

Yukon Mineral Exploration Program 2018 update

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Program Summary

The Yukon Mineral Exploration Program (YMEP) is a funding program, administered by the Yukon Geological Survey (YGS), and is designed to support individual prospectors, partnerships and companies by providing a portion of the risk capital required to locate, explore and develop mineral occurrences in Yukon (Table 1). YMEP funding has consistently demonstrated its impact as an effective economic incentive by supporting exploration work that has led to numerous discoveries, which in turn, have provided significant long term economic benefits to the territory.

YMEP funding supports placer and hard rock exploration projects by reimbursing a percentage of approved exploration expenditures. Funding is merit-based; a panel of geologists evaluate submissions using a ranking system designed to score a range of criteria, quantifying the quality of the target, the proposal, the work plan, and the applicant's previous YMEP performance. This scoring system is available from our website at <http://www.geology.gov.yk.ca/ymep.html>.

Table 1. Summary highlights of YMEP program guidelines. For more detailed information please reference the YMEP guidebook or www.geology.gov.yk.ca/ymep.html.

	Grassroots	Focused Regional	Target Evaluation	Placer
Funding	max \$15,000	max \$25,000	max \$40,000	max \$40,000
Reimbursement rate	up to 100% of eligible expenses	up to 75% of eligible expenses	up to 50% of eligible expenses	up to 50% of eligible expenses
Scope of work	to generate new targets and advance existing ones	to generate new targets	to evaluate and advance already known targets	to evaluate and advance new and existing placer targets
Who is it for	individual prospectors only (no companies nor anyone working on behalf of a company)	prospectors, companies, partnerships	prospectors, companies, partnerships; projects with total exploration expenditures less than \$300,000	
Report requirements	daily log and final technical report	final technical report		
Reporting deadlines	Project proposal: March 31, Status Report: September 30, Final Financial Report and Final Summary/ Technical report and release of funds: January 31 of following calendar year			
Confidentiality	reports will be kept confidential for 5 years	reports will be kept confidential for 2 years		
Eligible expenses (See Rate Schedule for details)	conventional exploration work, travel within Yukon (truck, helicopter, etc.; up to 25% of eligible claim), assays, shipping, wages (applicant not eligible in grassroots module), WCB, contracts, equipment rental, daily field expenses, fuel, claim staking (up to 20% of eligible claim), reclamation, limited physical work			
Compliance	applicants must ensure that proper permitting is in place and that their work programs satisfy existing laws and regulations			

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Update for 2018

Recognizing that economic conditions in 2018 would likely continue to be challenging for the exploration sector, the Government of Yukon maintained an enhanced level of YMEP funding at \$1.6M. Interest in the 2018 program was strong, and the YGS received 74 applications seeking more than \$2.2M.

Sixty-two applicants were offered funding in 2018. Forty of the funded applications are for hard rock exploration projects (eight are focused regional, two are grassroots, and thirty are target evaluation); and twenty-two placer applications were funded. The success rate for funding over the last seven years is shown in Table 2; the enhanced funding for this year allowed a higher than average success rate of 84%.

Hard rock projects account for 64% of the successful applications and placer projects account for the remaining 36%. Individual prospectors and private companies secured 66% of available funds, while public junior mining/exploration companies received 34% of the funds. The breakdown between the different modules and the demographics of the applicants over the past six years are outlined in Table 3. Over this period, the funding split between placer and hard rock sectors has been fairly consistent. The biggest change has been the increase in the share granted to placer projects, from a historical average of approximately 25% to 36.5% this year.

Table 2. Summary of YMEP funding.

Historical funding	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Available funding	\$570,000	\$1.17M	\$1.4M	\$1.4M	\$1.4M	\$1.6M	\$1.6M
No. of applications	79	81	111	103	100	78	74
Approved projects	29	55	51	62	57	59	62
Max funding level grassroots	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Max funding level focused regional	\$15,000	\$15,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Max funding level target evaluation	\$25,000	\$25,000	\$50,000	\$40,000	\$40,000	\$40,000	\$40,000
Max funding level placer	\$0	\$0	\$0	\$0	\$0	\$40,000	\$40,000

Table 3. YMEP fund allocation for the last 6 years.

	2013-14		2014-15		2015-16		2016-17		2017-18		2018-2019	
	No. of projects	% of funding	No. of projects	% of funding	No. of projects	% of funding	No. of projects	% of funding	No. of projects	% of funding	No. of projects	% of funding
Placer	7	15%	14	22%	15	28%	15	26%	21	35%	22	36%
Hard rock	48	85%	29	78%	47	72%	34	74%	38	65%	40	64%
Total projects	55		51		62		57		59		62	
Prospectors/ individuals	28	36%	20	30%	24	34%	24	39%	18	29%	30	48%
Private companies	16	33%	12	29%	21	32%	16	30%	22	26%	15	24%
Public companies	13	31%	19	41%	17	34%	17	31%	19	45%	17	28%

The locations of funded YMEP projects are illustrated in Figure 1. The majority of placer projects (eleven) are centered in the Klondike placer district, two projects are in the Mayo/Keno area, three are in the Clear Creek area, two are in the Dawson Range, and individual placer projects are located in the Mt Nansen and Marsh Lake areas of Yukon. A single placer aggregate project is located in the Heather Lake area near Whitehorse. Hard rock projects are fairly evenly distributed throughout the territory. Gold is the most sought-after commodity with twenty-six proponents exploring for structurally-

controlled, epithermal, Carlin style, intrusion related, or orogenic gold. Other targets include vein-hosted silver (three), porphyry copper (five), VMS style mineralization (one), jade (one), aggregate (one), cobalt (one), tin (two), and magmatic massive sulphide copper/nickel/PGE prospects (one).

Twenty-six exploration projects focused on soil and silt sampling, prospecting and geological mapping; eight undertook ground-based or airborne geophysical surveys; twenty three involved drilling and/or trenching; and five undertook hand shafting.

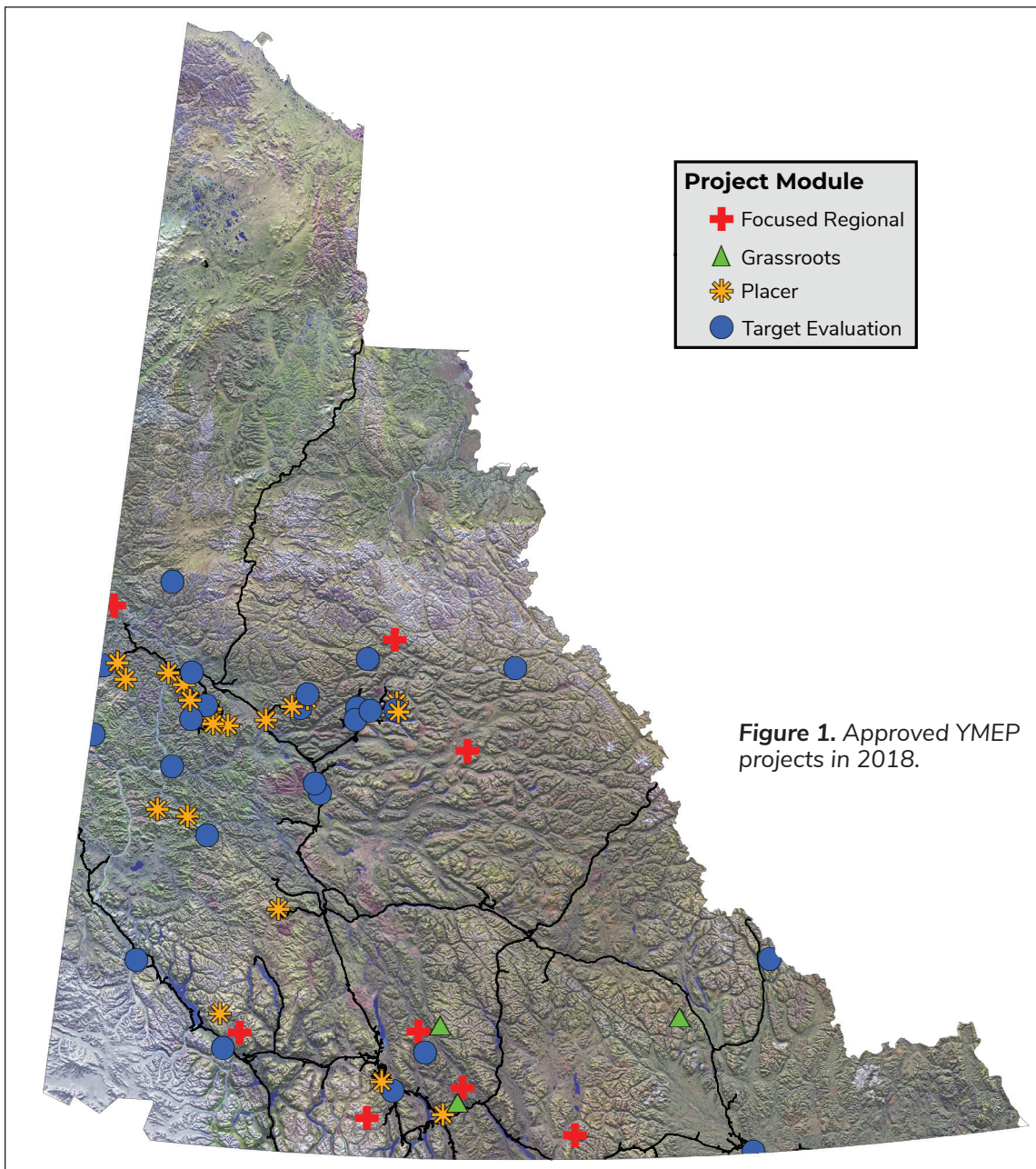


Figure 1. Approved YMEP projects in 2018.

YMEP Footprints

The Yukon Geological Survey has recently completed the digitizing of all YMEP technical report footprints as part of the Assessment Report Footprints project. There are currently 1170 reports that have been added to the web app. Of these reports, 318 are placer projects, 852 are hard rock; 54 are currently closed.

YMEP reports are confidential/closed for two years for target evaluation, focused regional and placer programs, and five years for grassroots projects; whereas, reports filed for assessment are confidential for five years. The web-based map now contains the spatial footprints with a link to download all open reports, as well as information such as project expenditures, work program details and NTS location. The interactive webmap

(Fig. 2) also contains layers such as assessment report footprints and drillhole locations and can be found on the YGS website (<http://yukon2.maps.arcgis.com/apps/webappviewer/index.html?id=5a7c8f1658514ddc8107c8a190b74799>). This online app has been well received. When YMEP footprints are plotted on a map in conjunction with advanced and significant exploration projects it is apparent that many of these projects have been able to utilize YMEP funding to advance their programs and leverage additional expenditures (Fig. 3)

As of mid-December, most YMEP projects have been successfully completed and preliminary results suggest there are several potentially significant discoveries resulting from the work.

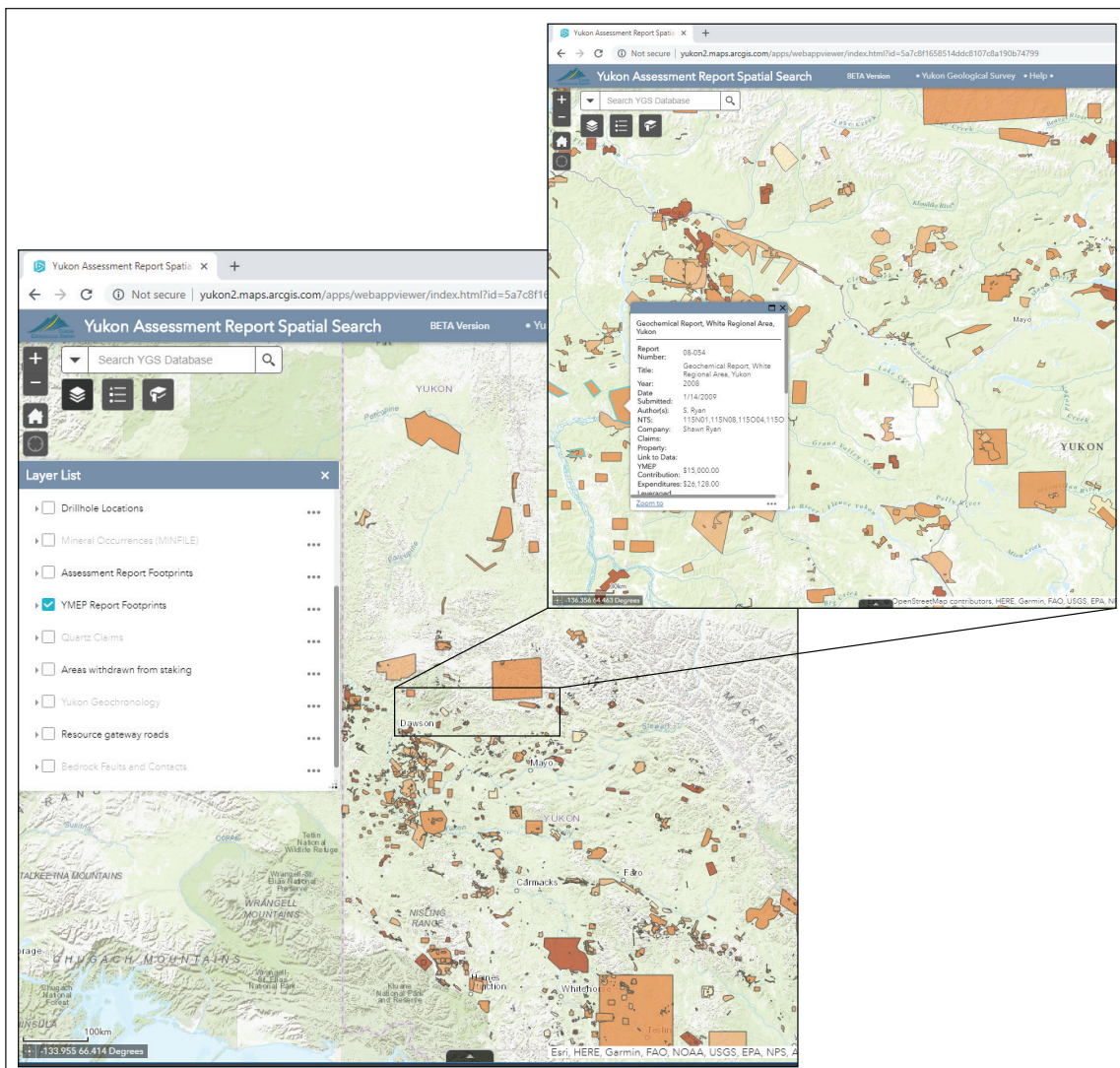


Figure 2. YMEP footprints.

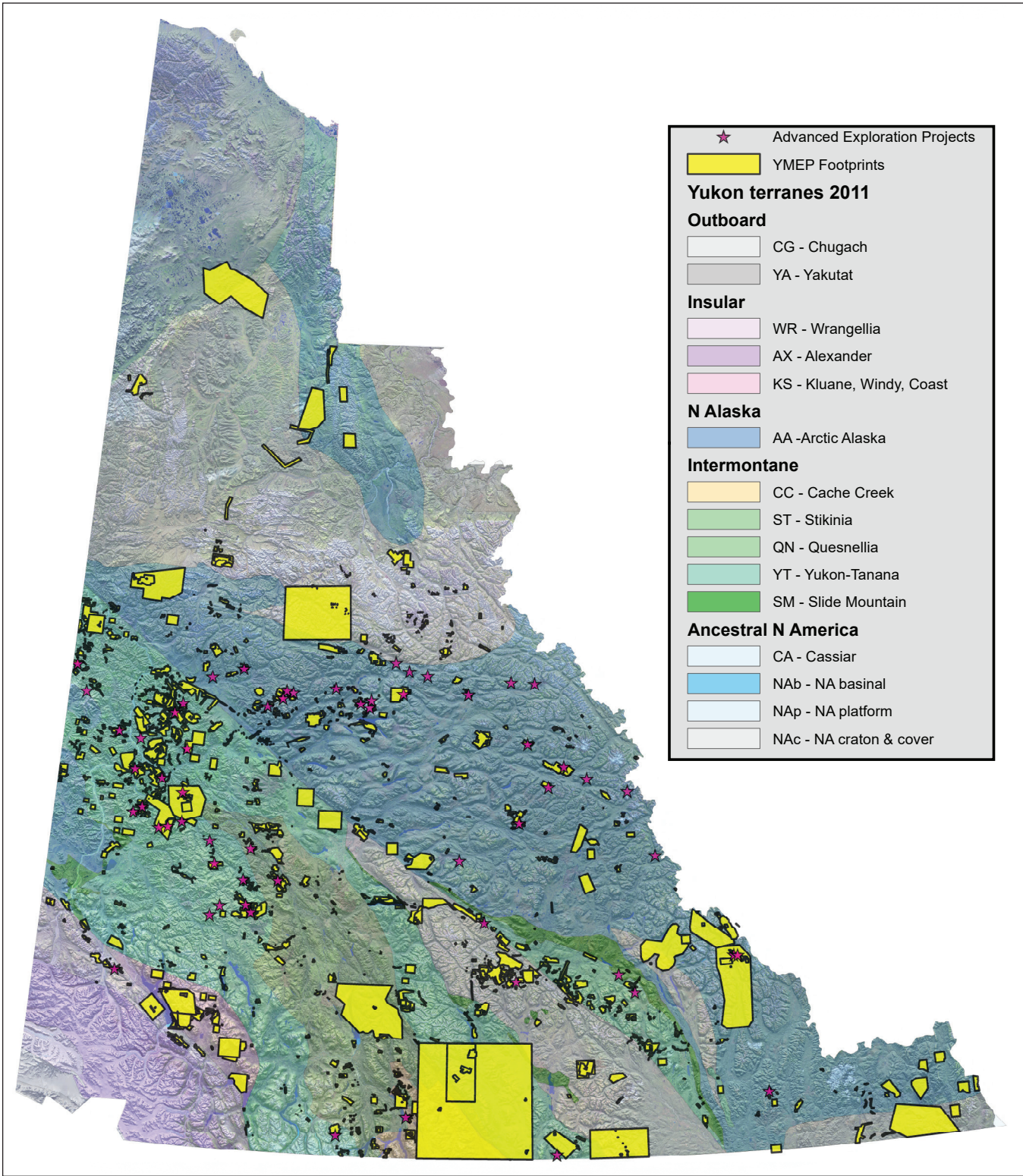


Figure 3. YMEP footprints plotted in conjunction with advanced and significant projects.

2018 Highlights

Mt. Hinton – Strategic Metals

The 2018 exploration program at the Mount Hinton property focused on the Granite Creek drainage where recent placer mining has yielded large gold nuggets and wire gold (Fig. 4), indicating a nearby bedrock source. The work program consisted of geological mapping, prospecting and soil sampling.



Figure 4. Placer gold from Granite Creek.

Soil sampling extended the geochemical anomaly an additional three kilometres to the southeast. This extension outlines some of the strongest geochemistry on the property; numerous samples returned values greater than 1 g/t gold-in-soil. A continuous chip sample across Vein 12 returned assay values of 8.82 g/t gold, 63.48 g/t silver, and 2.34% lead across 1.95 m. A zone of quartz vein and stockwork, 7 to 11 m wide, was discovered in subcrop. Rock samples from this zone returned assay values of 9.5 g/t gold and 5.02 g/t silver, 9.15 g/t gold and 5.17 g/t silver, and 2.91 g/t gold and 1.94 g/t silver. Float samples from newly discovered areas of mineralization on the east side of Granite Creek yielded 17.25 g/t gold, 225 g/t silver and 2.01% lead, and 14.75 g/t gold, 633 g/t silver and 2.22% lead.

Monster – Go Cobalt

In 2018 Go Cobalt utilized YMEP funding for an exploration program on its Monster property. The work program consisted of prospecting, geological mapping, soil sampling, claim staking, detailed airborne magnetic and radiometric surveys, inversion modelling, and spectral analysis.

As a result, multiple unexplored coincident geochemical, geophysical and spectral anomalies, and several large high-priority “bullseye” targets were defined. Widespread erythrite (cobalt bloom), cobaltite and copper, silver and gold mineralization has been identified on the property (Fig. 5). Assays from sampling the Bloom target returned results of 9.61% cobalt, 3.19% copper, 11.31 g/t silver and 1.16 g/t gold. The program led to the identification of the Arena area and Cobalt Cirque showing. Assays from these occurrences returned values of 2.96% cobalt, 3.81% copper, 53.52 g/t silver and 0.49 g/t gold.

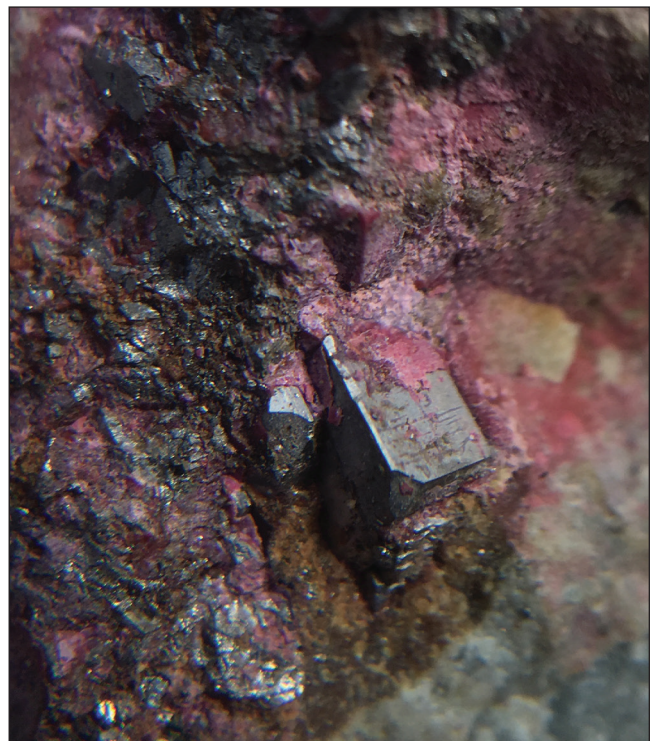


Figure 5. Cobaltite crystal with erythrite coating; sample collected from the East Cu-Co zone.

Swede Ck – Morgan Fraughton

In 2018 Morgan Fraughton conducted a placer exploration program consisting of road brushing, shafting, claim staking, test pitting, bulk sampling and reclamation on his Swede Creek property. Test pitting of bench claims was successful (Fig. 6) at determining the northern edge of the fluvial deposits and determined that the bench gravel above Swede Creek is deep and extensive. The bulk sample returned extremely encouraging results; the 4 m deep by 15 m wide by 20 m long pit (the top 3 m of the pit was treated as overburden) produced 300 m³ of pay yielding 402 g of gold. The project will now move through the permitting process as these results make mine development the next logical step.

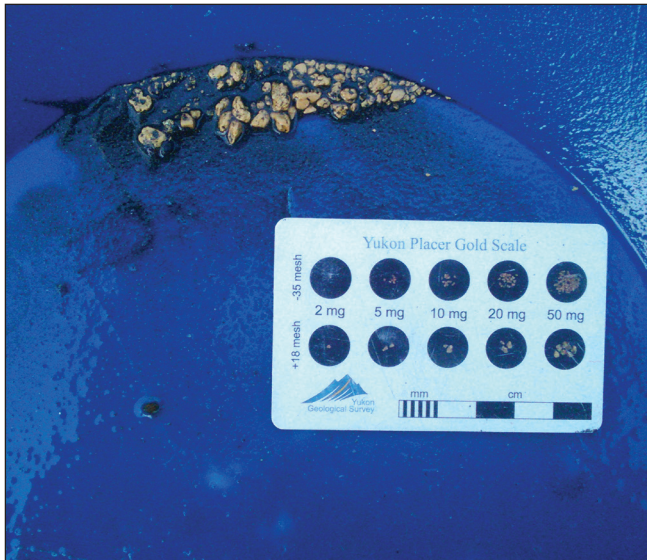


Figure 6. Gold recovered (8 g) from 1 m³ test on bedrock.

Dominion Mountain – Bernie Kreft

This 65 claim (1300 ha), road accessible orogenic gold target, is located southeast of Dawson City in the Klondike goldfields. Fieldwork consisted of prospecting, soil sampling, and excavator trenching, designed to locate sources for the placer gold deposits found within creeks draining the property.

The work led to the identification of 13 mineralized zones, showings or significant soil anomalies along a 4.0 km northwest-trend. Channel sampling of a

1 m wide quartz-pyrite-galena vein returned values of 106.2 g/t gold and 656 g/t silver. A sample of heavily iron-carbonate altered and weakly pyritic schist with an absence of quartz veining assayed 50.17 g/t gold (Fig. 7). Gold values appear to be associated with a prominent northwest-trending fault (visible on FVD aeromagnetic data) especially at intersections with presumed northeast and east-west trending structures. Further soil sampling, prospecting and trenching is planned for remaining untested areas on the property; results will provide a guide to preliminary drill testing of the property.



Figure 7. Iron-carbonate altered schist containing trace disseminated pyrite.

YMEP Success Stories

The YMEP plays a very important role in helping to advance grass roots programs, to de-risk early stage exploration and to support exploration in financially lean years. The mandate of the YMEP is to keep a variety of projects at various stages of advancement operating in Yukon. A number of projects have progressed through the YMEP and have advanced beyond the intended scope of the program. Three projects that now have deposit resource estimates are the Coffee, Andrew and Red Mountain. These projects stand out as having stimulated significant investment beyond their initial YMEP-funded expenditures. The projects collectively represent development and exploration expenditures

in excess of \$276M; combined they have resources of 7.14 Moz gold, 990 Mlb zinc and 238 Mlb lead, and a contained value in excess of \$12.1B. The total YMEP investment in these projects was \$396K, corresponding to a leveraging ratio of 697:1.

A number of high profile projects have recently benefitted from YMEP investment, and have now generated enough success and momentum to secure financing on equity markets. These projects include the 3 Aces, Plateau and Wellesley Lake.

Golden Predator: 3 Aces project

The 3 Aces project of Golden Predator (<http://www.goldenpredator.com/>) received YMEP funding between 2001 and 2014 (grant numbers 2001-017, 2010-118, 2014-010). Work included prospecting, geological mapping, soil sampling, airborne geophysics, and bulk sampling. In 2010, chip sampling at the Main zone returned extremely high gold values of up to 1013 g/t Au and 50.19 g/t Ag across 1.1 m. Chip sampling on the Sleeping Giant zone returned numerous high grade gold values up to 11.34 g/t Au across 6.0 m. In 2010, Golden Predator Mining initiated and completed metallurgical tests on three large volume samples collected from the Sleeping Giant vein zone (600–800 kg). The program was designed to help understand the coarse gold in the vein system. Results from the 2014 program provided very important data regarding appropriate assay techniques, gold recoverability, and detailed mineralogy of the free gold grains. Results to date from subsequent drilling and sampling programs has yielded numerous high grade gold discoveries throughout the 3 Aces claim package.

Since the 2014 YMEP program Golden Predator has invested in excess of \$20M for exploration on the 3 Aces property. In 2017 Golden Predator completed a \$17.25M financing to continue to advance the project towards commercial production.

Goldstrike Resources: Plateau property

GoldstrikeResources(<https://www.goldstrikeresources.com/>) received a YMEP grant (2014-014) for its Plateau property in 2014 to conduct 3-D resistivity and chargeability surveys, and to gather samples from the VG, Ben and SW zones for rock physics measurements.

Results of the fieldwork indicated that the resistivity structure in the near-surface zone consists of a strong NW-SE lineament defined by alternating bands of conductive and resistive rock. A crosscutting secondary structure was observed to offset the lineament. Chargeability was generally low in the upper zone but areas of moderate chargeability correlated strongly with anomalous geochemistry. It was concluded that zones of gold and arsenic corresponded to high resistivity, and low to moderate chargeability and low magnetic susceptibility.

Since the 2014 YMEP grant the Plateau project has seen exploration expenditures in excess of \$16.7M. In March of 2017, Goldstrike announced that it had formed a strategic alliance with Newmont Mining to acquire the Plateau property in a deal worth \$53M. In 2018, Newmont's exploration program consisted of a 26 hole (7753 m) diamond drill program, 310 rock grab samples, 1377 geochemical soil samples, 5 km of ground geophysical surveying (IP) and extensive property-wide mapping and prospecting. Drilling focused on geologic and geophysical targets and ten of the holes successfully intersected gold mineralization of >0.5 g/t, with intercepts up to 7.17 g/t over 0.85 m.

K2Gold : Wellesley Lake Gold

K2Gold (<http://k2gold.com/>) received YMEP funding for the Wellesley Lake project between 2011 and 2015 (grant numbers 2011-046, 2012-024, 2014-006, 2015-083). During this time YMEP helped to fund programs of soil sampling, prospecting, geological mapping, airborne geophysics, trenching and diamond drilling. The first pass of this work outlined a 1250 by 200 m east-trending gold + arsenic + antimony + silver + tungsten in soil anomaly with values ranging from 34.6 to 3082 ppb Au. Follow-up trenching and prospecting returned grab samples values up to 149.5 g/t Au and trench samples values of 9.15 g/t Au over 40.5 m. The first diamond drilling campaign on the property was completed in 2015. Significant results included 97.5 m of 0.76 g/t Au, including 3.11 g/t Au over 19.5 m and 5.71 g/t Au over 9 m. In 2016 the project was optioned to West Melville Metals which would become K2Gold. In 2018 K2 Gold conducted a \$1.0M exploration program which included 2400 ha of unmanned (UAV) coverage,

16.5 line kilometres of ground magnetics, 840 VLF readings, prospecting and property wide Lidar coverage. Significant results from 2018 include the locating of additional gold bearing quartz vein float returning 43 g/t gold and the discovery of numerous untested geophysical anomalies that will require follow-up in 2019.

YMEP Review

Placer

In fall 2018, YGS undertook a client survey of placer applicants to measure how we could determine metrics showing the overall impact of the new placer module. The survey consisted of 6 questions:

Did you discover new targets? (i.e., potential resources)

Did you define new resources?

Is additional exploration needed or has a development decision been made?

Have you started developing YMEP targets/resources?

If it has been mined, can you estimate how much gold (how many oz) you have recovered?

Other comments about YMEP

Many of those who responded indicated that YMEP funding allowed them to discover new targets and define these new resources. Proponents have been able to make the decision to develop their properties. A few of the comments reflect what recipients feel about the module:

“In 2018 the YMEP grant led to a bulk sample that proved Swede Creek host economic placer gold and should be mined (400 g gold in 300 m³ of dirt washed). In addition the 2018 work showed that the high level bench gravels contain gold and are another target to be evaluated on a larger scale. As a result mining is planned to start in 2019 and will no doubt produce many ounces of gold over the years to come.”

“As for the Placer YMEP it has been a great program in my mind. I have used this component of the YMEP for the last two years. I used the program one year to run a geophysical survey and drill in 2017 and followed up with my own dollars in 2018 and delineated about 4000 feet of economic pay. I used the program on 2 project's this year and outlined 2 more potential creeks with some nice drill hits, I am planning on following up on these targets next spring with a shafting program. I am using the placer module a lot like the hard rock module wherein the program has helped me to start the prospecting and discoveries are being made. Larger private dollar programs are being put in for follow up. I figure I have personally invested roughly \$600,000 in the last 2 years and hopefully uncovered 4 to 5 million worth of placer gold, all back of the napkin calculations, point is the placer module is working to uncover new areas”

“The YMEP placer module is great program to allow individuals and companies to afford placer exploration. This is crucial for new comers to the industry who lack funding to conduct placer work. It is an incentive to explore new areas and to use new innovative technologies that otherwise would not have a budget for. It is an added security when exploring new placers which is a high risk investment as there is no guarantee for success. The 2018 Hidden Gold exploration program that was in part funded by the YMEP, aided in the completion of a bulk sample which has proven the project is economically feasible. The program discovered the presence of coarse placer gold in a brand new area! An area which is already road accessible and only 40 minutes from Whitehorse. Operating conditions are excellent as there is no permafrost and on average 5 feet of overburden. Upper gravels are payable based on hand and mechanical testing. From approximately 100 yd³ test over one ounce of coarse gold was recovered and 2 ounces in fine gold as of yet, some fine heavies are still being separated.”

“As an example of the economic benefits flowing from a placer discovery, a total YMEP investment of approximately \$25,000 has led to a deposit capable of supporting a moderate sized operation for approximately 8 years. The estimated cost per month to operate this operation will be about \$50,000; so for a \$25,000 investment there will be direct expenditures of approximately \$2,400,000 over mine life with approximately 40% spent at Dawson area businesses (restaurants, service and supply etc.), and 60% to wages for workers living in Whitehorse. YMEP plays a major role in helping keep the Yukon vital and current with outside investors due to the excitement that comes from having a steady stream of grassroots discoveries.”

Hard Rock

In order to demonstrate the profound impact this program on hard rock and placer exploration, the YGS compiled statistics on the YMEP. The compilation covers the last seventeen years, which is the period for which robust statistics exist. Since 2000, YMEP has invested \$17.63M in 907 projects leveraging \$40.9M of additional exploration expenditures in the year the grants were awarded.

The YMEP is designed to meet the needs of users of the program and to act as an engine for stimulating economic development. Significant effort has been expended to improve the program for clients. Development of the Placer module, creation of the YMEP footprints app and the redesign of YMEP forms and guidebooks was all done to improve the client experience.

Success can be measured by a number of indicators, such as dollars leveraged, new discoveries and option agreements entered (Table 4). In 2018, YMEP recipients committed ~\$5.1 M in exploration investment, corresponding to a leveraging ratio of 3.2:1. While easily measured, leveraging ratios are relatively modest indicators of success. The greater impacts are linked to the discoveries made and the further investments they trigger in the medium to long term. The discoveries in 2018 will continue to stimulate exploration expenditures in the years ahead and enable the discovery of the mines of the future.

YGS intends to carry out further analysis of the YMEP data over the next year to determine whether there are potential adjustments that could improve the program. Updated application forms, scoring criteria and hard rock and placer program guidelines are available for download at <http://www.geology.gov.yk.ca/ymep.html>.

Table 4. Successful YMEP options from 2000 to 2018.

YMEP#	Property Name	Total YMEP Contribution(s)	Optioned by	Company investment or work commitment
01-011 and 15-030	Ice/Red Mountain	\$52 500	AM Gold	~\$7.7M
03-079	White Gold	\$10 000	White Gold Corp. Kinross Gold	~\$42M
04-072 and 05-043	Blende	\$30 000	Blind Creek Resources	\$5.2M
05-058	Andrew	\$14 400	Overland Resources	~\$16M
09-046, 09-062, 10-008, 11-019 and 12-049	Golden Culvert	\$117 000	Stratabound Minerals	~\$0.77M
04-041 and 07-043	Coffee	\$35 000	Gold Corp. Kaminak Gold Corp.	~\$273M
07-056, 08-012 and 09-112	Toni/Sixty Mile	\$33 000	Radius Gold	~\$4.5M
03-023, 06-033 and 09-137	Scheelite/Gold Dome	\$75 000	Golden Predator	~\$1.4M
09-015	Clear Creek	\$10 450	Golden Predator	~\$4.1M
09-016 and 017	Ten Mile Creek	\$25 600	Radius Gold	~\$0.63M
09-158	Prospector Mountain	\$30 750	Silverquest Resources	~\$3.85M
09-116	Cynthia	\$15 350	Golden Predator	~\$1.7M
10-118 and 14-010	3 ACES	\$93 130	Northern Tiger Golden Predator	~\$31M
10-097	Portland	\$14 320	Taku Gold	~\$1.25M
00-069, 06-005, 06-006 and 15-014	Mariposa	\$76 000	Pacific Ridge	~\$4.9M

