2005) and in August 2006, Happy Creek acquired a 100% interest in the Fox property.

The Fox Project is subject to a 2.5% Net Smelter Royalty (NSR). Happy Creek no longer holds the royalty buyback right. It sold that right to the new royalty holders, Waratah/Power One.

# **Regional Geology**

The Fox property area is underlain by metasedimentary rocks of the Late Proterozoic-Early Paleozoic Snowshoe Group, part of the Kootenay Terrane of displaced and deformed North American shelf sedimentary rocks. In the area of Deception Mountain, these rocks consist of quartz-biotite schist (Pzqs), micaceous quartzite (Pzq), marble with associated skarnoids (Pzm), garnet-muscovite schist (Pzms) and plagioclase schists and augen gneiss (Pzqfs). These rocks lie east of the continental scale Eureka Thrust which marks the collision boundary between the Quesnel Terrane allocation to the west, and older continental shelf sediments to the east.

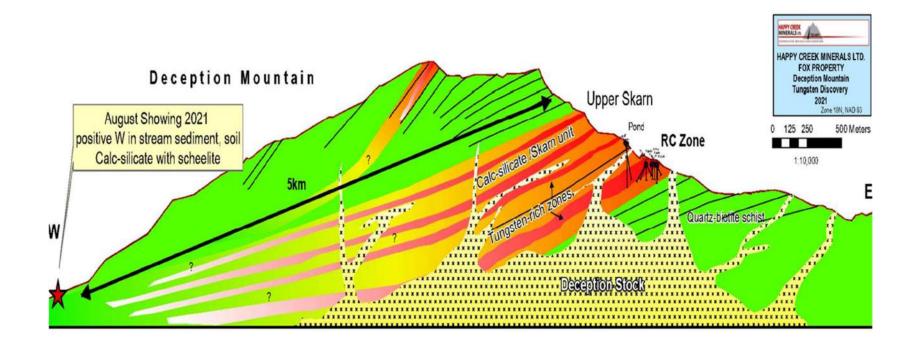


# **Project Geology**

Geologically, the property is underlain by Snowshoe Formation, a Permian age and older assemblage comprised of gneiss, schist, marble, and calc-silicate. These are cut by the mid Cretaceous Deception stock, a two-mica quartz monzonite to granite. A hornfels and metasomatic zone (aureole) extends outward from the stock for up to several kilometres.

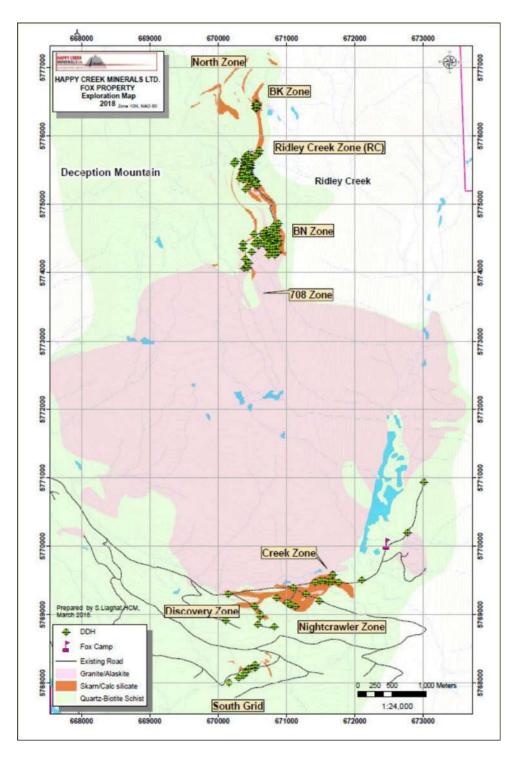
Scheelite is the dominant Tungsten mineral, along with sulphide minerals occurring as exoskarn and endoskarn developed in calc-silicate, and in quartz veins. Molybdenite is locally present but is generally separated from the scheelite.

The Fox property contains a large-scale Tungsten skarn mineral system, as shown in the cross-section on the following page. Seven areas of outcropping, tungsten-bearing, skarn and several substantial soil and stream geochemical anomalies occur over an area of 10 km by 3 km oriented in a north-south direction.



Schematic Model Section Looking North

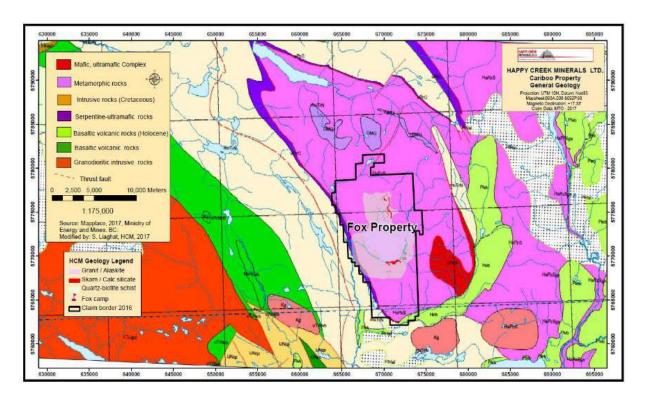
There are eight identified areas of tungsten mineralization on the Fox project. The Tungsten mineralization is hosted mainly in calc-silicate rocks of the Snowshoe Formation. The Nightcrawler-Discovery and the South Grid are located on and around the southern side of the Deception stock.



The Nightcrawler-Discovery Zone consists of outcrop, boulders and drill core with scheelite-bearing calc-silicate that at surface is approximately two kms east-west and has been traced by drilling for 500m away from the intrusion. Multiple layers of mineralized calc-silicate occur. Five separate calc-silicate/marble units have been mapped on Deception Mountain.

The South Grid is approximately 150 m higher in elevation and one kilometre south of the Nightcrawler Discovery Zone. It consists of positive tungsten-in-soil in an area that is approximately 1.25 km by 500 m in dimension. At surface, this area contains boulders and local outcrops containing scheelite in calc-silicate.

The 708, BN, Ridley Creek, BK and North Zones occur from south to north, respectively, extending over two kms on the north side of the Deception stock and on the eastern and northern flank of Deception Mountain. Other zones containing tungsten in outcrop, stream sediment or soils occur, however less information is available. A U-Pb age date for scheelite has returned 64 and 84 Ma, however these results are thought to be erroneous due to the possibility of remobilization/alteration events subsequent to deposition.



# **Moly Matters**

Molybdenum occurs on the Fox property mainly within or in proximity to the Deception stock. Re-Os age of molybdenite is around 108Ma, and 108 Ma by U-Pb, and demonstrate that the molybdenite is coeval

with the Deception stock. Although molybdenite forms local concentrations within quartz veins in the intrusive rocks and very locally within skarn, molybdenum is very minor or geochemically near detection limits within scheelite mineralized zones around the Deception stock. Concentrations of sulphide and scheelite are variable throughout the mineralized zones.

# **Previous Exploration**

More recent exploration efforts were spurred on by the search for porphyry copper deposits in the 1970s.

On Deception Mountain in mid-June 1982, a small crew followed up on a government initiated regional stream sediment survey. They collected soil, silt, and rock samples and identified a previously un-mapped two-mica granite intrusions. Although several soil samples returned positive tungsten values, workers never returned, and the claims lapsed. In 1997, prospectors located the southern contact of the Deception stock and identified garnet-rich skarn alterations associated with it. Between June of 1999, geologists carried out geological mapping and prospecting in this area. A boulder was discovered bearing patches of molybdenite, (the Discovery Zone) and the first mineral claims were staked. Further prospecting uncovered skarn with significant molybdenum, tungsten and anomalous zinc. In July 2000, the Deception 1-9 mineral claims were staked, covering the northern edge of Deception stock about 4 km north of the Discovery Zone.

Since 2005, Happy Creek has conducted exploration virtually every year resulting in the discovery of several tungsten mineralized zones as well as sizeable geochemical anomalies.

**1997 - 1999**: Prospecting of new logging roads identified favorable intrusive and calc-silicate rocks. Molybdenum first identified at Discovery zone followed by positive Tungsten in assays.

**2000 - 2004**: Privately-funded prospecting, soils, silts, UV lamping. High-grade boulders (Molybdenum and Tungsten) were found at the Discovery zone, then also to the east at the Nightcrawler zone. Similar geological setting and positive stream sediments were located on Deception Mountain ~4 km to the north.

From 2007 to 2015: Six diamond drilling campaigns were completed totaling 10,421 m in 82 holes. Exploration expenditures total nearly \$4,000,000. Drilling has identified the RC Zone to consist of a gently dipping, tabular shaped, calc-silicate (metasomatic replacement of marble or limestone) ranging in thickness from 5 m to over 40 m outcropping along the eastern flank of Deception Mountain. This geological unit is mapped at surface from the BN Zone through the RC Zone to the BK Zone, a distance of approximately 2 km. Drilling at the Ridley Creek Zone (RC) in 2011 and the RC, BN, and BK Zones in 2012 were successful in intersecting multiple intervals containing grade and thickness comparable to the Cantung tungsten mine located in the Northwest Territories. This was considered the discovery point of potentially economic mineralization for the property.

Positive exploration results led Happy Creek to conclude that the RC Zone could have the potential to host a sizeable tungsten deposit and thus initiated a resource estimate, announced on March 15, 2016.

Encouraged by these results, Happy Creek expanded its exploration activity in 2016 with in-fill drilling on the RC Zones and additional exploration holes on the BN Zones. Drilling consisted of 2,330 m in 28 holes. Happy Creek also collected surface chip, channel, and soil samples.



Geological mapping was expanded, and trail construction facilitated access through the property. From this work, Happy Creek updated the RC Zone mineral resource estimate and considered there was sufficient information on the BN Zone to warrant a maiden resource estimate.

**2005** - **2010**: Happy Creek acquired the property and conducted larger scale prospecting, geochemistry and geology. Trenching and wide-spaced drilling at Nightcrawler zone gives positive results in an area 1.5 km X 500 metres in dimension. Trenching on Deception Mountain returns 2 metres of 5.0% W03 (Ridley Creek (RC)), 7.25m of 1.25% W03 (BK), and 1.0m of 4.66% W03 metres (BN) in three zones over 2.0 km.

**2011** - **2013**: In 2011, drilling at RC zone intersected 5.2metres of 0.91% W0 $_3$ , 4.7m of 1.02% W0 $_3$ , and 12.4m of 0.74% W0 $_3$ , which are considered the "Discovery" point for the project. Under increasingly difficult market conditions, globally top-tier results include 26m of 1.2% W0 $_3$  at RC and 14.8m of 4.0% W0 $_3$  at BN. With limited funding available, only the RC zone was selected for additional drilling. A LiDAR topographic survey and additional geology was completed.

2014 - 2015: Airborne geophysics, geological mapping, sampling. Geochemical survey identifies large

South Grid target. The North zone was better defined at surface and addition zones of Tungsten located. In 2015, drilling at the Nightcrawler Creek zone returns 5m of 1% WO $_3$  and the favorable geology containing Tungsten values extended another 450 metres further east. More detailed deposit modelling, metallurgy studies undertaken.

**2016:** Drilling and updated resources for Ridley Creek zone. Drilling increases information at BK zone and returns 6.0 m of 0.67% WO<sub>3</sub>. Trench and chip sampling at Ridley creek and BK zone. A conceptual process flow sheet and metallurgical studies returned positive results.

**2017**: Drilling and updated resource for Ridley Creek, BN and BK zones. Geological mapping on Deception Mountain further refined contacts and extent of the favorable calc-silicate unit. Prospecting and hand trenching located new Tungsten showings along strike to the south of Ridley Creek, and in calc-silicate layers above Ridley Creek and BK zones. At the 1.5 km by 500m South Grid target, drilling returned several intercepts above cut-off grade and near-surface that are thought to represent good potential for a new deposit.

### Resource

The most recent Mineral Resource Estimate (MRE) for the Fox Tungsten project and covers the Ridley Creek, BN and BK Zones, which are portions of a 3 km long skarn horizon that outcrops at surface and dips gently westward.

This MRE dates back to February 2018 and was prepared by Pierre Desautels, P.Geo., the Principal Resource Geologist of AGP Mining Consultants. The 2018 MRE was an update to the previous MRE, announced in 2016 (also conducted by AGP Mining Consultants Inc.).

The latest NI 43-101-compliant MRE included a first-time MRE for the BK zone on the Fox property.

The total Indicated Resources for the Ridley Creek zone amount to 582,400 tonnes grading 0.826% WO $_3$  and the total Inferred Resource is now 565,000 tonnes grading 1.231% WO $_3$  for the Ridley Creek, BN and BK Zones combined. The Fox resource appears to be meaningful. These grades are in the top quartile of grades in the Tungsten space, where many other projects are 0.5% or less.

The consultant generated Lerchs-Grossman optimized shells to constrain the potential open pit material. The parameters used included:

- 50° slopes for the pit shell
- CAD\$8/t mining cost
- CAD\$26/t milling cost
- CAD\$10/t G&A operating cost

- 75.8% WO3 recovery to a 68% WO<sub>3</sub> concentrate
- CAD\$285/MTU WO<sub>3</sub> price

| Fox Tungs    | ten MRE          |                  |         |          |            |                     |
|--------------|------------------|------------------|---------|----------|------------|---------------------|
| Zone         | Category         | Cut-off %<br>WO3 | Tonnes  | WO3<br>% | WO3<br>MTU | WO3 kg<br>Contained |
| Ridley Creek |                  |                  |         |          |            |                     |
|              | Indicated in-pit | 0.175%           | 397,400 | 0.713%   | 283,400    | 2,834,000           |
|              | Indicated U/G    | 0.450%           | 185,000 | 1.067%   | 197,100    | 1,971,000           |
|              | Total            |                  | 582,000 | 0.826%   | 480,500    | 4,805,000           |
|              | Inferred in-pit  | 0.175%           | 14,700  | 0.662%   | 9,700      | 97,000              |
|              | Inferred U/G     | 0.450%           | 76,800  | 0.961%   | 73,800     | 738,000             |
|              | Total            |                  | 91,500  |          | 83,500     | 835,000             |
| BN           | Inferred U/G     | 0.450%           | 453,000 | 1.321%   | 598,300    | 5,983,000           |
| ВК           | Inferred in-pit  | 0.175%           | 20,900  | 0.672%   | 14,000     | 140,000             |

Based on what is now among the highest cut-off grades reported in the industry, the 2018 MRE represented an increase in contained Tungsten of 21% for Indicated and 22.9% for Inferred from the previous MRE.

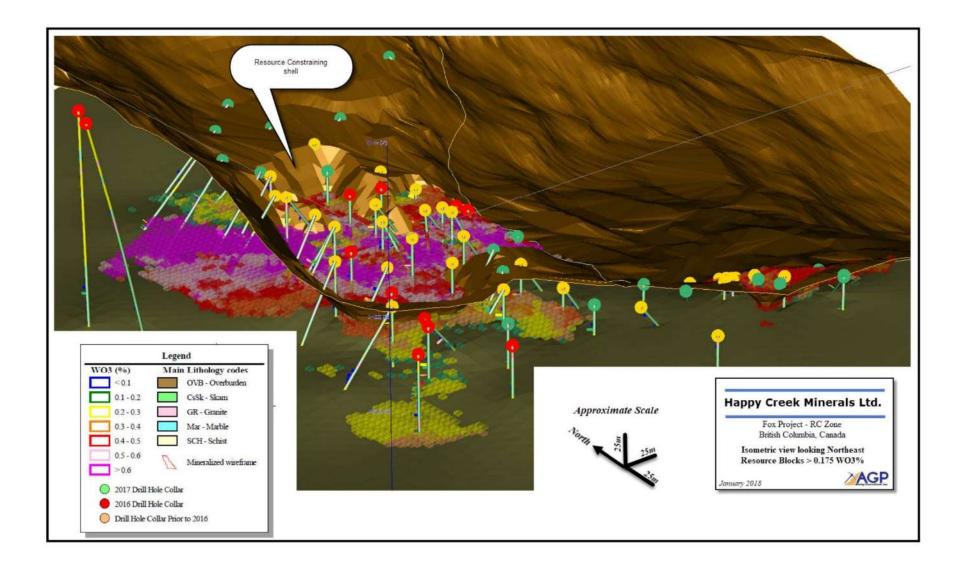
The estimate was completed based on the concept of a small scale, open pit for the BK Zone, a small-scale open pit and underground room & pillar operation for the RC Zone and a small-scale, underground room & pillar mining operation for the BN Zone.

A Tungsten price of US\$230/MTU of WO $_3$  in concentrate was used for the cut-off estimation. An *in-situ* resource cut-off grade of 0.175% WO $_3$  was applied for potential open pit resources and 0.45% WO $_3$  for potential underground material. With current prices at more than US\$600 per MTU, a recalculation of the MRE using reigning prices would have a significant impact on any restatement of the previous resource let alone expanded mineralization in a revised model as a result of drill work since that time.

# **Musing on Production**

The cutaway of the RC zone on the next page provokes some thoughts on our part on potential production. Resource-constrained pit shells are, well, constraining. As can be noted, the mineralisation (at least as estimated) is relatively flatlining and extends back into the mountain. Yet the pit shell only takes a "bite" out of the mountain side and involves a lot of earth being moved to access a mere part of a mineralized block that would be better tackled via drifting in horizontally to access the mineralized layer.

We are unashamedly biased towards underground mining, over open pit, and the advantages here are even more evident.



First Nations obviously prefer the option with least disturbance but merely from the perspective that the sub-1% nature of most Tungsten deposits means that the less rock moved to glean the tungsten ore, the better.

Nevertheless, management notes that significant near surface mineralisation in the RC/BN zones, from recent drilling in the one metre to 40 metre range, indicates there may be more or less continuous between the zones. This is in addition to the presence of deeper zones at circa 200 metres depth.

This suggests that there could be a surface mining operation that is later extended to underground zones.

# Metallurgy

In 2017 the company collected a surface bulk sample of approximately half of a tonne from the RC and BN zones for mineralogy (SGS Canada) and mineral processing test. The results indicated that Tungsten could be recovered from Fox ore using gravity separation (shaking tables) to produce a high-grade concentrate.

No deleterious elements occur, while there is also potential for recovery of by-products such as Zinc,

Indium and Bismuth. Gold and silver values were also evident.

# **Subsequent Exploration**

In the wake of the last published resource (and in a scenario of seemingly permanent low Tungsten prices) the company nevertheless continued exploration efforts within its straightened circumstances.

**2018:** Stream sediment geochemical surveys and prospecting were performed along newly constructed logging roads on the western side of the property. Anomalous Tungsten in multiple stream sediments samples suggests potential for mineralization in the area. In addition, the first ever prospecting along new roads in the far south portion of the property returned up to 519 g/t silver in quartz veins.

At the left can be seen scheelite in drill core under an ultraviolet light.

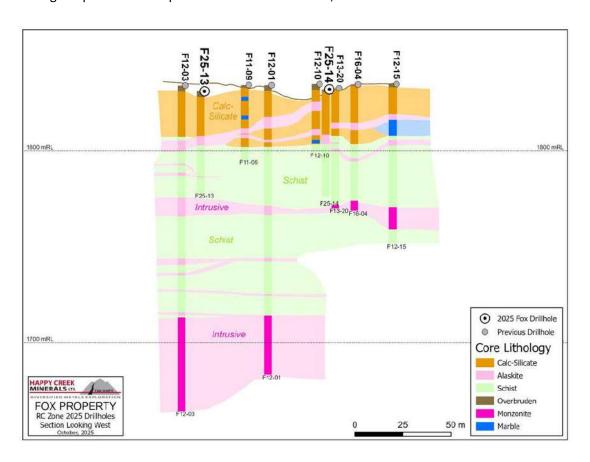


**2019:** Additional stream sediment sampling, and prospecting was performed on the western side of the property, and two drill holes totalling 331.6 metres were completed in the Nightcrawler area. The two holes, 400 metres apart, intersected Tungsten mineralization that further suggests potential for a resource to be generated in this area. Drill hole F19-02 returned 6.3 metres of 0.43% WO<sub>3</sub> near surface.

**2020**: Six largely wide-spread diamond core holes totalling 1119 metres were completed in the Nightcrawler zone, better defining the mineralized calc silicate layers and intersected a significant mineralized zone to the east of the Creek zone. Prospecting and geochemical surveys in the western side of the property located ouctop of marble and calc silicate containing Tungsten mineralization. Another area, 4.5 km to the southeast was also located containing Tungsten in boulders and subcrop. One drill hole was attempted in this large area but was abandoned due to weather changes that imposed safety and logistic concerns.

# **Current & Planned Exploration**

The company mobilized contractors and equipment and began drilling in the first week of September. Eighteen diamond core drill holes were completed at the Fox Project for a total of 2,176 metres drilled during the period from September 5th to October 5th, 2025.



Drilling stepped out to the west of the RC zone and between BN and RC. These holes intersected wide horizons of calc silicate both near surface (circa 20m depth) and also a deeper horizon +20 metres thick at circa 200 metres depth as shown in the cross-section on the preceding page.

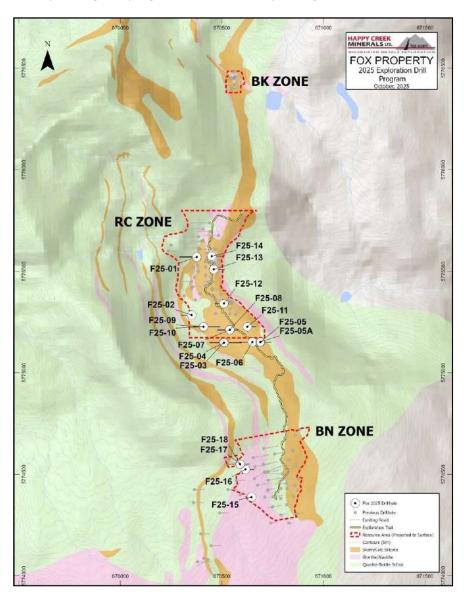
The 2025 drilling at the BN zone followed up on recommendations in the NI43-101 report of 2018 by drilling the one-kilometre-long Tungsten in soil anomaly to the west of previous drilling. The anomaly is underlain by mineralized calc silicate layers at and near-surface. The 2025 drilling also tested the potential for additional mineralized calc silicate horizons at depth to demonstrate the resource expansion potential.

Up to 100 diamond drill holes, totaling approximately 10,000 metres, are planned across multiple zones over the two-year program. This upcoming drill program will focus on expanding the NI 43-101 resource

estimate by completing step-out drilling on the current resource area (lower BK/RC/BN zones), as well as targeting new areas identified through geological mapping, prospecting and previous drilling. The new target zones include above and between the BK/RC/BN zones.

Geological mapping completed by Нарру Creek in 2017 through 2023 identified numerous mineralized outcrops between the BN and RC zones, as well as at least three additional calcium silicate horizons that are approximately 50 to 150 metres in elevation above BK/RC/BN resource horizon.

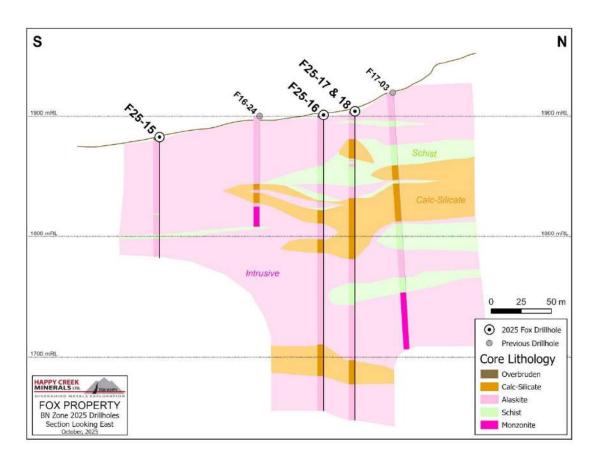
Mapping indicates that the upper horizons extend



over two kilometres in strike length with an observed lateral extent of at least 500 metres west and beyond the area previously tested by drilling.

Management believes that there is potential to expand the resource horizon between deposits and to the west, and additional potential in the upper horizons. Drilling completed at the RC zone in 2017, including two drill holes directly beneath Deception Mountain, returned intervals of 19.4 metres of 0.93% WO<sub>3</sub> and 26 metres of 1.19% WO<sub>3</sub>.

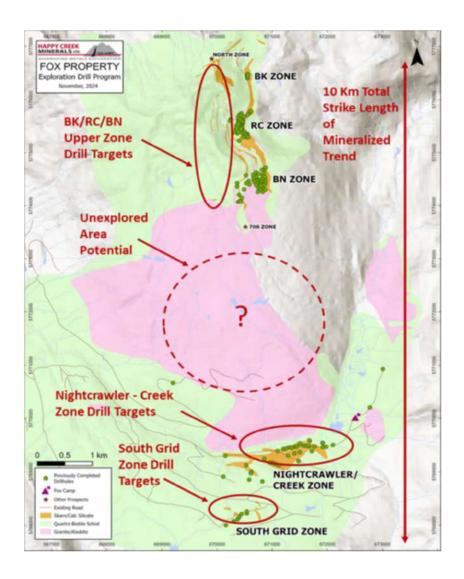
A total of four diamond core drillholes (F25-15, F25-16, F25-17, F25-18) were completed at the BN zone during the 2025 field season for a total of 871 metres drilled and an average hole depth of approximately 218 metres.



# **Further Upside**

The map on the following page shows the area between the BK/RC/BN zones and the Nightcrawler zone, some five kilometres to the south.

The untested area thus has still unquantified potential.

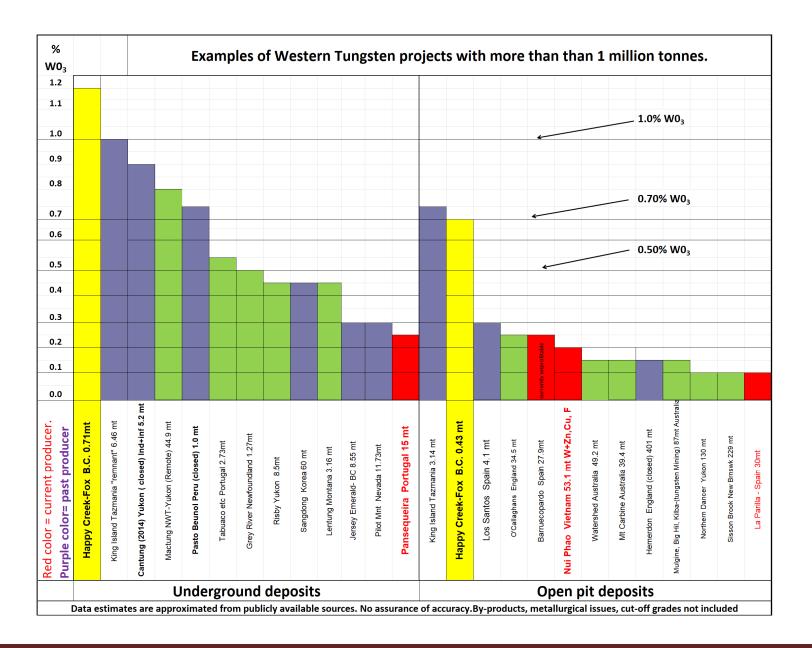


# **Comparisons**

The graphic on the following page is illuminating in that it shows projects ranked by grade in both open pit and underground manifestations.

As we have noted elsewhere, Tungsten is the only metal we know of where the listed developers/producers far outnumber the explorers. This makes for a pipeline to production but little pipeline to development.

The two largest projects stuck in the explorer category are Northcliff with its eye-watering capex at the Sisson project in New Brunswick and Fireweed with its extremely isolated Mactung project in the Northwest Territories. If anything, these seem to be forced into remaining explorers as they cannot do much else with their projects.



### **First Nations**

The First Nations band that covers the territory when Happy valley operates is the Canim Lake Band (Tsq'escen) that are styled as the People of the Broken Rock. The Tsq'escen First Nation is part of the Secwepemc Nation and are Interior Salish People. The Salish People cover the area from the Coast (Coastal Salish) from Northern BC from Washington State to the Cariboo Region. The Tsq'escenemc are part of the lakes people of the Northern Secwepemc, using the vast number of lakes in the region to maintain their sustenance and lifestyle.

Happy Creek has a cooperative relationship with Tsq'escen Nation, including some of their members as part of the current drilling campaign.

# **Shareholders & Financing**

In mid-July of 2025, the company announced a non-brokered private placement to raise gross proceeds of up to CAD\$3.25mn consisting of charity flow-through (FT) units offered at a price of CAD\$0.07 and Non-Flow Through (NFT) units offered at a price of CAD\$0.05.

Each FT Unit will be comprised of one flow-through common share and one half of one common share warrant and, likewise, each Non-Flow-Through Unit will be comprised of one common share and one half of one common share warrant. Each warrant will be exercisable at a price of CAD\$0.07 into one common share for a period of 60 months from the date of issue. The Flow-Through issue proceeds must be applied to applicable exploration on, or before, the 31<sup>st</sup> of December 2026.

Then in late August, the company announced that it had closed the private placement, raising total gross proceeds of CAD\$3.75mn, raising \$500,000 more than originally envisioned. The oversubscribed placement included funds managed by Waratah Capital Advisors Ltd, that now hold almost 20% of Happy Creek post-financing and also has a director on Happy Creek's board.

Additionally, insiders of Happy Creek purchased 800,000 NFT units.

# **Board & Management**

Walter Segsworth, FEC, FCIM, director and Chairman, has over 40 years of experience in mining throughout Canada and overseas and has served as a senior officer of several mining companies including Westmin Resources, where he was President and CEO, and Homestake Mining Company, where he was President and COO. He is currently lead independent director of Pan American Silver and a director of Sabina Gold & Silver Corporation. He is past Chairman of the Mining Association of British Columbia and the Mining Association of Canada and was named B.C.'s Mining Person of the year in 1996.

**Jason Bahnsen**, B.Sc, MBA, executive director and CEO, has over 35 years of experience in mine operations, company restructuring, company leadership, and providing strategic and corporate finance advice to listed and private resource companies globally. During his career Jason has worked with resource companies in multiple countries including Canada, Australia, Indonesia, China and the UK. He holds a B.Sc

in Mining Engineering from Queen's University, Canada and an MBA from University of New England, Australia.

**David Blann**, P.Eng., director, has been engaged in precious and base metal exploration, development and production stage projects for over 28 years. He has worked predominantly within Canada and the U.S.A., as well as in Mexico, Chile and West Africa. Within central British Columbia, Canada, he has been involved in the discovery of a number of epithermal gold-silver and porphyry copper systems. He has been a director or vice president of several junior mining companies and designed the strategy and assembled the projects as founder of Happy Creek Minerals Ltd. He received a diploma in Mining Engineering Technology from BCIT in 1984 and a B.Sc. in Geological Engineering from Montana Tech, Butte, Montana in 1987.

**Rodger Gray**, non-executive director, has over 20 years of experience as a stockbroker and officer of an IDA member firm. He is currently with Altus Securities in Toronto, and was until recently, the president and chief executive officer of Toll Cross Securities Inc., a Toronto-based, full-service broker dealer specializing in the junior resource sector. He has previously acted as a director and vice-president investment banking, institutional equities, with First Associates Investments Inc. and prior thereto as president of St. James Securities Inc. He is a graduate of Laurentian University.

**Grant McAdam**, non-executive director, has been an investment analyst at Waratah Capital Advisors since 2019. He has also served as a director of Grid Metals Corp. since September of 2023. He focuses on metals and mining, as well as real estate, business and information services, and special situations. He holds the certified financial analyst designation and has received a Bachelor of Arts (honours) from the University of Toronto.

Sarah Weber, non-executive director, is currently President and Chief Executive Officer of C3 Alliance Corp., a private consulting company that works closely with Indigenous peoples, the resource sector, governments and communities. She provides leadership in building positive relationships between industry, Chambers of Commerce, municipal governments, Provincial governments, Indigenous communities and NGOs. She holds a B.Sc. in Geology from the University of British Columbia and an Executive MBA from the Beedie School of Business, Simon Fraser University.

# Risks

The risks for the Tungsten space in general are (or might be):

- × A reduction in global geopolitical instability
- × A reversal in the Tungsten price trend
- Weakened global industrial demand (particularly in tools) that would soften price & volumes
- × China manipulating the market in some way to again create distortions in price and trade

patterns

× A tough financing market for junior explorer/developers

Most of these risks are different sides of the same price prism, with the exception of the market's perception/disinterest in Tungsten.

Global conflicts (both actual and potential) have played a significant role in spurring Tungsten demand (and perception change) in recent times.

Can Tungsten prices go down? Absolutely, it has happened before and might happen again, but to what extent the price might retreat and for how long are interesting subjects to consider.

China is not alone in creating scenarios in which prices will move higher (or lower). US tariffs are being used to make non-Chinese production of Tungsten more attractive. After having imposed restrictions on so-called dual-use exports of Tungsten for strategic reasons as they did with Antimony, Rare Earths, Gallium and Germanium, the Chinese have managed to "juice up" the markets for these more or less not mainstream and in some cases obscure minerals/metals. What has been done can be undone at will. To some extent, the Ga/Ge bans have been somewhat elective with "leakage" of products having damped down expected price surges in these elements. One should not be surprised to see selective easing or nuancing of the dual-use bans as a negotiating token in trade talks with the US.

Likewise, price-signalling could be employed in the larger volume metals, Antimony & Tungsten, to place prices lower, much as be seen over the last 15 years where the Chinese have played the REE space like a fly-fisherman attempting to delude the trout or salmon into submission.

Financing remains difficult and dilutive when it takes place. The only way to harvest the most attractive price on a financing is to be in production and the only way to do that is to finance minebuilds/reactivations. The ease with which Almonty Industries (TSX: AII) and Guardian Metal Resources (AIM: GMET) have been able to raise funds in the last year (contrasting strongly with the tough times for even producers gleaning funds pre-2024) shows the market's receptiveness to production stories.

Royalties also exist as a means to fund stories that have production in prospect as evidenced by two recent deals by EQ Resources (ASX: EQR).

### **Investment Theses**

A key giveaway of the eventual direction of Happy Creek Minerals is that the CEO is a mining engineer by training. This gives investors a strong sign to investors that production is the eventual goal, rather than the eternal sound of drilling which is music to the ears of CEOs that are geologists by training.

Historically, Tungsten is one of those metals where the fluctuating price makes it hard to plan a company's trajectory for more than a couple of years. The wild ride in pricing since 2008 made it particularly difficult to chart these waters. Now the trend is turning positive again with a firming price meeting a marketplace that has been deprived of new projects and seen most of the explorers vaporize. Even though the recovery

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is now in place, Tungsten is a metal that has failed to capture the market's interest due to generalized ignorance of Tungsten and its supply/demand dynamics. With the slow steady recovery in the price since mid-2017 there now exists a window of opportunity for Tungsten plays in the Western World as end users look to secure alternative and more reliable sources of supply than China.

The mantra now though is Production, Production. Production. Having projects that are on the drawing board, and unlikely to leave it, does not charm funding out of the military in ANY country. This sets up a scenario where the non-serious will hopefully be relegated to a distant second place in the attentions of the markets.

The brutal market over the last decade resulted in "ethnic cleansing" of the listed Tungsten space with few survivors, with the explorers that were most brutally winnowed out of existence. As a result, despite the strong rise in the Tungsten price, there are few projects in the pipeline and little sign of newcomers joining the fray.

The broader economic recovery should lead eventually to increased competition for Tungsten concentrates in the global market between Chinese and non-Chinese processors and consequently result in an increasing price structure for Tungsten and its products in the future. A rise in prices of APT to over \$600 in what remains of 2025 is not unthinkable and indeed likely if China restricts Tungsten exports.

Fortunately, Tungsten offtakers are proactive participants in the development of producing assets in this metal in a way that is not evident in other specialty metals.

In light of the attractive, and most probably lasting, confluence of events in the Tungsten space, Happy Creek Minerals finds itself in the right metal, in the right place at the right time, a rare occurrence.

# **Rating & Target**

The share price trajectory over the coming year will be driven by two major factors and one minor. The two important drivers will be how the company projects its production plans to the market. These do not need to be detailed but they do need to be cogent and with a relatively short-fuse to development. The second factor is, of course, the Tungsten price. We do not expect its rise to be as steep as it has been of late and certainly the gain will be less in percentage terms. There is even scope for a pullback. Our year-end target for 2026 is US\$650 and is now already reached but a pullback should not be discounted.

The third minor factor will be the exploration results. These are unlikely to provide any surprises as the project is highly enriched and targeting drilling to the most rewarding areas for resource expansion and in-fill will be somewhat like shooting fish in a barrel.

While the promotorial class are dusting off shells to repurpose them for using as cannon fodder in the battle for Tungsten investors' attention, the producers/developers and even the extant explorers are many, many miles ahead of the madding crowd. This puts a premium upon the value of Happy Creek as almost the sole pure explorer out there.

Thus, we are initiating Happy Creek Minerals with a **LONG** rating and a 12-month target price of **CAD\$0.32**.



# **APPENDIX I:**

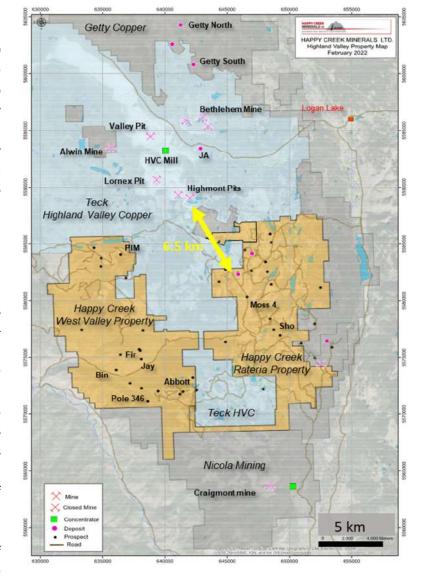
# The Highland Valley Deal

# The Highland Valley Sale

This is a very large property (240 km²) that is regarded in some circles as having the potential to host another Highland Valley copper deposit. It adjoins, indeed surrounds, the Highland Valley Copper (HVC) mine of Teck (TSX: TECK.B | NYSE: TECK), which is the largest open-pit copper mine in Canada.

Production at the HVC began in the early 1960s. It produces both copper and moly concentrates through autogenous and semi-autogenous grinding and flotation. Once processed, the metal concentrates are exported overseas, where the majority is sold under long-term sales contracts to smelters. Revenues from the mine in 2024 were \$1.303bn, with gross profits of \$221mn.

Teck is advancing construction of the Highland Valley Copper Mine



Life Extension Project to extend the life of the operation, through an extension of the existing site infrastructure. The mine life will be extended from 2028 through to 2046 with average copper production of 132,000 tonnes per year over the life of mine.

This extension will maintain the  $^{\sim}$ 1,500 direct jobs and the \$500mn in annual GDP contribution to Canada from HVC's operations.

Happy Creek put the claim package together over a period of 18 years. It undertook over 20,000 metres of drilling and made two significant prospect discoveries with what management viewed as having potential for a large-scale copper porphyry deposit. In total, around CAD\$9mn has been spent on drilling and exploration of the project area.

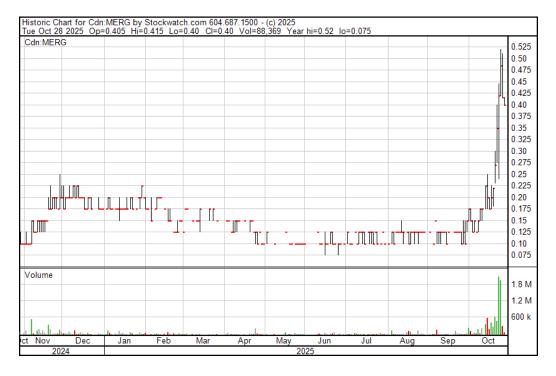
The Zone 1 and Zone 2 deposits of the Highland Valley Project are hosted by the same phases of the Guichon Creek Batholith that host Teck's open pits. This geological formation, characterized by large, copper-bearing zones, is well-suited for large-scale copper mining. Zone 1 represents typical porphyry copper characteristics found within the Highland Valley region, while Zone 2 is distinguished by additional gold and rhenium enrichment.

# The Transaction

In early November of 2024, HPY announced the closing of the sale of the Highland Valley Copper Project to Metal Energy Corp. (TSX:V MERG). Ergo, Highland Valley became MERG's headliner project.

As a result, Happy Creek holds 9.9% of Metal Energy issued capital. Happy Creek may receive up to a 2.5% Net Smelter Return (NSR) royalty on the Highland Valley mineral claims.

However, MERG's stock price has been on the weak side since the deal, having shed nearly half its market capitalisation. It recently uplifted on the announcement of a deal to acquire a second copper project in BC. It then also, intriguingly, signaled a one-for-five rollback.



While theoretically not in charge at Highland Valley anymore, Happy Creek does have a director on the board of Metal Energy.

Moreover, should Highland Valley start to realise some of its promise then it could provide a healthy underpinning for Happy Creek's net asset value and potentially as a source of funds by vending some of the 11mn plus shares it holds in MERG.

# **APPENDIX II:**

# Tungsten – The Military Angle

# **Tungsten as THE Military Metal**

If we had to choose a metal to crown as the military metal *par excellence* it would undoubtedly be Tungsten for its usage in shells and in armour-plating to resist said shells. Tungsten's essential industrial and military place has been well known since the 1940's. During WW2, Iberia (Spain & Portugal), Sweden and the US were important producers of the critical military metal.

While Tungsten means "heavy stone" in Swedish, its main source since its rise to industrial usage has been the Iberian peninsula. This produces an interesting history which has relevance today because it is the back-story to the massive tug of war over Portugal and to a lesser extent Spain during WW2. In this story lies some good examples of our "supply & deny" watchwords.

Following the invasion of the Soviet Union, Germany became dependent on Portugal and Spain for their Tungsten supplies, due to its value in producing war munitions. To maintain its neutrality, Portugal set up a strict export quota system in 1942. This concept of neutrality through equal division of products supplied to belligerents was different from that of the Northern European neutrals who worked on the basis of "normal pre-war supplies". However, in January 1944, the Allies began pressuring the Portuguese dictator Salazar to embargo all Tungsten sales destined for Germany. Portugal resisted, defending their right as a neutral state to sell to anyone and fearing that any reduction in their German exports would prompt Germany to attack Portuguese shipping.

Despite the seeming closeness of Franco to Hitler, he was also a fence-sitter and had to do an even more perilous balancing act, thinking forward to what might happen if he was unequivocally seen as tied to the Nazis should they not win. At the top end of Europe, Hitler had neutral Sweden blackmailing him over iron ore supplies and to the East he had to contend with a "friendly" Romania over oil supplies. Such is the dilemma, writ small, that China will have if it ever decides to go ballistic (pardon the pun).

What makes Tungsten, the key military metal?

- It is used in making bulletproof vehicles, armored tanks, and other kinds of protective equipment designed to withstand the high-speed impact of bullets. This is due to the hardness of Tungsten. And this property, as well as others, can be enhanced through alloying to yield stronger composite materials.
- It is used in making armor-piercing rounds. These are designed to pierce through protective armor

and vehicles designed to be bulletproof. Tungsten can tolerate high levels of shock and does not easily shatter.

- It is used in making high-speed cutting tools. These tools are usually made of high-speed steel, and they cut much quicker than ordinary carbon steel. Tungsten's ability to withstand high temperatures makes it indispensable in fabricating these tools and when cutting at such high speeds.
- Tungsten is also used in the manufacturing of rocket and aircraft parts. It is instrumental in manufacturing parts like engines because of the high temperatures they have to withstand.
  Tungsten has a high thermal resistance and can withstand high temperatures without defect.

Tungsten is one of those metals where the fluctuating price makes it hard to plan a company's trajectory for more than a couple of years. The wild ride in pricing since 2008 made it particularly difficult to chart these waters. Now the trend is turning positive again with a firming price meeting a marketplace that has been deprived of new projects and seen most of the explorers vaporize. Even though the recovery is now in place Tungsten is a metal that has failed to capture the market's interest due to generalized ignorance of Tungsten and its supply/demand dynamics.

# The US – Back into the Fray

The sad state of the Tungsten space in the US is evidenced by the fact that the metal has not been mined commercially in the United States since 2015.

According to the USGS's latest publication on Tungsten, approximately six U.S. companies had the capability to convert Tungsten concentrates, ammonium paratungstate (APT), Tungsten oxide, and (or) scrap to Tungsten metal powder, Tungsten carbide powder, and (or) Tungsten chemicals.

As for applications, an estimated 60% of the Tungsten consumed in the United States was used in cemented carbide parts for cutting and wear-resistant applications, primarily in the construction, metalworking, mining, and oil- and gas-drilling industries. The remainder was used to make various alloys and specialty steels; electrodes, filaments, wires, and other components for electrical, electronic, heating, lighting, and welding applications; and chemicals for various applications. The percentage of those two categories that ultimately end up in military-linked applications was not revealed.

The worm has turned though and the Department of Defense (DoD) in the US has seen the error of its ways in allowing its suppliers to become China-dependent in their sourcing. The war in the Ukraine and Chinese sabre-rattling over Taiwan and the South China Sea have accentuated the concern.

This has prompted a funding program for the development of onshore Tungsten sources.

# **Riding the Washington Express**

Developers in the specialty and critical metals spaces (and even in some base metals) now talk more of Washington D.C. than they do of Perth and Vancouver. One of the most propitious sources of funding these days is not the likes of private equity funds in mining, but rather the DPA III program of the U.S. DoD which is developing a policy of supporting worthy critical minerals projects.

The problem for pure promoters though is that the DoD is, careful, technical and diligent. They see through a pure promoter with night vision goggles.

As we noted in our recent Initiation of coverage of Guardian Metal Resources, its Pilot Mountain project hosts one of the few Tungsten projects in North America that has their interest, and therefore is well positioned for funding. In an interesting sidenote, in a publicly-released briefing from the US DoD's NDIA Manufacturing Division, it was disclosed that three Tungsten projects were in line for funding and one of those mentioned was Guardian Metal's Pilot Mountain, with a date of grant shown within 2024. The size of the funding was not revealed, nor is this written in stone, as the award was not officially announced.

# **Tungsten Returns to its Place in the Sun**

Long known for its role in lighting filaments, drill bits and cutting and machining tools, the military side of Tungsten's usage has been seldom trumpeted... that is, until now.

If we had to choose a metal to crown as the military metal *par excellence* it would undoubtedly be Tungsten for its usage in shells and in armour-plating to resist said shells. Tungsten's essential industrial and military place has been well known since the 1940's. During WW2, Sweden, Canada and Iberia were important producers of the critical military metal.

# Loosening China's Grip on Tungsten

Tungsten, in theory, should be a bellwether of industrial activity, more than virtually any other metal, as it is directly levered into machine-tool manufacturing as the swing factor in its demand (the relatively non-variable part being lighting uses). However, the "spoiler" here is China which has long distorted the Tungsten market, much as it has distorted the pricing mechanisms in so many other metals.

Now we have a situation where military and industrial demand is recovering making it harder for China to maintain low prices (to maintain its dominance). Moreover, China's attempts to overrun the machine tool sector through its Tungsten dominance put Western manufacturers of this equipment on notice that they need guaranteed non-Chinese supplies to evade predatory Chinese manuevres. New protection measures such as tariffs and import restrictions by the U.S. should help protect domestic production.

Paradoxically, aggressive Chinese waving of the "big stick" of export controls shall probably backfire in heightening Western awareness that it needs to proactively counteract these malign actions.

# The History of the US Government & Tungsten

In 1939, the United States Congress enacted the Strategic and Critical Materials Stock Piling Act, a federal law providing for the acquisition and retention of stocks of certain strategic and critical materials that supply the military, industrial and essential civilian needs of the United States for national defense.

Then in 2021 the US government announced plans to recapitalise and restore the National Defense Stockpile of critical minerals and materials, following findings from the reviews directed under Executive Order 14017. In March 2022, the Departments of Energy, State and Defense executed a memorandum of agreement to launch an effort to include critical minerals necessary for the transition to clean energy alongside those needed for defense purposes.

# The Tungsten Tariff

On the 14th of May 2024, the Biden Administration announced a 25% tariff on Chinese Tungsten imports with effect from the 1<sup>st</sup> of August 2024.

This measure resulted in a bifurcation of viewpoints. One school of thought (to which we pertain) saw the measure as further increasing the attractiveness of U.S.-mined and processed Tungsten and as a further prod to reboot Tungsten production outside of China.

However, industrial interests (and permacritics of the President Biden) saw the decision "to slap a steep 25% tariff on Tungsten and its products from China..... as nothing short of disastrous". Of course, this latter group of the "Cheap Rules!" school of thinking have been in the ascendancy for 40 years and have singularly done nothing to encourage or fund Tungsten supply chains independent of China.

The difference is poignant, between those in the tool industries in Europe that paid over the market rates for W to sustain a non-Chinese supply chain in this critical metal, and those industrial users in the US that pandered to China's hegemonic tendencies in this and other strategic metals due to solely "bottom-line" considerations.

# Wielding the Big Stick - the Dual-Use Ban

The latest Chinese measures have roiled sentiments, but not necessarily prices, in the Tungsten market. Certainly, compared to the Antimony measures, the Chinese feint in Tungsten may be seen as rather a damp squib. When the history books are written the measures may be seen as a longer-term driver of Tungsten prices (yet having flopped in the first instance) and may also be seen as a catalyst for the eclipse of China as the sole decisive factor in the Tungsten.

On the 3<sup>rd</sup> of December 2024, China announced stringent export restrictions on "dual-use" technologies for both civilian and military use, specifically targeted at the United States, including Tungsten, Gallium, Germanium, and Antimony.

The latest Chinese export bans extend to super-hard materials, including Tungsten, which is indispensable for weapons manufacturing, cutting tools, and aerospace technologies.

The new restrictions had two notable aspects:

 It was the first time Chinese critical minerals export restrictions were targeted at the United States rather than all countries

 It was the first time restrictions on critical minerals were a direct response to restrictions on advanced technologies

These restrictions have significantly disrupted global supply chains, amplifying the urgency for Western nations to secure independent sources of critical minerals. China's dominance in critical mineral production, bolstered by subsidies and control over key raw materials from Africa, and to a lesser extent Latin America, continues to pose challenges for nations reliant on these essential resources for advanced technologies, including semiconductors, defense applications, and clean energy solutions.

Some interpreted the export bans/restrictions as a sign that critical mineral security was now intrinsically linked to the intensifying tech trade war. However, we regarded the Gallium/Germanium measures in 2023 as specifically linked to tech (namely semi-conductors), while we have interpreted the dual-use ban on Tungsten as distinctly military-linked.

Interestingly though the most recent USGS Tungsten Review states that import sources (2019–22) for the US of ores, concentrates, and other forms were: China at 27%; Germany at 12%; Bolivia at 9%; Vietnam at 8%; and others at 44%. In light of rising non-Chinese production, the dual-use ban might only serve to accelerate the erosion of China's market share and thus dominance.

# The EU (and UK) – Where Circularity becomes Reality

The EU categorized Tungsten as a "critical raw material" and yet it did the same with a swathe of other metals. The rubber rarely meets the road in Brussels as there is, too often, a triumph of form over content. The sourcing of such critical metals was overlaid by the delusion of the "circular economy" and pandering to rampant NIMBYism.

The irony is that Europe is way ahead of the US in Tungsten production with mining operations in Portugal, Spain and Austria. None of this is by design, we might note, but rather historical momentum. The potential to turn back on substantially more production in the Iberian Peninsula (and the UK) is particularly poignant. One might almost say that the closest that Europe comes to achieving a circular economy in any critical metal is in Tungsten.

### The US - Back into the Fray

The sad state of the Tungsten space in the US is evidenced by the fact that the metal has not been mined commercially in the United States since 2015.

According to the USGS's latest publication on Tungsten, approximately six U.S. companies had the capability to convert Tungsten concentrates, ammonium paratungstate (APT), Tungsten oxide, and (or) scrap to Tungsten metal powder, Tungsten carbide powder, and (or) Tungsten chemicals.

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cemented carbide parts for cutting and wear-resistant applications, primarily in the construction, metalworking, mining, and oil- and gas-drilling industries. The remainder was used to make various alloys and specialty steels; electrodes, filaments, wires, and other components for electrical, electronic, heating, lighting, and welding applications; and chemicals for various applications. The percentage of those two categories that ultimately end up in military-linked applications was not revealed.

The worm has turned though and the Department of Defense (DoD) in the US has seen the error of its ways in allowing its suppliers to become China-dependent in their sourcing. The war in the Ukraine and Chinese sabre-rattling over Taiwan and the South China Sea have accentuated the concern.

This has prompted a funding program for the development of onshore Tungsten sources.

### The DoD Strikes Back

From the start of January 2027, the Department of Defense (DoD) will implement a final rule under Section 844 of the FY 2021 National Defense Authorization Act (NDAA) and Section 854 of the FY 2024 NDAA. This rule expands existing restrictions on sourcing critical materials like Tungsten, tantalum, and certain magnets from "covered countries," including Iran, Russia, North Korea and China. These restrictions will prohibit not only the melting and production of such materials in covered countries but also their mining, refining, and separation at any stage of the supply chain. This marks a significant shift, aligning with US efforts to bolster the domestic industrial base for critical minerals and reduce dependency on adversarial nations.

The rule also tightens exemptions for commercially available off-the-shelf items, reducing flexibility for the private sector in sourcing these critical materials.

Adding to these challenges, the United States announced mid-September 2024 the finalized Section 301 tariff increases on imports from China, further complicating the supply chain landscape for critical materials.

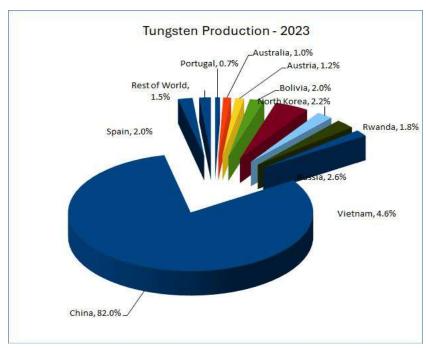
# **APPENDIX III:**

# The Supply & Demand Dynamics

# **Shifting Production**

In the past we have focused where production has been with some mentions of the stalled projects for the future (maybe). Now we can see that there is potentially a major sea-change in the balance between China and ROW, and where in the ROW the production comes from, particularly as China was expected to be a net Tungsten importer by the mid-2020s (which did not occur).

For the last decade primary supply has lagged some way behind demand, enabling large stockpiles to be drawn down and also requiring considerable supply of secondary Tungsten to meet demand. China accounts for a substantial proportion of primary supply, accounting for ~82% in 2023. A number of large state-owned mines were facing depleting ore grades, which is likely to lead to lower output from existing operations over the next decade. When they still existed, the consultants Roskill anticipated that China's market share to drop to below 72% by 2029, unless new operations can come online to offset the fall from depleted assets.



Source: USGS

Countries that have faded long ago, like Australia and South Korea have the potential to become major producers, while some that produced in recent times, like Canada and Peru are sidelined, and major producers from further back, like Spain and Portugal, are getting a second wind. Indeed, the latter two countries should dominate non-Chinese production for at least the next couple of years.

This moving feast means that, besides China and Russia, other principal producing countries are Austria, Bolivia, Portugal, Spain, Rwanda and Vietnam whilst mines have closed since the turn of the century in Australia, Brazil, Canada, France, Japan, Peru, South Korea, Sweden, Thailand and the USA. The price slump post-2011 knocked players like Canada, Peru and Australia out of the running. The UK has been sometimes producing and sometimes not due to the travails of Hemerdon.

The recovery of production (though still in planning stages) in the US is one of the truly stunning outcomes of the current supply squeeze.

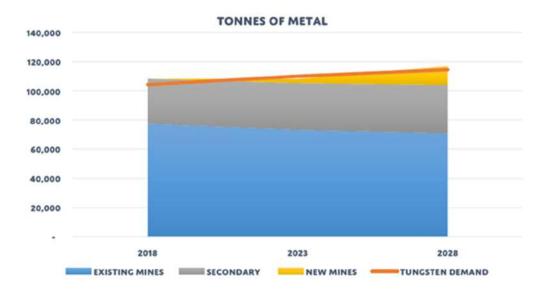
### Reserves

The latest assessment of the USGS (from 2023) is that China has 52% of global Tungsten resources (down from 61% in 2016), Canada had 9% in 2016 and now is not even shown, while Australia is credited with 13% lately and Russia with 9%. However, it is not which country currently has the resources that matters but the country that gets into production first. Thus, Portugal currently has more going on in the Tungsten space than Canada does, while South Korea currently has no production but when Almonty get their Sandong operation going it should return to the producers' table. Curiously Korea does not figure in the USGS's ranking of major resource holders (despite its putative mine once being the world's largest).

Two large-scale Tungsten mines in Spain came online in 2019, these were La Parrilla (controlled by W Resources) and Barruecopardo (then owned by Ormonde and later controlled by Saloro). The former came to grief and the latter is now owned by EQ Resources. Both were looking to ramp up production in the following years, with output expected to peak in the mid-2020s. Production from both operations was scheduled to contribute over three thousand tonnes per annum of contained Tungsten. But reality intervened and the Grim Reaper cast these aspirations aside.

Factors militating against a ramp up in production included:

- long lead times between exploration and new mine openings
- the steep rise in mine development and operating costs
- the very limited availability of high-grade deposits (i.e. greater than 0.4% WO<sub>3</sub>)



Source: Northcliff

The rising tide of new producers (mainly in Iberia) and, in particular, Almonty's Sangdong mine in South Korea are toppling Chinese dominance in this metal that they had hoped to use to clobber the West German machine tool industry with.

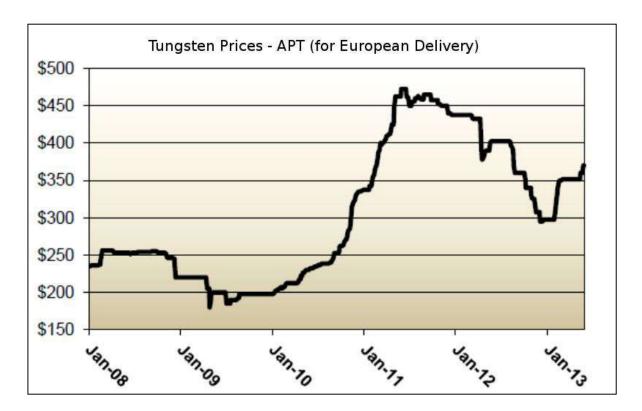
The metal's potential sources are quite geographically diversified with Tungsten (or Wolfram) resources located in China, Canada, Russia and the United States, at least in the official versions. And yet the largest sources of production outside China are Spain/Portugal, Australia and, shortly, South Korea.

# **Pricing**

The average annual price of Tungsten since 1950 has fluctuated between a nadir of US\$10 per metric ton unit in 1963 and a peak of US\$175 in 1977. After that point it sagged back to trade in a \$50-75 band for several decades before its revival in the new century.

The trade in concentrates diminished and the market relied more and more upon the APT quotation as a price guide since APT is the product traded in the largest quantity. Prices are mainly based on the quotations published twice a week by Fastmarkets, although other trade journals also publish quotations or indicative prices.

The chart below shows the price trends for APT during its "boom" period post-2009.



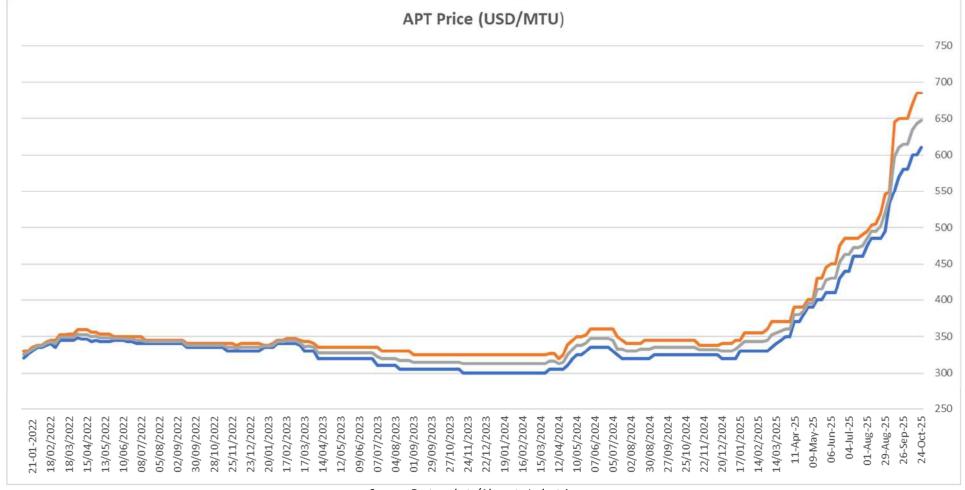
The Tungsten price was blissfully boring in 2023 as all around it wilted in the backwash from China's abandonment of the Zero Covid policy. The lack of a "spike & dump" meant that few were attracted into the space and those that are already in the space, pursue their projects *sotto voce*, or wither on the vine.

Tungsten is one of those metals where the wild ride in pricing since 2008 made it particularly difficult to plan a company's long-term trajectory.

Increased Tungsten usage by military and industrial users should lead to increased competition for Tungsten concentrates in the global market between Chinese and non-Chinese processors and consequently result in an improving price structure for Tungsten and its products in the future.

The price per MTU of Ammonium Paratungstate has finally broken through, definitively, the levels achieved early last decade. At that time wild gyrations pushed APT prices to levels which fired up the promoters, however it was those movements which ultimately ended most of the players in the space.

The chart on the following page shows Tungsten making new highs in an environment where Chinese exports have been severely curtailed, with no prospect as yet of a change in that policy.



Source: Fastmarkets/Almonty Industries

Our latest projections are shown on the table at the right. As the preceding price chart indicated APT

prices have risen by \$300 per MTU in mere months, when previously advancing \$100 might have taken a decade. The price of Tungsten (APT) breached \$600 per MTU recently. Though one should be wary of the spike & dump phenomenon in the specialty metals space, historically.

This may seem ambitious but utilizing an inflation rate calculator the rise of 42.9% (in the US) between 2011 and now would signal a price in real terms of \$672 per MTU.

| Tungsten APT Pricing |  |  |  |  |  |
|----------------------|--|--|--|--|--|
| MTU (US\$)           |  |  |  |  |  |
| \$312                |  |  |  |  |  |
| \$330                |  |  |  |  |  |
| \$610                |  |  |  |  |  |
| \$650                |  |  |  |  |  |
|                      |  |  |  |  |  |

# **Important disclosures**

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