Sixty Mile 2020 Final Report

2020 YMEP Report

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Report on the Sixty Mile Property 2020 RAB drilling, trenching and ground geophysics

Work performed by:
Groundtruth Exploration, Caveman Exploration, K1 Mining and Flow Metals

on the
Sixty Mile Property
Centre of property is approximately
64° 46’ N 150° 49' W

Work performed during
August – October 2020

Summary

The Sixty Mile Property consists of 304 quartz claims adjacent to the Alaska border. The center of the claims is at 64°46' N 150°49' in map sheet NTS116C/02. The Sixty Mile Property is approximately 75 km west of Dawson City and accessible by road.

Glacier and Miller Creek on the Property have produced approximately 50,000 Oz and 100,000 Oz of placer gold. Historical exploration has proven gold occurs in quartz veins in bed rock through drilling and trenching. In 2020 Flow metals intercepted two 1.5m gold intervals at 4 ppm and 5 ppm Au over the historic Glacier Creek placer deposits. Trenching revealed a set of high angle arsenopyrite-quartz veins that contained anomalous gold that spanned 60m along the trench. Highest gold values were 2m at 0.5ppm. This gives credence to the hypothesis that the bedrock below placer deposits in the region have high potential to bear gold. The best drill intercept to date is 1.6 g/t Au over 24m with 2m at 12.8g/t Au that was previously missed. Drill holes were targeted to intersect a NE-SW trending thrust fault. However, the drills intercepted the gold bearing veins at a low angle indicating that the structural model required revision.

Flow Metals acquired the Sixtymile prospect in 2019 and to date has focused on structural mapping, lineament analysis, RAB drilling and trenching. Work to date indicates placer creeks overlie recessive roughly E-W to NE-SW trending fault sets that are predominately mineralized where they intersect with secondary structures. This model is based on the location of productive placer plots, lineament analysis, and review of available geophysical data.

The structural setting of the Sixtymile project is the most important predictor of gold mineralization on the claim. In 2020, drilling and trench locations were successfully targeted using ground magnetics and VLF to visualize faults. A pilot study on historical airborne mag indicates that the structures of importance can also be visualized using detailed airborne magnetics.

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Introduction

Purpose

This report was prepared by Flow Metals Corp. to be filed as a YMEP report.

Property description and location

The Sixty Mile Property is located in central-Yukon, approximately 75 km west of Dawson City The claim block encompasses Mesozoic metasedimentary and metavolcanic lithologies. The Property consists of 289 contiguous 1500 x 1500 foot claim blocks (Table 1) and has a total surface area of 5670 Ha (**Error! Reference source not found.**)

The Property is located within Tr'ondëk Hwëch'in First Nation traditional territory. The Tr'ondëk Hwëch'in First Nation encourages early engagement between them and mining companies. This engagement is crucial for the success of mining and exploration projects. Under the Quartz Mining Act of the Yukon Regulations the Company is required to notify the Chief of the Tr'ondëk Hwëch'in of its activities on the Property. A class 1 notification is currently in place.

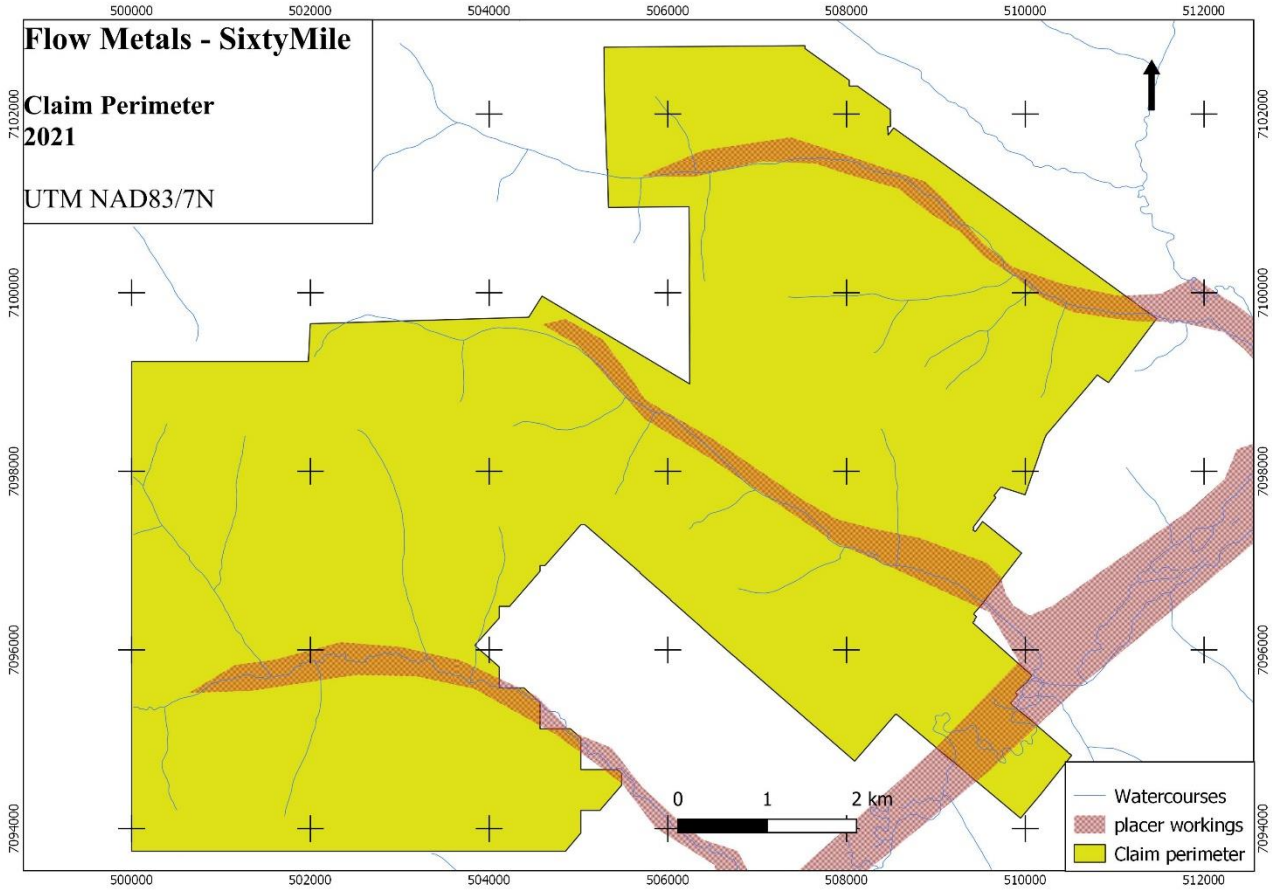

Figure 1: The Sixty Mile Property shaded in yellow.

Accessibility, Climate, Local resources, infrastructure, and physiography

Accessibility and infrastructure

Access to the project area is via the posted Sixty Mile Road that turns south off the Top of the World Highway (Hwy 11) at approximately kilometer 87. The north side of the claims are reached about 2.5 km from the turn off and the 2011 camp on Glacier Creek at about 11 km. Numerous roads built, maintained, and changed as needed by the local placer miners access the claim group. The northwest side of the claim group can be accessed by a road that turns off, to the south, just before the Little Gold Creek border crossing. This road access several side roads and trails on the north-south ridge just east of the border. One side road, called the 'High Road' turns southeast, down the ridge between Glacier and Little Gold Creek and leads to camp site on Glacier Creek. The roads are generally usable by 2WD truck from early June to late September. The Top of the World Highway is not maintained during winter months and the George Black ferry crossing the Yukon River at Dawson City operates between mid-late May and mid-October. Daily plane service can be gained in Dawson City to Whitehorse, where there is daily jet airplane service to Vancouver, British Columbia and other points south.

Climate

Climate is characterized by low precipitation and a wide temperature range. Winters are cold and temperatures of –30°C to –45°C are common. Summers are moderately cool with daily highs of 10°C to 25°C. Thunders showers are a common occurrence. Smoke from forest fires can be thick. The seasonal window for prospecting is from late May to mid-September.

Local resources

Multiple placer miners in the area can provide access to heavy equipment and camp accommodations. The miners actively maintain the access roads to site so in the event of blocked road access, the issue will be repaired quickly. Most of the workforce can be sourced from Dawson City, Whitehorse, and other towns in Yukon Territory. Dawson City hosts the most proximal helicopter, drilling, soil sampling and other mining services. Whitehorse hosts a larger and more varied workforce and is separated from Dawson City by 532 km of paved highway.

Physiography

Topography in the region is typical of an incised peneplain with steep hillsides and rounded crests. The area was beyond the limits of the last two continental glacial events and minor evidence of glaciations in the region is a result of localized alpine glaciers. Alluvium in the valleys is mostly locally derived. Hillsides are covered with a veneer of colluvium also locally derived. Elevation ranges from 2,100 feet (640 m) in the Sixty Mile valley to approximately 4,700 feet (1433 m) on the west ridge near the Alaska – Yukon border. In the valley bottoms permafrost is not a consideration except near the well vegetated hillsides. On the hillsides and ridge spurs, particularly northerly facing slopes and poorly drained areas, permafrost is a serious hindrance to exploration.

Rock outcrop in the area is restricted to ridges, small cliffs, creek bottoms and along road and trench cuts. Permafrost and black muck are common and outcrop distribution is often restricted on north facing slopes.

Vegetation in the valley bottoms consists of alder, dwarf birch, balsam fir, white and black spruce. Ground cover in areas of thin tree cover consists of alpine plants, ‘buckbrush’ (alder), dwarf willow and moss. Beaver dams in the numerous side channels and placer drainages result in many ponds that restrict and hinder access. Hillsides and ridges are covered with pine, spruce, birch and poplar on well-drained slopes and stunted black spruce in areas of permafrost. The tree line is at approximately 3,500 feet (1070 m). Vegetation is generally more abundant on east and south facing slopes. Grizzly and black bear as well as moose frequent the valley bottom, attracted by young vegetation on the placer tailings.

Claim Name and Number	Claims	Owner	Expiry date
Jed 1 - 6	6	Jayce Murtagh - 100%	03/31/2022
Andrea 1 - 24	24	Jayce Murtagh - 100%	03/31/2022
BK103 - 190	66	Michael McDougall - 100%	03/31/2022
Rod 1 - 8	8	Nicole Hulstein - 100%	03/31/2022
Mary 1 – 17	17	Sixty Mile Enterprises Ltd. 100%	03/31/2022
SMF 1 - 18	18	Stuart Schmidt - 33%, F. Hawker - 33%, Michael McDougall - 33%	03/31/2022
Bud 1 -24	24	Stuart Schmidt - 50%, Michael McDougall - 50%	03/31/2022
Mike 1 - 20	20	Stuart Schmidt - 50%, Michael McDougall - 50%	03/31/2022
Flow 1 - 143	143	Flow metals 100%	09/23/2021

Table 1: Claim names, status, and recorded ownership (Flow Metals has an earn-in option for 100%)

Regional Geology

Locally, the Yukon Tanana Terrane consists of two main assemblages of supracrustal rocks, the Late Devonian (?) to mid-Mississippian Nasina assemblage (YTNA) and the mid-Permian Klondike Schist assemblage (YTKS) (Mortenson, 1996) and three distinct suites of metaplutonic rocks (YTp). The Nasina consists of metamorphosed psammites, mainly quartz-muscovite-chlorite schist and quartzite, +/- carbonaceous material, interlayered mafic schist and amphibolite and volumetrically minor amounts of marble, conglomerate and felsic schist. The Klondike Schist assemblage is comprised mainly of a variety of felsic schists interlayered with non-carbonaceous fine grained micaceous quartzite and quartz-feldspar-muscovite-biotite (+/- chlorite) schist. Local layers of chlorite schist, metagabbro, and rare bands of marble and carbonaceous quartz-muscovite schist are found within the felsic schists.

The Klondike placer camp, with approximately 20,000,000 million ounces of placer gold produced (Government of Yukon, 2007), is underlain predominantly by units of the Klondike Schist assemblage.

Jurassic quartz monzonite bodies intrude the Yukon Tanana Terrane and Mortenson (1996) noted that field relationships indicate that they intruded prior to both Early (?) Jurassic regional thrust imbrication and Early Cretaceous normal faulting.

Post accretion units unconformably overly rocks of the Tanana Terrane and Slide Mountain Terrane. These units consist of a sequence of unmetamorphosed sedimentary and volcanic rocks of middle (?) and Late Cretaceous age (unit uKv) (Mortenson, 1996). The lower part of the unit typically consists of sandstone and pebble to cobble conglomerate that is overlain by massive andesitic flows and breccias that are correlated with the (68-76Ma) Carmacks Group.

Rare outcrops exposed in the Sixty Mile River valley and granitoid bodies exposed to the southeast of the valley of fine to medium grained, equigranular biotite-hornblende quartz monzonite and granodiorite are thought to be co-magmatic with the Late Cretaceous Carmacks group volcanics.

Volumetrically minor amounts of Miocene aged quartz pebble conglomerate, sandstone, shale minor tuffs and olivine basalt are preserved in the Sixty Mile valley.

Units of the Nasina and Klondike Schist assemblage and the three associated orthogneiss units show the effects of penetrative ductile deformation and metamorphism at middle greenschist to lower amphibolite facies (Mortenson, 1996). Rocks of the Slide Mountain Terrane generally only display evidence of brittle shearing and open folding. Units of the Slide Mountain and Yukon Tanana terranes are juxtaposed along mainly shallowly to moderately dipping fault zones that are interpreted as thrust faults. Low angle normal faults are also interpreted between the Fiftymile Batholith and overlying rocks.

Middle and Late Cretaceous sedimentary and volcanic rocks are generally undeformed although they have been at least locally folded (Mortenson, 1996). The Tintina and Denali faults found to the northeast and southwest of the property, respectively, trend northwest and are major crustal-scale transcurrent dextral faults of Tertiary (?) age.

The Sixty Mile Fault, a major northeast trending fault structure lying on a lineament that extends towards Tok, Alaska, underlies the east side of the Sixty Mile River valley. In the Sixty Mile placer district, the valley follows a half graben structure that down drops Cretaceous Carmacks Group rocks, on the northwest side, against Nasina and Klondike Schist Assemblage rock to the southeast. Other northwest, north to northeast trending fault structures are suspected to underlie prominent lineaments and locally form the contacts of the Carmacks Group volcanic rocks.

Property geology

The first geological investigation of the Sixty Mile River area was by J. E. Spurr in 1896-97 (Spurr and Goodrich, 1898), followed by Cockfield in 1917 (Cockfield, 1921). More recently the area was mapped at 1:250,000 scale by Tempelman-Kluit in 1970-1972 (Tempelman-Kluit, 1973), Green in 1961 (Green, 1972) and Mortenson (1988, 1996).

The property lies between the Tintina and Denali Faults within the Ominica Belt (Wheeler and McFeely, 1991, Gordy and Makepeace, 2001). The area is underlain by two distinct lithotectonic (pre-accretion)

assemblages: 1) medium to high grade, polydeformed metasedimentary and meta-igneous rocks of the Yukon-Tanana Terrane (YTNA and YTKS); and 2), deformed and metamorphosed rocks of the Slide Mountain Terrane (YTa) (Mortenson, 1988, 1996). Both are mainly Paleozoic in age and were juxtaposed by regional scale thrust faults in early Mesozoic time, a period of terrane accretion that affected much of the northern Cordillera.

Most of the property is underlain by foliated Paleozoic metasedimentary rocks, minor Jurassic felsic intrusives and nonfoliated latest Cretaceous age Carmacks Group intermediate volcanics and felsic to intermediate intrusives. Minor amounts of various altered ultramafic rocks of the Paleozoic Slide Mountain Terrane (YTa) are found on the property including as discrete zones within the Thrust Fault Zone. The ultramafic rocks commonly denote thrust (and normal?) fault locations, are partially to wholly serpentinized. Jurassic quartz monzonite bodies intrude the Yukon Tanana Terrane and are mapped at the mouth of both WY and Owl Gulches. Mortenson (1996) noted that field relationships indicate that they intruded prior to both Early (?) Jurassic regional thrust imbrication and Early Cretaceous normal faulting.

Post accretion units of the Carmacks Group unconformably overly rocks of the Tanana Terrane and Slide Mountain Terrane. These units consist of a sequence of unmetamorphosed sedimentary and volcanic rocks of middle (?) and Late Cretaceous age (unit uKv) (Mortenson, 1996). The lower part of the unit typically consists of sandstone and pebble to cobble conglomerate that is overlain by massive andesitic flows and breccias that are correlated with the (68-76Ma) Carmacks Group.

The claims included in this report cover the Thrust Fault Zone and the western boundary of the Carmacks Group and the underlying Paleozoic schists. This boundary may be complicated by faults and it is near this boundary that placer cinnabar has been recovered.

Structure

The prominent structural element in the area is the Sixty Mile Fault, or lineament (now called the Sixtymile – Pika Fault by Allan and Mortenson, 2012), in the Sixty Mile River valley. Structures parallel to the Sixty Mile Fault found to the northwest of the Sixty Mile Fault are interpreted to be a series of normal faults. These normal faults in turn are believed to have been displaced by Tintina-related (?) northwest trending faults and associated Riedel (?) faults (Hulstein and Zuran, 1999). They describe a disjointed 'Miller Structural Corridor' that may be a more prominent Tintina-related structure cutting through relatively more brittle siliceous metasedimentary rocks.

The NE trending faults that comprise the Sixty Mile lineament are believed to be related to stress transfer between the NW striking Denali and Tintina transcurrent fault systems (Lowe and Cassidy, 1995). The extensional tectonics that formed the graben, allowing the preservation of the Carmacks Group in the Sixty Mile valley, is likely due to righthanded step-overs across dextral strike-slip fault systems (Lowe and Cassidy, 1995). Allan and Mortenson (2012) described the Sixty Mile graben as a pull apart basin in a transpressive structural regime. Carmacks Group rocks are not foliated and are only deformed by late stage brittle faulting and fracturing.

Mapping of the metamorphic rocks and structural measurements of the foliation by Colombo ((included as Appendix B in Hulstein and Clark, 2011) points towards a cylindrical style of folding on most of the property. The foliation in the 2010 trenches at the Kennecott Trench Zone may be interpreted as a tight

style of folding such as chevron folding. Petrographic observations defined an older deformation event that was not observed in the field. The first deformation event (D1) is recorded is the quartzwhite mica-graphite schist as fold hinges of biotite+white mica now wrapped by the foliation (D2) defined by quartz and white mica, later cross cut by S/C planes (D3). The crenulation observed and measured in the field was generated by this folding event. The S/C planes are probably coeval with the thrusts observed in the field and if so must have occurred during the greenschist facies metamorphic event. The collapse of the structure likely generated the normal faulting (D4) with a well-defined brittle style of deformation.

The Jurassic D4 event appears to be key in controlling mineralization in the Thrust Zone (including KEX and Layfield zones) at Sixty Mile and in the Klondike and White Gold area. The D4 deformation is mainly contractional in nature and occurred at or near the brittle – ductile transition. Gold –bearing late or post D4 orogenic quartz veins are found along both D4 axial surfaces and in some cases related conjugate vein sets (Allan et al., 2012). At Sixty Mile the gold mineralization is preferentially hosted by D4 type structures in the more competent lithologies such as quartzites, augen felsic schists and more quartz rich micaceous schists.

In addition to the above, Colombo (Appendix B in Hulstein and Clark, 2011) found that faults on the property cutting the older metamorphic rocks are grouped around two 2011 Sixty Mile Project 21 main systems, both subvertical: NNE and NW trending. Both are, according to his field observations, late normal faults crosscutting the metamorphic folds and foliation. Low angle thrust faults where identified, in trenches 10-1 to 10-3, trend NE and dip shallowly to the southeast. The joint measurements possibly reflect the conjugate fracturing consequent to the faulting. Quartz veins tend to be sub parallel either to the foliation or to the NNE sub vertical faults.

Alteration

Generally alteration includes: greenshist to amphibolites facies, hydrothermal and thermal metamorphism. Greenschist to amphibolite metamorphism occurred prior to the Cretaceous and is restricted to the Nasina and Klondike Assemblages. Alteration is characterized by the presence of fine grained muscovite, chlorite and quartz. Dr. F. Colombo (Appendix B in Hulstein and Clark, 2011) believes the various metamorphic rocks underwent amphibolite facies metamorphism and then greenschist facies retrograde metamorphism.

Alteration associated with hydrothermal activity is assumed to have taken place during Jurassic (?) and Cretaceous intrusive events. Hydrothermal alteration of the metamorphic rocks is primarily of silicification, bleaching and development of sericite – white mica. This alteration is most evident in the more siliceous, massive rocks, which underwent brittle fracturing. Ultramafic rocks, commonly lenses or thin layers, are bleached and altered to a listwanite assemblage with Ca-Mg-Fe carbonate minerals (calcite, ankerite, dolomite) +/- silica and the green chromium mica, fuchsite.

Alteration of the andesite volcanic in the Sixty Mile Valley ranges from weak to strong propylitic alteration (magnetite destruction, pyritization and interstitial calcite) to argillic (bleached, +/- pyrite, clay minerals). Propylitic alteration often includes development of significant Ca-Mg-Fe carbonate minerals (calcite, ankerite, dolomite), up to 5% coarse grained pyrite, increased chlorite and local epidote.

Thermal metamorphism and associated alteration is restricted to the calc-silicate rocks found south of the hypabyssal intrusion in the northwest part of the property. These rocks also contain variable but generally minor amounts of actinolite, calcite and magnetite.

Mineralization

There are two main mineralizing events in the Sixty Mile area, the Jurassic (145 – 160 Ma) orogenic event and a Late Cretaceous (68-70 Ma) event, according to Allen et al., 2012 and Allan and Mortenson (2012). Mineralization ranges from Jurassic orogenic veins to younger Late Cretaceous high level low sulphidation epithermal veins and breccias and porphyry style mineralization.
2011 Sixty Mile Project 22 Historically and at present placer gold mining has been the most important mining activity in the Sixty Mile district. Placer gold production likely exceeds the recorded figure of 435,109 ounces won from the creeks during the period 1892-2005 (LeBarge, 2006). The bulk of the placer gold was mined from Miller, Glacier, Bedrock, Little Gold, Big Gold Creeks and the Sixty Mile River.
Several styles of veining have been observed in the metamorphic rocks including typical orogenic quartz+/-carbonate (minor carbonate) veins containing minor amounts of pyrite, +/-arsenopyrite, +/-galena, +/-sphalerite, +/-scheelite and rarely trace amounts of visible gold. Also cutting the metamorphic rocks are typical epithermal low sulphidation style veins with cockscomb textures and angular breccias. Of less interest are early stage foliaform cloudy to milky quartz veins, often boudinaged and as rootless fold hinges. The most significant orogenic veining found to date has been at the Kennecott Grid and Layfield Grid areas within the Thrust Fault Zone.

As noted above in under ‘3.1 Structure’ the gold bearing quartz veins appear to follow D4 structures defined by high sulphide content, discordant to foliation, within zones of silicification and sericitization and hosted by ‘brittle’ felsic schist.

The epithermal veining and silica sinter is assumed to be related to the Carmacks magmatic – hydrothermal event. Although epithermal quartz-chalcedony veining has been observed in the same zones its importance is minimal. Epithermal veining has also been observed at the head of Glacier Creek, including fluorite veining (Hulstein and Zuran, 1999), and quartz +/-barite veining in upper Glacier Creek and lower Miller Creek. Placer miners have recovered cinnabar vein float from Wy Gulch near the mouth of Miller Creek but to date the source has not been located.

Historical work

Various companies and several well know Yukon prospectors explored portions of the property from the 1970's onward for bedrock sources of the placer gold. Companies included Norada, Homestake Mining, Esso Minerals, Teck Corporation and Madrona Mining Ltd. although generally only surface work was carried out. In 1989 Layfield Resources diamond drilled seven holes (410.7 m) on what is now part of the Thrust Fault Zone (Layfield Grid) to follow up on anomalous gold in soil samples. Layfield Resources also examined and constrained, through a soil sampling program, the Cinnabar placer occurrence in WY Gulch, a tributary of Miller Creek (Keyser, 1989). Some of the better placer gold found in Miller Creek and Sixtymile River occurs with cinnabar. In 2015 Mike McDougall found placer cinnabar in his placer

concentrates in his excavations at the mouth of Owl Gulch indicating epithermal type gold may be present in the drainage.

The Kennecott soil sampling defined several arsenic/gold anomalies, including a coherent 1.5 km x 2 km-diameter, gold-arsenic soil anomaly, now the Kennecott Grid on the south side of lower Miller Creek (part of the Thrust Fault Zone). Excavator trenching at the southern edge of this anomaly revealed north easterly striking sheeted mesothermal quartz veins. Rock chip samples returned 1.6 g/t gold over a 13-meter interval in Trench 99-6. After a ten-year hiatus Radius Gold Inc. resumed exploration in 2010 and carried out airborne and ground geophysics, diamond, RAB and auger drilling plus trenching and surface geochemical surveys until 2011.

The airborne geophysical survey was flown in part at 100 m line spacing, and in part at 200 m line spacing.

The Thrust Fault Zone

Radius drilled eight diamond drill holes (2368.9 m), on the Thrust Fault Zone in 2010 and 2011 plus carried out RAB drilling, auger drilling, mechanized trenching and induced polarization - resistivity (IP) surveys over portions of the Zone. This work identified orogenic gold mineralization within a package of northeast trending brittle siliciclastic metasedimentary rocks cut by thrust faults. This zone is likely one of the sources for the extensive placer gold deposits that has been mined from the creeks that cut this unit. The host units are extensive with multiple beds of quartzite hosting cross cutting, gold bearing veins.

The Mineral Deposit Research Unit (MDRU) of the University of British Columbia concluded that the bedrock source for most of the placer gold is from orogenic type quartz veins. Anomalous gold values from trenches and diamond drill holes on the Thrust Fault Zone, extending from north of Glacier Creek to south of Miller Creek, a distance of approximately 6.0 km, indicate it is one of the sources. The most significant drill hole to date was drilled at the Kennecott Grid; DDH11-18 contained 507 ppb Au over 105.3 m including 1.57 g/t Au over 24.07 m (Table 2.). The regional geology, geochemical signature and structural setting points to an orogenic gold source similar to Kinross Gold Corporation's White Gold deposit.

From 2012 to 2015 Mike McDougall carried out bedrock exploration on his Bud claims in Glacier Creek by exposing bedrock during his placer mining and having it mapped and sampled. Individuals who have assisted him in this include; Gordan Gutrath, Jim Coates and Roger Hulstein. Rock samples over narrow zones of brecciated, sheared and variably oxidized schist – quartzite, often near listwanite, contained anomalous gold; up to 2.769 g/t. G. Gutrath collected a ‘high grade’ sample from the same area that contained 9.42 g/t Au and 139 g/t Ag (Gutrath, written comm., 2014). Taken together this work identified the continuance of the Thrust Fault Zone through Glacier Creek.

Work by Flow Metals

Flow Metals acquired the Sixtymile claims in 2019 and proceeded with structural geological work. Recent success in targeting coarse-grained gold in bedrock by Klondike Gold Corp. showed that the location of placer creeks is closely associated with gold in bedrock. Klondike Gold Corp. explores the

Tintina gold belt east of the Sixtymile claims and the overall structural setting of both exploration areas is similar (Sanchez et al., 2014). The recent findings by Sanchez et al. (2014) and exploration success of Klondike Gold Corp. warranted further examination of the structural setting of the Sixtymile claims.

In 2019, Flow Metals combined a remote sensing lineament analysis with ground truthing of the lineaments and geological mapping. The lineament analysis highlighted three prominent fault sets, two of which appear to be associated with the placer gold in Miller and Glacier Creek. The first fault set is a NW trending system that is roughly parallel to Miller Creek. The second fault set is a later sinistral EW trending fault sat which offsets the former. Glacier Creek follows both fault sets intermittently. Both fault sets offset NE trending thrust faults mapped between the major lithological units. Flow Metals' hypothesis is that the later NW and EW trending faults are more likely controls on mineralization than the earlier thrust fault for the following two reasons: 1) The producing placer creeks are parallel to the observed and inferred NW and EW faults, and may be a surface expression of recessive mineralized faults, and 2) the former drilling campaigns by Radius gold targeted the earlier thrust fault. They did intercept mineralization, but at low angle, indicating that the thrust faults are not the main mineralized structures. The most likely faults to be mineralized are the EW and NW faults. Both faults are expressed on Glacier Creek and both produce placer gold. The best mineralization is expected where the NW trending faults are offset by EW faults. These areas are visible in Glacier Creek and are the best producing placer claims.

Exploration program

In 2020 Flow Metals conducted an exploration program consisting of high-resolution ground geophysics followed by RAB drilling and trenching. Flow Metals acquired 80 line-km of mag/VLF which was post-processed to identify continuous conductors. Conductors associated with placer deposits were drill tested. The program also contained a concurrent resampling and relogging 143m of historic diamond drill core as well as 160m of trenching at the upper Glacier Creek zone.

The mag/VLF survey highlighted four fault sets of which three are conductive. The faulting appears to be related to complex dilatational fault pattern. A total of 835m was drilled in 15 holes in Upper Glacier Creek to test the faults and their intersection. Collars are listed in table 2.

Hole ID	X	Y	Z	Azimuth	Dip	EOH (m)
SM20-01	507364.6	7101648	823.8	0	90	60.96
SM20-02	507350.8	7101652	824.8	25	70	60.96
SM20-03A	507315	7101667	832	25	60	45.72
SM20-04	507249	7101649	837	205	60	57.912
SM20-05	507249	7101649	837	205	60	45.72
SM20-06	506459.5	7101370	822	115	60	56.388
SM20-07	506458	7101370	822	205	65	60.96
SM20-08	506803.5	7101513	826	46	60	50.292
SM20-09	506612.2	7101502	830	270	60	45.72
SM20-10	507061	7101549	820	53	60	59.436
SM20-11	506795.6	7101595	841	20	60	45.72
SM20-12	506825.5	7101611	839	200	60	64.008
SM20-13	506787.3	7101591	841	205	60	39.624
SM20-14	507067.1	7101654	835	200	60	60.96
SM20-15	507067.4	7101611	834	20	60	60.96

Table 2: Drill collar locations

A total of 250m was trenched over conductors that were expected to be related to placer and close to the surface. Trenching uncovered a set of auriferous (arseno)pyrite-quartz veins. Irregular quartz is fully encased in arsenopyrite and a thin veneer of visible gold, up to 3 mm in size occurs on the quartz-arsenopyrite interface. The pyrite is locally fully weathered to limonite.

Drilling intercepted multiple arsenic anomalies and two 1.5m elevated coarse grained gold intervals. One 5.6g/t Au in SM20-02 between 10.7m and 12.2m. The second intercept was 4 g/t Au in SM20-09 between 35m and 36.5m.

The core relogging program confirmed gold mineralization in the historic drill-core and discovered a new 2m mineralized interval that contained 12.8 g/t Au. This was detected with metallic screen assay and was previously missed by conventional fire assay which yielded only 0.50 g/t Au (Figure 2).

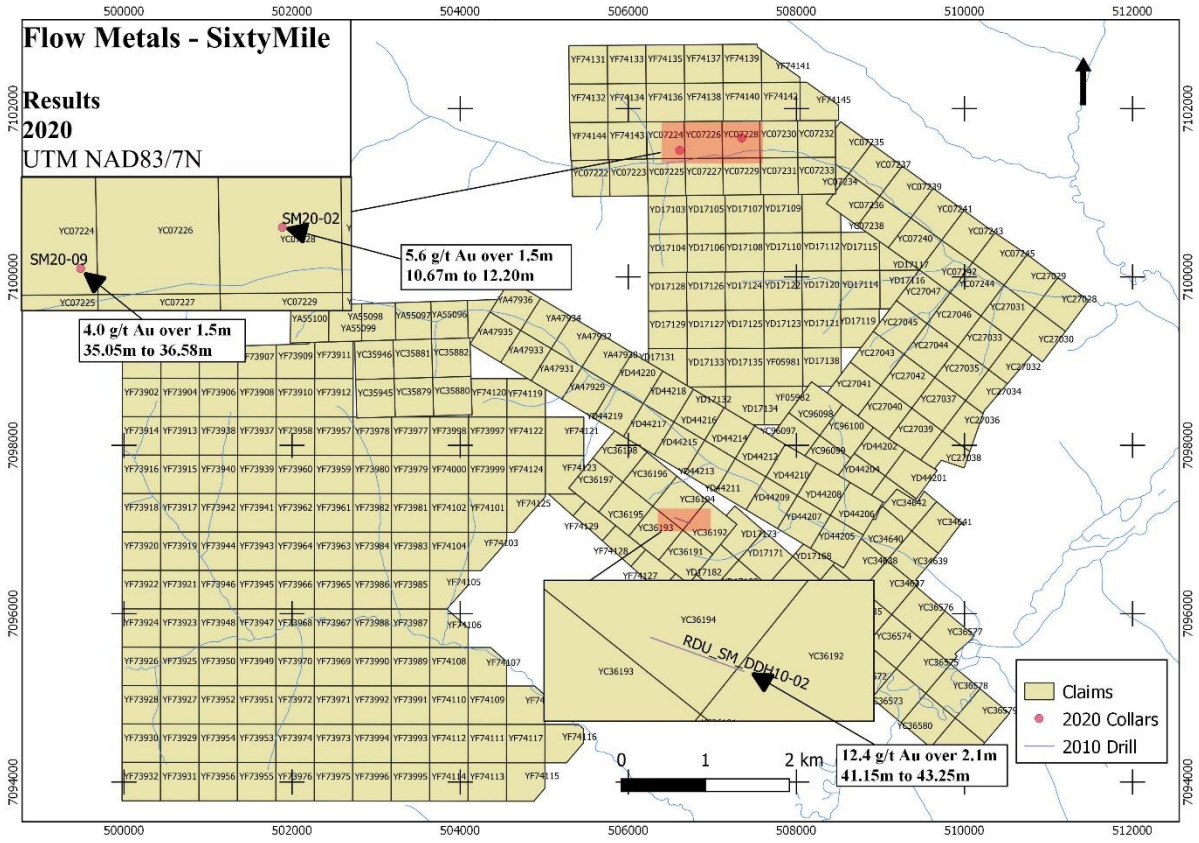

Figure 2: Claim map with best results from 2020 program.

Interpretation and conclusions

Hole SM20-01

The first hole of the campaign targeted an intersections between a west-northwest trending mag lineament and a north-northwest trending VLF lineament. Two arsenic anomalies were intercepted that were over 1000ppm, one at 12m and another at 42.7m. Highest gold intercepted was 0.13g/ton between 24.3 and 25.9m in the minus fraction. This was inconsistent however with the other minus fraction which only assayed at 0.04g/ton which illustrates the heterogeneity of the gold mineralization. O.5 oz/ton over 1.5 m was intercepted between 36.6m and 38.1m

Hole SM20-02

Hole SM20-02 was drilled along strike of the same west-northwest trending lineament drilled by SM20-01 towards an east-northeast trending magnetic lineament. This hole yielded the best gold intercept of the drill program. 5.6 g/ton Au was intercepted between 10.7m and 12.2m. The assay results were 82g/ton Au in the plus fraction and duplicate minus fraction were 1.03 and 0.6g/ton Au. This coincided with slightly elevated arsenic values (above 100ppm) from 9.1 m to 19.8m.

Hole SM20-03A

Hole SM20-03A was drilled along the trend of the last two holes but was planned to target the intercept between the same west-northwest trending lineament an east-west trending VLF lineament and a north trending VLF lineament. Two elevated arsenic intervals were intercepted between 0m and 16.8m and another between 32 and 38.7m. 1.5m of 0.78oz/ton silver was intercepted between 12.2m and 13.7m. The highest gold result was 0.11g/ton over 1.5m between 36.7 and 38.1m. this sample was a duplicate sample and the minus fraction was assayed 4 times. The results were as follows: 0ppm, 0.02ppm, 0.01ppm, and 0.11ppm. These results vary by an order of magnitude.

Hole SM20-04 and SM20-05

Hole SM20-04 and SM20-05 were drilled to target the east-west VLF lineament at depth. 20-04 did not intercept any anomalous gold or arsenic except at EOH where gold was just above detection limit 0.02g/ton. SM20-05 intercepted a 3m arsenic anomaly between 27.4m and 30.5. The highest gold intercept of the hole was 1.5m at 0.18 g/ton Au between 35.1m to 36.6m

Hole SM20-06 and SM20-07

Hole SM20-06 and SM20-07 were drilled in the river valley targeting east-west structures. These holes hit water immediately and experienced some difficulties because of this. No significant arsenic or gold was intercepted in SM20-06 but 0.5oz/ton silver was found between 10.7m and 12.2m. SM20-07 had a 1.5m arsenic interval at 860ppm between 53m and 36.5m. The only gold in the hole was found 4.5m below at 0.01g/ton Au. The rock that these holes sampled looked like silica sinter and was very rich in pyrite.

Hole SM20-08

Hole SM20-03A was drilled at the intersection of a NW trending and EW trending magnetic lineament and/or conductor. No significant arsenic, gold or silver was detected in this hole below casing. Above casing, some minor arsenic anomalies are present, but may just be equivalent to a soil anomaly. It is unclear if the target was intersected.

Hole SM20-09

Hole SM20-09 was drilled on the edge of mag high and mag low interpreted as contact between klondike schist and metasediments. This hole intercepted the second highest gold result of the program. When setting casing, a shallow arsenic anomaly was intercepted between 3.0m and 7.62 ranging from 603ppm to 2208ppm. In this interval the XRF detected 15g/ton Au, but nothing was detected by the fire assays. Below this at 22.9m to 25.9m another arsenic anomaly was intercepted around 350ppm. The final anomaly starts at 32m to 35.1m with elevated arsenic at 500ppm. Coarse grained 4.0g/ton Au was found 1.5m below this anomaly from 35.1 to 36.6m. This is interpreted as the contact between the Nassina biotite schist and klondike schist.

Hole SM20-10

Hole SM20-10 was drilled at the start of a historic placer pay channel associated with NW trending mag lineament/conductor. Four discrete 1.5 m arsenic anomalies were intersected at 13.7m, 16.8m and the highest value for the hole at 48.8m to 50.3m, yielding 2223ppm arsenic and XRF detected gold at 11g/ton but none was found in fire assays. The final arsenic anomaly was at the end of the hole between 75.9 and 59.4m at 1320ppm.

Hole SM20-11 to SM20-13

Hole SM20-11 to SM20-13 were drilled in area underneath visible gold in the trench. Elevated arsenic intersected but gold mineralization was too low-grade to be of interest. Though 13 samples across the three holes were above the detection limit for gold, the highest intercept was in a three-meter arsenic anomaly in SM20-12 where gold toped out at 0.08g/ton between 50.3m and 51.8m.

Hole SM20-14 and SM20-15

Hole SM20-14 and SM20-15 were drilled at the start of a prolific placer pay channel associated with a conductor. Assumed to be an EW trending fault but both holes are more likely to have intersected an arsenic bearing fault trending NW. In SM20-14, a sharp arsenic anomaly was intersected starting at 22.9m and ending at 29m, peaked at 4208ppm arsenic. 19g/ton gold was recorded by the XRF over 1.5m between 25.1m and 27.4m which coincides with the highest arsenic reading in the interval. The sample only yielded 0.02g/ton gold through fire assay and it is likely that some gold was missed in this section due to heterogeneity of mineralization. Also of note is a 0.5oz/ton Ag over 1.5 meters between 13.7 and 15.2m in this hole.

SM20-15 intersected an arsenic a 7.5m wide arsenic anomaly from 35.1m to 41.1m with the highest values (1872ppm) near the top of the anomaly, gradually decreasing to 259ppm at depth the whole interval scored above the detection limit in fire assays but averaged less than 0.1g/ton gold. There were two intervals that yielded 13g/ton Au in XRF which suggests further testing may be required to rule out the possibility of missed gold.

Conclusions

The Sixtymile claims have the potential to host a considerable gold deposit of at least several 100k oz Au. Miller and Glacier creek have produced approximately 150k oz in placer. The 2020 drill program intercepted multiple arsenic anomalies and proved the presence of coarse-grained gold that seems associated to those. These arsenic bearing structures seem to be associated with northwest trending magnetic lineaments. At surface these are expressed as thin arsenopyrite-rich red-weathering quartz veins. At the KEX zone these structures were intercepted in diamond drills and good gold grades were recovered. These quartz veins seem to be related to orange clay filled thrust fault which is corroborated by some of the placer miner Mike McDougall's experience with placer being rich and stopping at the "orange clay". If the source of the gold is indeed related to the clay-altered faults directly underneath the placer deposits, these are expected to continue from the surface to at least 200m depths, the depth at which Radius gold intercepted mineralization.

Exploratory work on the Bud claims (see section 'Historical Work') indicates that the bedrock is indeed gold-bearing underneath the placer, which is further corroborated by the new discoveries at Glacier creek during the 2020 program.

Furthermore, gold-bearing faults without clay alteration may not be recessive. Several faults are on-strike with producing placer streams and trenches on topographic highs have yielded gold mineralization. Radius gold drilled from topographic highs, and intersected gold mineralization. The mineralization and structural mapping appear to indicate that gold-bearing faults are present outside of the creeks, which substantially increases the potential volume of mineralized rock.

During 2019 exploratory work, Bickerton and Slade mapped 2 two conjugate ductile faults on a productive placer blench. The faults are themselves intersected by a north trending zone of fault gouge (McDougall, personal comm. 2020). The intersection between the fault gouge and the ductile faults is at the upstream limit of a zone of coarse-grained gold in placer. There is no gold present along strike to the south, indicating that the gold does not occur in the brittle fault itself, but may be present in the fault gouge as the result of reworking of the ductile faults.

Experience

Company Info

Flow Metals Mining Corp. is a junior gold exploration company. Currently the company focuses on the exploration of its main claim, the Sixty Mile Property. Apart from the Sixty Mile Property, the company owns the New Brenda property in BC and the Ashuanipi properties in Quebec.

Scott Sheldon, Adrian Smith, Don Sheldon and Brian Murray direct the company. Together they have a wealth of experience in both the business and technical side of the resource industry. Jaap Verbaas joined the company at its inception as the VP Exploration. Jaap Verbaas finished a dissertation on Yukon geology in 2017 and has experience in gold prospects and deposits in Australia and Canada.

Experience

The board of directors, which consists of the same people as that of Go Metals, has been instrumental in the discovery of high-grade gold at the Wels Project in the southwestern Yukon. For the exploration at the Wels and at the Monster Property Go Metals has received several YMEP grants. These grants allowed the company to plan drilling programs that eventually led to the optioning of the Wels project to K2 gold. Since then, K2 gold has proceeded with target evaluation and development on the Wels project.

References

Allan, M.M., Mortenson, J.K., Hart, C.J. and Bailey, L.A., 2012. Timing, Nature, and Distribution of Jurassic Orogenic Gold Systems in the West – Central Yukon; in Yukon Gold Project Final Technical Report; Allan, M.M., Hart, C.J. and Mortenson, J.K., Editors, Mineral Deposit Research Unit, University of British Columbia, 196 p.

Allan, M.M. and Mortenson, J.K., 2012. Structure and Mineralization of the Sixtymile – Pika Fault System; in Yukon Gold Project Final Technical Report; Allan, M.M., Hart, C.J. and Mortenson, J.K., Editors, Mineral Deposit Research Unit, University of British Columbia, 196 p.

Cockfield, W.E., 1921. Sixty Mile and Ladue Rivers Area, Yukon. Geological Survey of Canada, Mem. 123.

Duk-Rodkin, A., 1996. Surficial Geology, Dawson, Yukon Territory; Geological Survey of

Green, L.H., 1972. Geology of Nash Creek, Larsen, and Dawson Map Areas, Yukon Territory. Geological Survey of Canada Memoir 364.

Hulstein, R. and Zuran, R., 1999. Report on the Geological, Geochemical and Geophysical Work on the the Sixty Mile Project. Yukon Energy, Mines & Resources. Assessment Report No. 094055.

Hulstein, R., 2012. Report on the Sixtymile Property, 2011 Geophysical Survey and Diamond Drilling. Yukon Energy, Mines & Resources. Assessment Report No.Xx.

Keyser, H.J., 1989. Report on the 1988 Geological and Geochemical Assessment Work on the Headwaters Project. Yukon Energy, Mines & Resources. Assessment Report No. 092692.

LeBarge, W., 2006. Placer Geology and Prospective Exploration Targets of Sixty Mile River Area, West-Central Yukon. In: Yukon Exploration and Geology 2005, D.S. Emond, G.D. Bradshaw, L.L. Lewis and L.H. Weston (eds.), Yukon Geological Survey, p. 155-174.

Mortenson, J.K., 1988. Geology, Southwestern Dawson Map Area, Yukon, 1:250,000 scale map. Geological Survey of Canada, Open File 1927.

Mortenson, J.K., 1996. Geological Compilation Maps of the Northern Stewart River Map Area, Klondike and Sixty Mile Districts, 1:50,000 scale. Indian and Northern Affairs Canada, Northern Affairs: Yukon Region, Open File 1996-1G.

Mortenson. J.K., Chapman, R., LeBarge, W. and Crawford, E., 2006. Compositional Studies of Placer Gold and Lode Gold from Western Yukon: Implications for Lode Sources. In: Yukon Exploration and Geology 2005, D.S. Emond, G.D. Bradshaw, L.L. Lewis and L.H. Weston (eds.), Yukon Geological Survey, p. 247-255.

Smuk, K., 1999. Metallogeny of Epithermal Gold and base Metal Veins of the Southern Dawson Range, Yukon. Unpublished Thesis, McGill University, Montreal. Available at; Yukon Energy, Mines and Resources library, Whitehorse, Yukon.

Spurr, J.E., and Goodrich, H.B., 1898. Geology of the Yukon Gold District, Alaska. U.S. Geological Survey, Eighteenth Annual Report, 1896-97, Pt. III.

Tempelman-Kluit, 1973. Reconnaissance Geology of Aishihik Lake, Snag and Part of Stewart River Map-Areas, West Central Yukon. Geological Survey of Canada, Paper 73-41.

Wheeler, J.O. and McFeely, P. 1991. Tectonic assemblage map of the Canadian Cordillera and adjacent parts of the United States of America; Geological Survey of Canada, Map 1712A, scale 1:20,000,000.

Yukon MINFILE – A database of mineral occurrences. Available digitally:
www.geology.gov.yk.ca/databases/download/htmlEHW, 1997, Structural interpretation and targeting of Sixty Mile environs geophysical survey. Yukon Territory, Canada: Yukon Assessment Report, v. 93600