Energy, Mines and Resources • *Yukon Geological Survey*

Yukon **Placer Mining** Industry

2007 to 2009

Yukon Geological Survey

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Energy, Mines and Resources

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Compiled by W.P. LeBarge and M.G. Nordling

Yukon Geological Survey

Energy, Mines and Resources

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Front cover: Henry Gulch Placers mining operation on Hunker Creek, September, 2009.
Back cover: Canada geese enjoy the ponds and contoured hills at A-1 Cats reclaimed placer mine on Dominion Creek, June 2009.
Photos by W.P. LeBarge, Yukon Geological Survey.

Preface

The Yukon Geological Survey is pleased to present the Yukon placer mining industry report for the years 2007 to 2009.

In the past four years Yukon has experienced a major boom in economic activity, fueled by a dramatic rebound in world commodity prices and sustained, ever-increasing record world gold prices. This has triggered a hard-rock staking rush and resulted in a number of major hard-rock discoveries including the White Gold and Rau properties. Although slowly at first, the Yukon's placer industry has finally begun to share in these prosperous times. Fuel prices have leveled, changes to the regulatory regime have settled in and the availability of trained personnel has increased, albeit only moderately. In addition, infrastructure such as roads and the availability of services has increased and facilitated the exploration of new placer ground peripheral to areas with hard-rock exploration activity. This sheds a promising light on the immediate future of Yukon's placer mining industry. However, hard-earned dollars gained from mining will need to be spent on exploration, and new placer resources will need to be discovered, to ensure the long-term health of the industry.

We hope that the research, informational and educational support that Yukon Geological Survey provides to the placer industry will encourage exploration and development of new placer mines in upcoming years. It is our hope that you find this book interesting and informative, and we encourage future submissions from miners to maintain and improve the quality of this publication.

Acknowledgements

Sincere thanks are due to the placer miners for their submissions and photographs as well as the knowledge and information about their deposits which are generously given during field visits. This compilation would not be possible without them.

Monica Nordling was invaluable as a co-author and co-compiler who assisted in writing the placer operation activity summaries, assembling and verifying the locations of placer operations, inputting information into the Placer Database and generating the draft digital placer district maps in ArcGIS format.

Editorial guidance was provided by Karen MacFarlane, Head of Technical Services and Publications Manager for the Yukon Geological Survey.

Client Services and Inspections, Energy, Mines and Resources contributed some information and photographs which were used in the operation summaries. From 2007 to 2009 this included Lorraine Millar (Manager, Mineral Services), Josef Hanrath (Senior Natural Resources Officer), and Natural Resources Officers Terry Anderson, Lori Carter, Steve Colp, Pete Descoteaux, Randy Lang, Jim Leary, William Leary, John Renaud, and Rob Savard.

Bailey Staffen, GIS Technician, Yukon Geological Survey, created the final placer district maps from ArcGIS and converted them into Adobe Illustrator format for publication.

Others who helped and contributed information for this publication include Edward Long (Geological Assistant, Yukon Geological Survey) and Rob Deklerk (Geological Database Manager, Yukon Geological Survey).

William LeBarge
Placer Geologist
Yukon Geological Survey
Energy Mines and Resources
Government of Yukon

Introduction

This publication contains summaries of placer mining operations active between 2007 and 2009. The bulk of this report was generated from the latest update of the Yukon Placer Database, a digital compilation of information about the geology and mining activity of placer occurrences in Yukon, which includes all previous Yukon Placer Mining Industry reports. Although formatted, summaries have not been edited for this publication. The maps were generated from an ArcGIS digital compilation, which was converted into a publishable format through Adobe Illustrator. A copy of this publication, with colour images, can be downloaded from the Yukon Geological Survey website, *www.geology.gov.yk.ca.*

Information about the active placer operations and related geology was derived from survey forms which were completed by placer miners, and from field visits by William LeBarge of the Yukon Geological Survey. In addition, some information was derived from the Natural Resource Officers of Client Services and Inspections. Most photographs of operations were taken by William LeBarge during field visits, some were supplied by Client Services and Inspections from their field visits and some were submitted by placer miners.

Although we have made our best efforts to include all active operations and to be as accurate as possible, there may be some omissions and errors and we apologize for those.

The summaries are arranged in sections by drainage basin, with corresponding maps and photos included. Each summary includes the creek name and its parent stream, the operator, water license number (s) and year of expiry, and the geographic coordinates of the operation. Many measurements were originally provided in imperial units, and we have converted these to metric where appropriate (commonly in parentheses); however, equipment specifications have mostly been left in imperial units due to current conventions in the mining industry.

Contents

Yukon placer mining industry, 2007-2009
An overview of activity and production

Even prior to the arrival of European explorers to Yukon, First Nations people were placer mining, recovering native copper nuggets from the White River area in southwestern Yukon. Later, around 1850, explorers from the Hudson Bay Company reported fine gold on the banks of the Pelly River. In 1874, coarse gold was discovered on a tributary of the Liard River, and in 1885 significant quantities of gold were found on river bars of the Stewart. Gold was first discovered in the Fortymile area on both sides of the border in 1886, and by 1893 the Sixtymile district had active mining on both Miller and Glacier creeks.

On August 17, 1896 the chance discovery of a gold nugget on Rabbit Creek (later renamed Bonanza) set off the Klondike Gold Rush. By 1900, over a million ounces were being mined in a season; at that time completely by hand. Large-scale mining, with dredges and heavy equipment, began in later years.

Today, over 100 years later, placer mining is still a vital sector of Yukon's economy. Over 16.7 million crude ounces (519 tonnes) of placer gold have been produced to date in Yukon – at today's prices that would be worth more than $14 billion.

Staking Activity

Placer claim staking activity decreased initially during the reporting period, surged slightly in 2008, but dropped again in 2009 (Fig. 1). Placer leases staked in the 2007-2009 time period initially remained at the levels of previous years but decreased in 2009 (Fig. 2), reflecting the same trend as seen in placer claim staking.

From 2007 to 2009 the number of placer claims in good standing steadily increased nearly reaching a peak not seen since 1995 (Fig. 3). Placer leases in good standing remained constant with a slight increase in 2009 (Fig. 4).

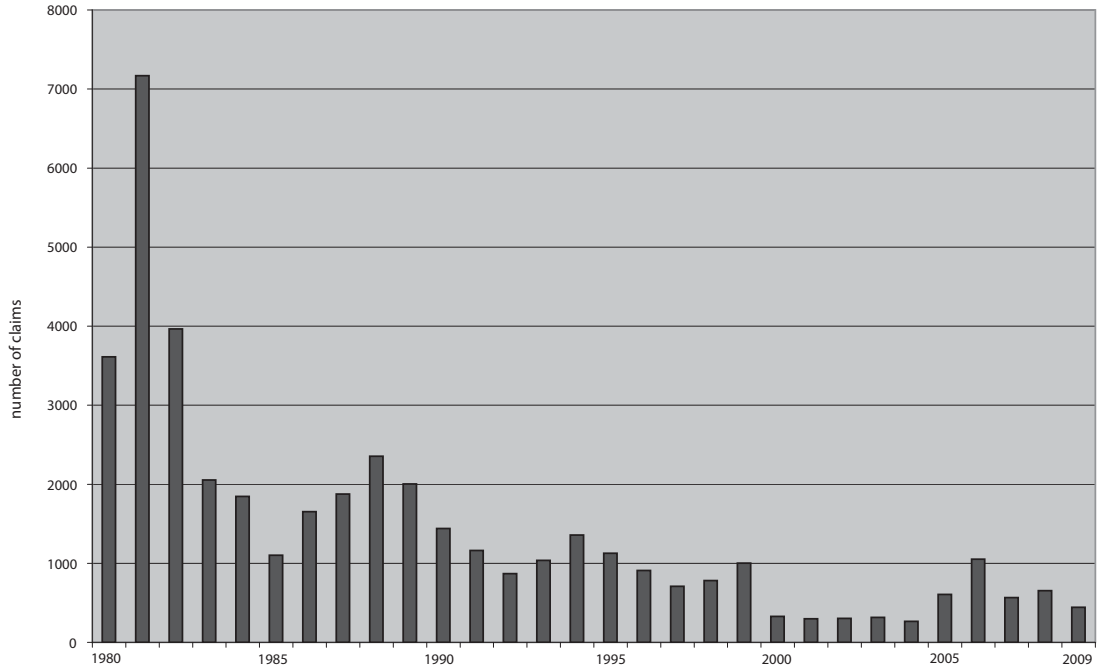


Figure 1. *Yukon placer claims staked, 1980-2009.*

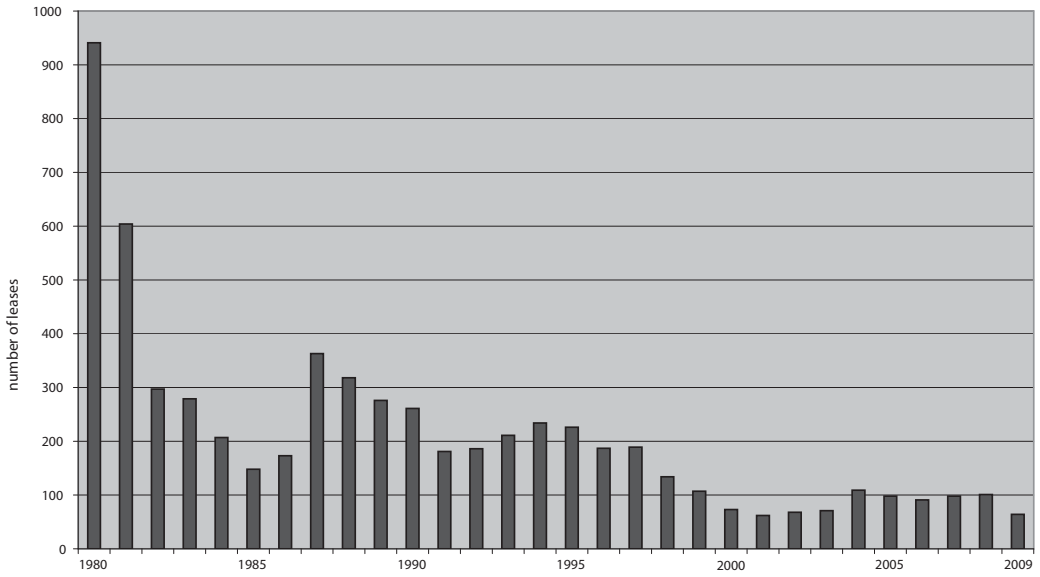


Figure 2. *Yukon placer leases staked, 1980-2009.*

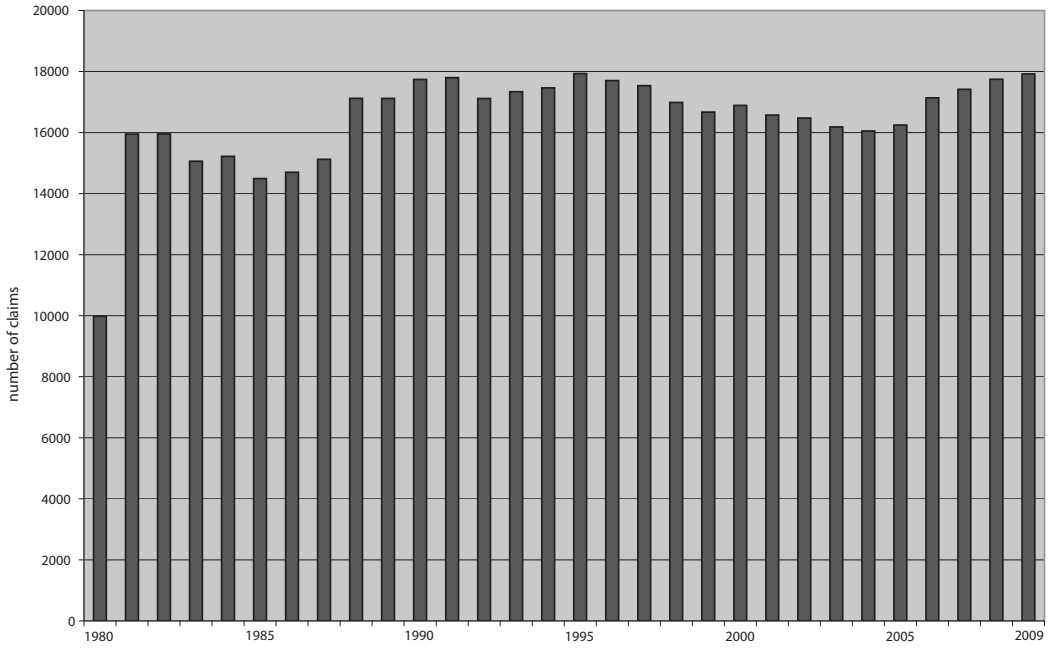


Figure 3. *Yukon placer claims in good standing, 1980-2009.*

The total amount of ground held as both placer claims and leases has historically followed the trend of the US dollar world gold price. Despite this, during a meteoric rise in the world gold price, there was only a moderate increase in placer ground held. This moderation may be in part due to the buffering effect of an increasingly valuable Canadian dollar (Figs. 5 and 6).

World Market Gold Price

Throughout the reporting period, world gold prices in US dollars rose steadily with the exception of a few months in 2008 (Fig. 6). The highest monthly average price for gold during the reporting period was seen in December 2009, when the price reached $1,134 US/oz ($1,198 CDN). The lowest US price during the reporting period was in January 2007, when it was $631 US/oz ($741 CDN). The lowest Canadian price was reached in June 2007 at $698 CDN. The average world gold price from 2007 to 2009 was $847 US/oz or $926 CDN/oz.

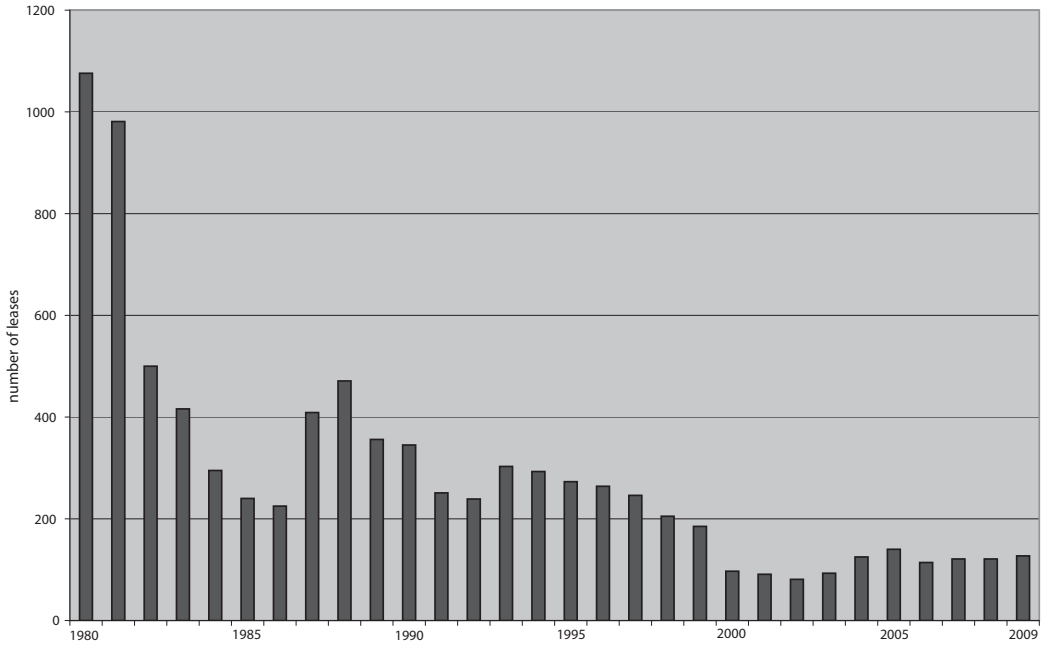


Figure 4. *Yukon placer leases in good standing, 1980-2006.*

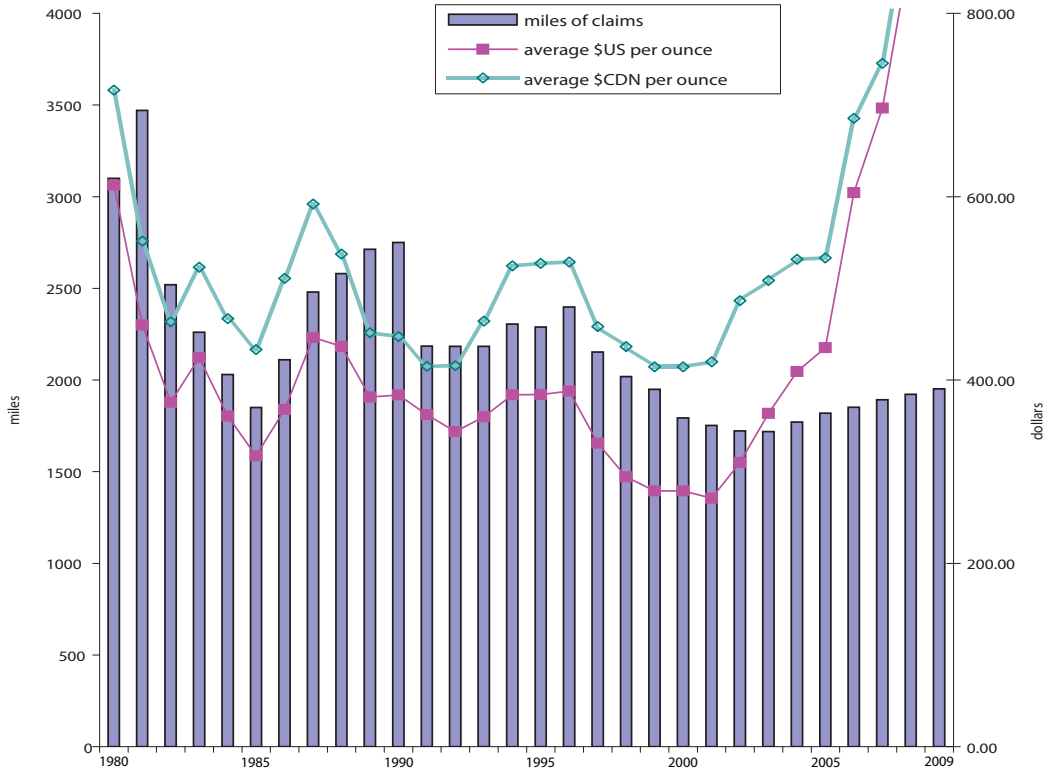


Figure 5. *Miles of Yukon placer ground held versus world gold price in U.S. and Canadian dollars.*

***Figure 6**. Average monthly gold price in US and Canadian dollars, and US/CDN exchange rate, 2003-2009.*

Yukon Placer Gold Production

The following production figures are based on royalty records submitted to the Yukon Mining Recorder. Under the Yukon Placer Mining Act, royalties must be reported and paid on Yukon placer gold if it is exported out of the Yukon Territory.

After a slight surge in 2007, Yukon placer gold production, as reported in royalties, decreased for the next two years, despite a steadily rising world gold price (Fig. 7). There was a significant drop overall when compared to the last reporting period of 2003 to 2006.

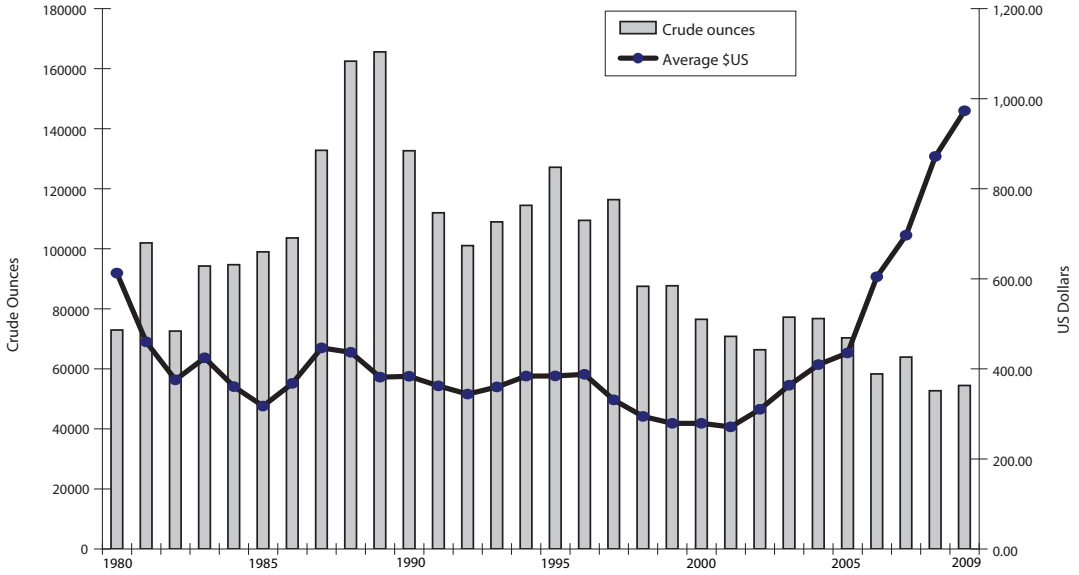


***Figure 7**. Yukon placer gold production vs US gold price, 1980-2009.*

In 2007, the placer industry produced 63,929 crude ounces (1988 kg) of gold, approximately the equivalent of 51,143 fine ounces (1591 kg) valued at $38.1 million (CDN).

In 2008, a total of 52,709 crude ounces (1639 kg) of gold were produced, the equivalent of 42,167 fine ounces (1312 kg) valued at $39.0 million (CDN).

In 2009, reported production from royalties was 54,478 crude ounces (1694 kg), roughly equivalent to 43,582 fine ounces (1356 kg) valued at $48.2 million (CDN).

The total Yukon placer gold production from 2007 to 2009 for each placer district is shown in Figure 8. More than 87% of the total Yukon production came from the unglaciated districts, and as in past years, the Indian River drainage was the highest producing area followed by Klondike, West Yukon (Sixtymile, Fortymile and Moosehorn Range) and Lower Stewart. The remaining 13% of placer gold came from the glaciated districts of Mayo, Clear Creek, Dawson Range, Kluane, Livingstone and Whitehorse South. The relative contributions of each placer district to the total Yukon production was similar for each year from 2007 to 2009, however there was a 9% drop in reported relative contributions from the Indian River drainages in 2008 as compared with the previous year, and a further drop in 2009. This was mainly due to decreased mining activity on Dominion Creek.

Table 1 shows the 25 most productive creeks for each year from 2007 to 2009. Dominion Creek was the dominant producer in 2007, however it was overtaken by Sixtymile and Indian River in subsequent years. Other top creeks included Hunker, Gold Run, Last Chance and Matson creeks. It is significant to note that Gladstone Creek is the only creek within a glaciated area to consistently make it into the top 25 producers.

Placer Exploration

Although it is usually unreported, exploration on placer properties is part of the process for many placer miners. Traditional methods of sampling and exploration include auger, reverse circulation and churn drilling, and geophysics including seismic and resistivity surveys, ground-penetrating radar and magnetometer surveys. Trenching and bulk sampling also continue to be well-used methods of testing placer ground.

An exploration highlight of the 2007 season was the continued testing by Klondike Star Ltd. of the Indian River drainage between McKinnon and Montana creeks. Several test pits were mined and an access road was constructed, which nearly connected the middle reaches of the Indian River to its upstream reaches and Dominion Creek.

The extensive development of the lower Sixtymile River drainage between the mouth of Ten Mile Creek and the confluence of Sixtymile River and Yukon River continued in 2007. In addition to the construction of several kilometres of road and an airstrip, a bridge was installed over the Sixtymile River. This improved access is favourable for increased development and testing of nearby drainages such as Twenty Mile Creek and Thirteen Mile Creek, as well as the upstream reaches of the Sixtymile River.

One of the highlights of the 2008 season was the establishment of a significant mining operation on Barker Creek for the first time in many years. This had an effect on the southern Stewart River area in the form of an improved road network connecting Barker, Thistle, Ballarat, and Kirkman creeks. This increased infrastructure will be beneficial to smaller operations and facilitate the exploration of nearby creeks.

A substantial increase in placer staking activity in the Lower Stewart Placer District occurred during the 2009 season. This was fuelled in part by exploration on the nearby White Gold hard-rock gold discovery north of Thistle Creek. An access road was constructed to the property from Thistle Creek improving access for nearby placer exploration. Other significant activity included the establishment of several small test operations throughout the Dawson area, especially on Maisy May and Black Hills creeks, which have had relatively low levels of activity in recent years.

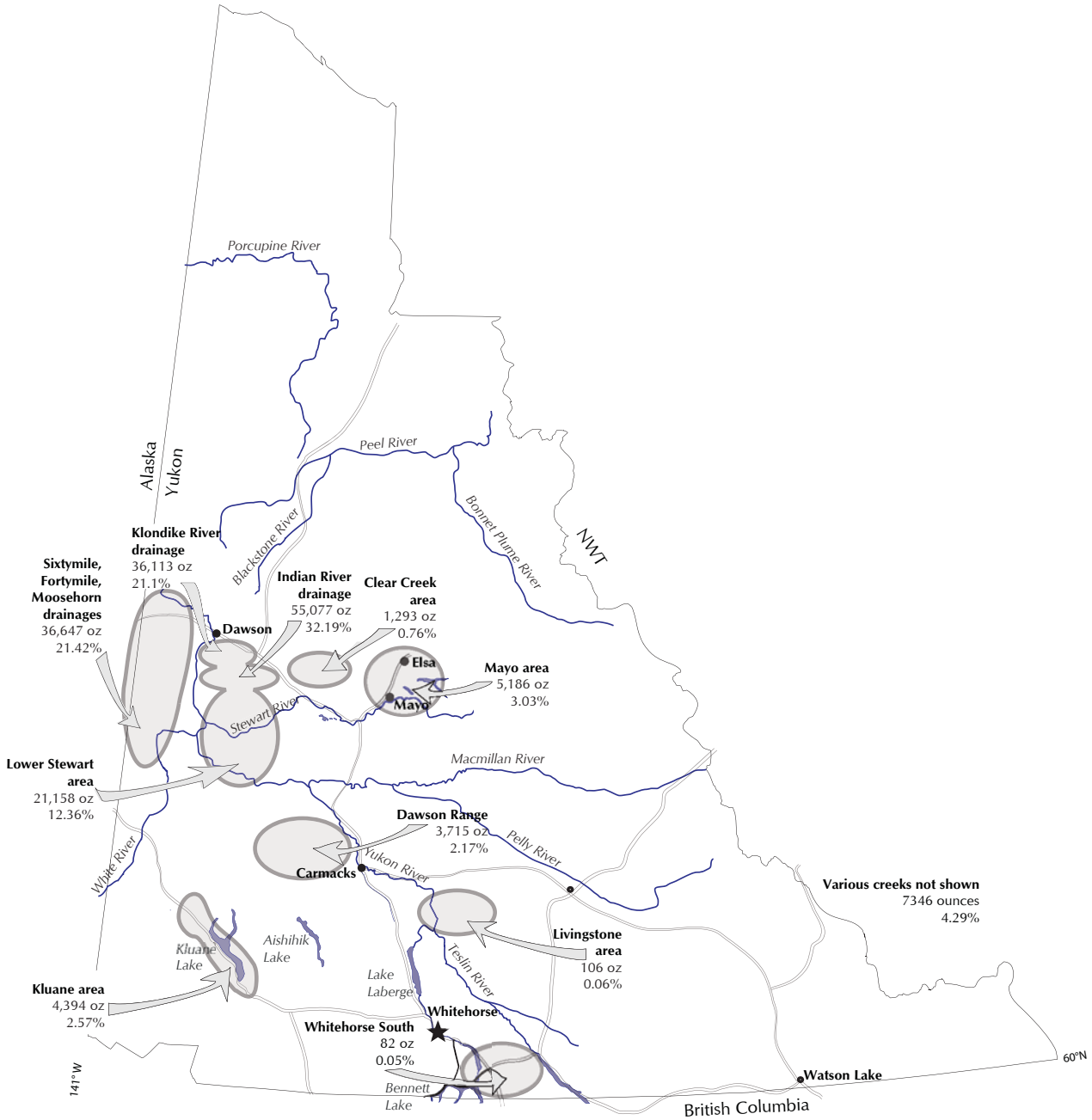


Figure 8. *Map of Yukon placer gold production, 2007-2009. Total recorded placer gold production for 2007-2009 was 171,117 crude ounces.*

The long-term health of Yukon's placer mining industry requires that new placer gold reserves be discovered as traditional mining areas become depleted. With the application of new placer exploration and research techniques and new ideas, additional placer gold reserves will continue to be found in non-traditional, more complex geological settings.

Acknowledgements

Thanks are due to Monica Nordling for her compilation of many of the statistics used in this paper. World gold prices were obtained from Kitco (www.kitco.com) and US/Canadian dollar exchange rates were obtained from Oanda (www.oanda.com).

Table 1. *Twenty-five most productive creeks, 2007-2009*

rank	Stream or River	2007 royalties
1	Dominion	15 512
2	Sixtymile	10 056
3	Hunker	4848
4	Indian	4382
5	Gold Run	2611
6	Last Chance	2425
7	Matson	2263
8	Ten Mile	2149
9	Bonanza	2130
10	Black Hills	1656
11	Owl	1640
12	Thistle	1634
13	Kirkman	1187
14	Eureka	1174
15	Paradise Hill	940
16	Henderson	728
17	Lightning	724
18	Sulphur	698
19	Gladstone	635
20	Kate	423
21	Clear	363
22	Bear	350
23	Nansen	317
24	Gold Bottom	271
25	Duncan	250

rank	Stream or River	2008 royalties
1	Sixtymile	8660
2	Dominion	6947
3	Hunker	4130
4	Matson	3925
5	Indian	3833
6	Gold Run	2136
7	Last Chance	2005
8	Eureka	1546
9	Barker	1511
10	Paradise Hill	1440
11	Bonanza	1433
12	Gladstone	1075
13	Scroggie	1057
14	Bear	898
15	Thistle	779
16	Sulphur	730
17	Henderson	677
18	Kirkman	656
19	Lightning	648
20	Nansen	555
21	Kate	517
22	Clear	488
23	Black Hills	467
24	Owl	436
25	Frypan	356

rank	Stream or River	2009 royalties
1	Indian	6064
2	Hunker	5846
3	Sixtymile	5638
4	Dominion	3982
5	Barker	3516
6	Henderson	3364
7	Paradise Hill	3342
8	Matson	1892
9	Little Blanche	1886
10	Last Chance	1704
11	Eureka	1573
12	Gladstone	1481
13	Black Hills	1374
14	Nansen	1252
15	Bonanza	1171
16	Gold Run	1057
17	Kirkman	831
18	Lightning	754
19	Kate	648
20	Scroggie	563
21	Clear	443
22	Sulphur	376
23	Canyon	315
24	Bear	261
25	Mechanic	246

Robert E. Leckie Awards for
Outstanding Placer Reclamation Practices

2007 award presented to No Name Resources Inc., Ten Mile and Thirteen Mile creeks

No Name Resources Inc. has been placer mining at Ten Mile and Thirteen Mile creeks in the Dawson Mining District since 2003. Brent and Rosemary Pasareno took over several properties, which had been mined by previous operators since the1970s, when no legislation existed to encourage reclamation practices. They cleaned both areas, and removed abandoned equipment, tanks and debris to a single storage yard for each site. They sloped and contoured old mining works and camp areas, rehabilitating the two sites so they can revegetate naturally. They are considered exemplary operators.

One site from which No Name Resources Inc. removed the abandoned debris remaining from many years of placer operations. The site was re-sloped and contoured in preparation for natural revegetation.

2007 Honourable Mention presented to Ross Mining Ltd, Dominion Creek

Ross Mining Ltd. has been working on Dominion Creek near Dawson City. Jon Rudolph continued the company's tradition of responsible and exemplary reclamation work when he became president. At this site, stripping, mining and reclamation occurred concurrently. The disturbed area was carefully contoured and topsoil was spread to encourage rapid revegetation. There are extensive areas that are reclaimed with healthy regrowth. Reclaimed areas are aesthetically pleasing and complement the natural valley landscape.

Ross Mining Ltd. dumped topsoil for spreading on this sloped and contoured previously mined site.

2008 award presented to Ross Mining Ltd, Dominion Creek

Placer mining continues at the Ross Mining operation next to reclaimed areas. Numbers 1 to 5 represent areas that have been reclaimed or are in the process of being reclaimed. Number 1 is the oldest and number 5 is the youngest.

Ross Mining Ltd continued to carry out exceptional restoration work on its Dominion Creek claims, the largest placer mining operation in Yukon. Extensive use of topsoil allowed for rapid revegetation of parts of the property. Mined areas have been transformed into a rich-living ecosystem with newly created ponds and waterways that form a haven for moose, fox, geese, ducks and swans. Jon Rudolf, president of Ross Mining Ltd., introduced the idea of ethical gold to Yukon. His company Mammoth Tusk Gold offers the Ethical Gold Certification Program. This certification is rooted in values of sustainability, environmental and social responsibility, and fair practices. The chain of custody must be certified from unearthing, to smelting, to delivery for sale. Ross Mining demonstrates excellence in environmental stewardship, social responsibility, leadership and innovation. The founding of Mammoth Tusk Gold opened a new arena where Yukon and placer mining can truly shine.

2008 Honourable Mention presented to HC Mining Limited, Moosehorn Creek

Re-sloped and contoured overburden piles along the creek allow for safe passage of migrating wildlife.

Since 2004, HC Mining Limited has been operating on Moosehorn Creek, a tributary of Henderson Creek, in the Dawson Mining District. The restoration measures used by HC Mining Ltd. go beyond 'best practices' in mining reclamation. The very steep overburden piles, which blocked passage across the valley, were reduced to gentle slopes. The creek bank was armoured along its length, and a settling pond placed for catchment of any sediment while slopes stabilized. Top soil was spread to enable entrapment of water and airborne seed to encourage rapid re-vegetation. HC Mining is commended for its efforts in accelerating the re-establishment of this valley for use by wildlife and the public.

2009 award presented to Favron Enterprises Ltd., Last Chance and Hunker creeks

Favron Enterprises Ltd. has been placer mining in the Last Chance and Hunker Creek areas in the Dawson Mining District since 2004 and has shown exemplary efforts in continual reclamation.

The Favron family has cleaned up and consolidated materials left over from previous operators going back to the gold rush. Reclamation is immediate, whether or not future mining is planned, to protect the land from erosion and to maintain rich organics for later use.

Solid and stable re-constructed stream channel.

Their property is organized and they have a well-planned operation that focuses on high levels of environmental protection and on ongoing reclamation. Creek beds were reconstructed to allow for natural flow within the channel (Fig. 3), overburden is contoured immediately and seed stocks are carefully protected. The constructed settling pond system allows for no discharge and an excellent fuel storage system ensures that no fuel spills can occur.

Favron Enterprises Ltd. is considered an exceptional operator and this award recognizes their outstanding efforts in reclamation practices.

George W. Gilbert
1925 – 2008

George Gilbert passed away in Whitehorse, February 14, 2008, at the age of 82. He was a man of many professions, all of them self-taught.

At Ishpa Glacier, BC (from kicked by a dead moose, GW Gilbert).

George was a geologist, hard-rock miner, prospector, naturalist, as well as a government inspector of mining, fisheries and land use. He was a published author and self-described rock-hound. He counted amongst his friends not only regular folk, but those who served in high office such as Ed Schreyer, Governor General of Canada; James Smith, Commissioner of Yukon; and various heads of state and scientific organizations from around the world.

Born in Vancouver, British Columbia in 1925, George moved with his family at the age of nine to the Cariboo mining town of Wells when it was just being established. He joined the Air Force near the end of World War II and served two years, returning to work at the Cariboo Gold Quartz (CGQ) mine in 1946. George eventually became the manager of the CGQ mine. During that time George was offered a chance to become a P. Eng. by the British Columbia Professional Engineers Association, based solely on his extensive mining experience – although he had no university degree. Unfortunately, a breakdown at the mine prevented him from making his way to Vancouver to fill out the paperwork.

In 1967, when the CGQ mine ceased operations, George moved to Whitehorse to take on the position of Newmont Mining's resident geologist. While with Newmont, George and his prospecting crews explored many grassroots properties and mineral deposits in Yukon, including those in the Kluane Ranges and the Bonnet Plume area.

In 1970, George joined Keno Hill Exploration Ltd. and managed several exploration programs for three years before joining the Geology Division of the Department of Indian Affairs and Northern Development in the mid-1970s. He eventually became the Chief Mining Inspector of the Placer Mining Division, where he remained until he retired in 1989. It was during his years at the Placer Mining Division that his enthusiasm for the work inspired many to take up the profession themselves, including at least two former placer mining inspectors who later became placer miners. I personally was inspired to complete a graduate degree in placer geology.

George had a devilish and keen sense of humour and hundreds of stories to tell about his adventurous life – many of them are documented in his book "Kicked by a dead moose…and other stories of 65 years in the bush (so far)". There were three printings, all of which sold out.

He maintained his contacts with the mining industry and former colleagues throughout his retirement, even attending the annual Yukon Geoscience Forum two months before his passing.

George was a loving father and friend and will be greatly missed by all of his family, his colleagues and friends, and anyone who ever had the pleasure of his company.

Bill LeBarge

Jerry Bryde
1951 - 2009

Jerry Bryde, one of Yukon's Colorful 5%, was one the last self described "hand miners" of the Klondike. Long after the placer mining industry adopted the "larger is better" mentality Jerry continued to hand-mine on Seven Pup, a tributary of Victoria Gulch on Upper Bonanza Creek.

Jerry was born and raised in Kelowna, BC and left high school in the mid-1960's to live life on his own terms. After moving around BC for several years Jerry arrived in Yukon in 1970. At that time Jerry worked at various jobs, including the White Pass and Yukon Company when they were still the major movers of freight in Yukon, and as a Placer Mining Inspector with the Mining Division of Indian Affairs and Northern Development.

Around 1980 Jerry began placer mining, first on Upper Bonanza Creek and later on Seven Pup, a tributary of Victoria Gulch. He lived in a small cabin not much larger than a garden shed and lived a subsistence life style. Summers were spent sluicing and hand mining on his ground, while winters were spent reading anything about mining and repairing old mining equipment that he had found scattered around the Klondike. Jerry supplemented his income by working for other placer miners and as a prospector on various Yukon exploration projects. Although he lived as a hermit in the winter months, summer time saw a steady stream of visitors whom he never tired of teaching the lost art of panning for gold.

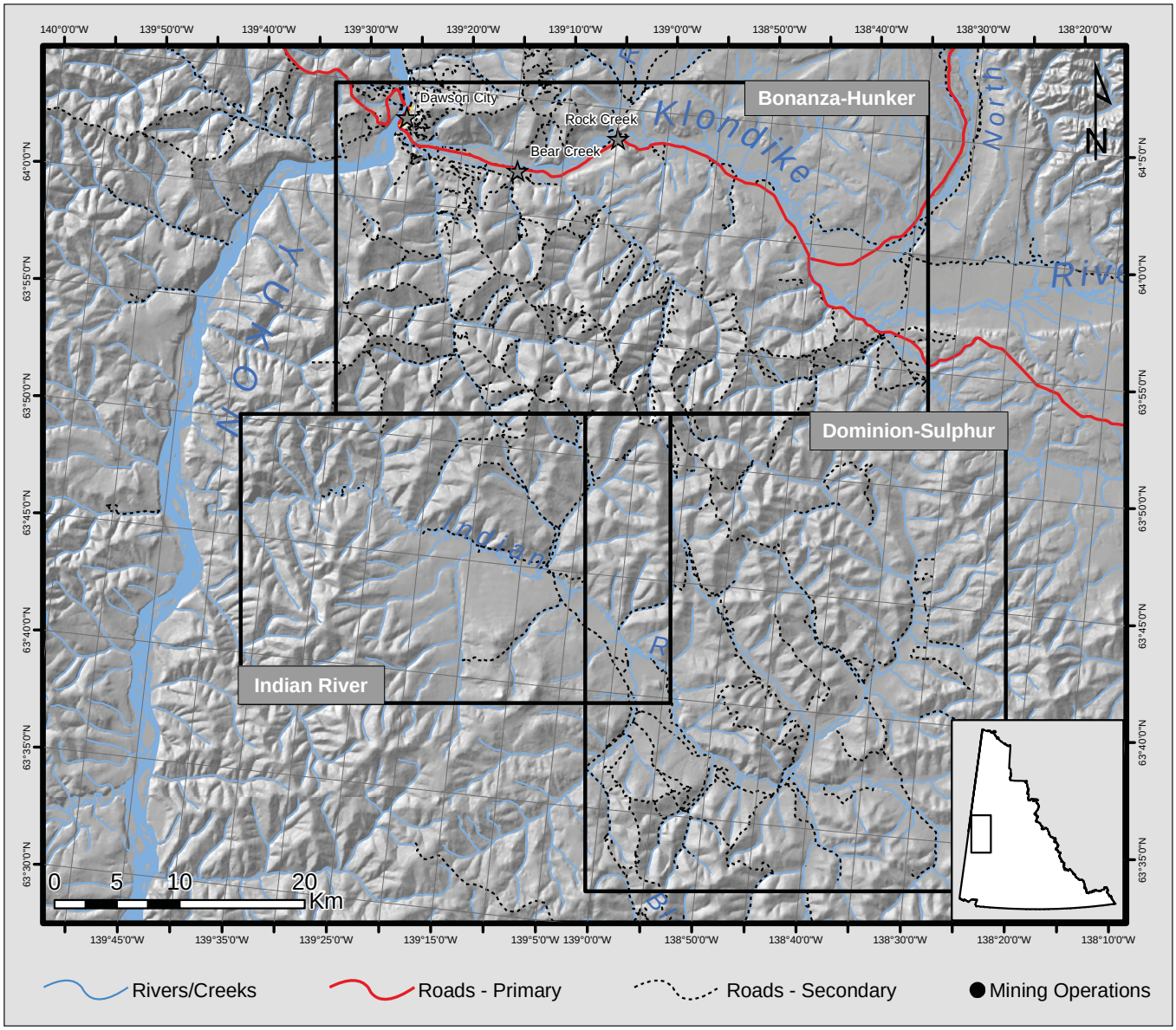
In 2005 Jerry purchased Claim 33, a small gold panning and gift shop located on the Bonanza Creek road. Jerry gradually transformed it into the Claim 33 Goldpanning and Antique Mining Machinery Museum. During his tenure Jerry moved his home and most of his antique equipment down to his new location and he spent most of his summers teaching and entertaining visitors from around the world.

In the spring of 2009, while making plans to return to placer mining on Seven Pup, Jerry was swept away by flood waters while returning home on Bonanza Road. In the fall of 2009 Jerry was honoured posthumously as the 2009 Miner of the Year by the Klondike Placer Miners' Association (KPMA) and inducted into the Prospector's Hall of Fame by the Yukon Prospector's Association.

Rob Deklerk

KLONDIKE PLACER AREAS

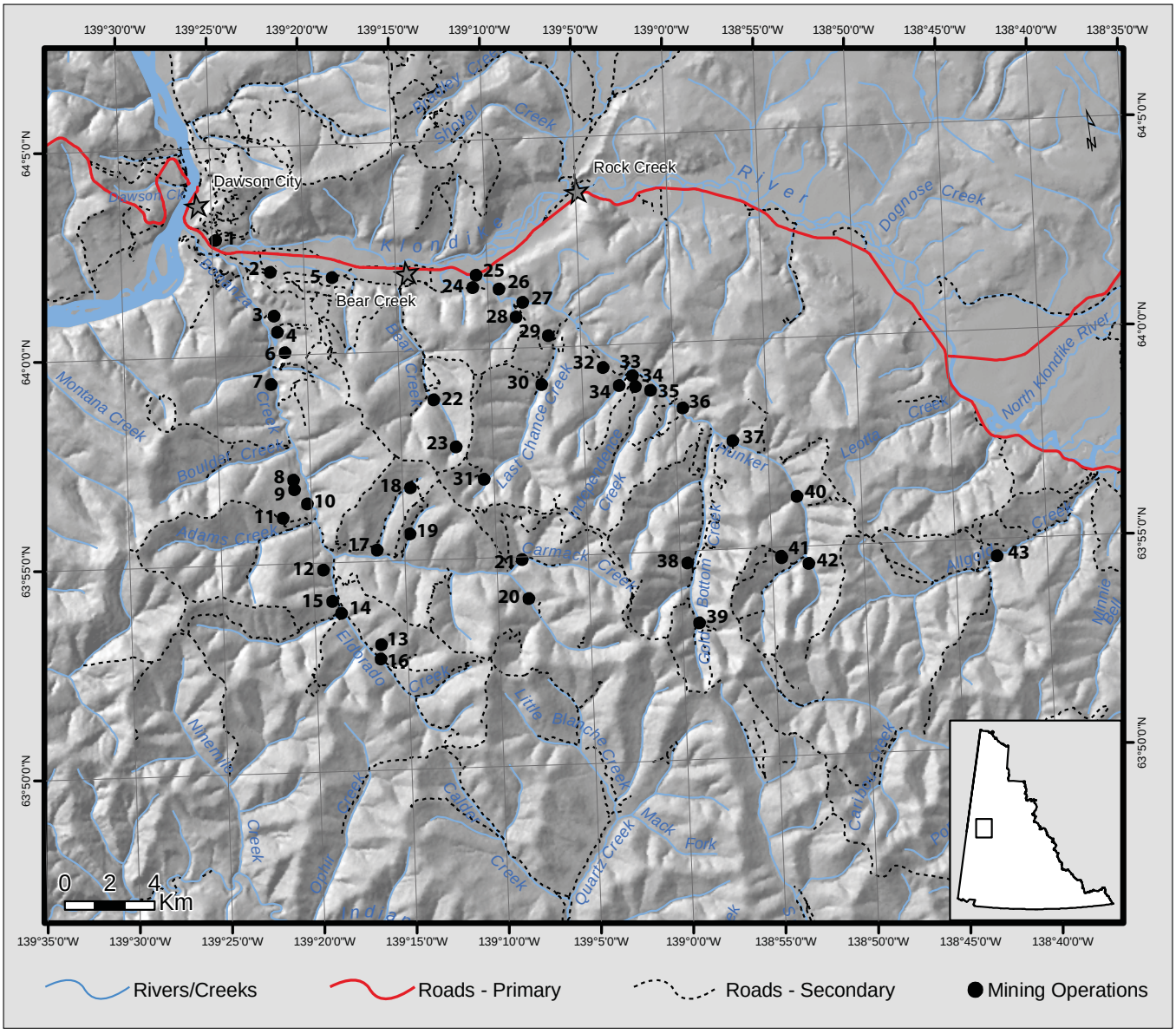
SITES 1 - 78



Inset maps are shown on pages following.

KLONDIKE:
BONANZA-HUNKER
PLACER AREA

SITES 1 - 43



LEGEND

1 ..... Slinky Mining
2 ..... Crawford
3 ..... Nicholson
4 ..... Tim Coles Enterprises Ltd.
5 ..... Ruman
6 ..... Rauguth
7 ..... Kohlman Explorations Ltd.
8 ..... LaBonte
9 ..... Jackson
10 ..... Bonanza Creek Mining
11 ..... Troberg
12 ..... 38945 Yukon Inc.
13 ..... Beron Placers Co. Ltd.
14 ..... Archibald
15 ..... Beron Placers Co. Ltd.
16 ..... Rauguth
17 ..... Tatra Ventures Ltd.
18 ..... Roberts
19 ..... McInroe
20 ..... 6077 Yukon Ltd.
21 ..... 6077 Yukon Ltd.
22 ..... Hawker
23 ..... Roberts
24 ..... T.D. Oilfield Services
25 ..... Farley's Machine Inc.
26 ..... Tatra Ventures Ltd.
27 ..... Henry Gulch Placers
28 ..... Gillespie
29 ..... Favron Enterprises Ltd.
30 ..... Last Chance Placers Ltd.
31 ..... WAM Exploration
32 ..... Tamarack Inc.
33 ..... Crawford
34 ..... Brickner
35 ..... Kosuta
36 ..... Gould
37 ..... Mogul Gold Placers Ltd.
38 ..... Jackson
39 ..... Aimola
40 ..... Erikson and Hayema
41 ..... Ahnert
42 ..... Larose
43 ..... Tatra Ventures Ltd.

Klondike, a tributary of Yukon

116B/3 2009: 64º02'50"N, 139º24'48"W

Slinky Placer Mine, 2002-2005, 2009

Water License: PM98-047 (Active 2010

Water License: PM09-633 (Active 2015)
Active Producer (2007-2009) **Operation no. 1**

Location The property was located on a right limit bench of the Klondike River.

Work History and Mining Cuts In 2009, three miners and three cooks and helpers worked a daily eight-hour shift. The 2009 program consisted of 130 hours of stripping on 7 different cuts. Five cuts were each 10 by 50 by 10 feet (3 by 15 by 3 m) while the remaining two cuts were 40 by 500 by 15 feet (12 by 150 by 5 m).

Equipment and Water Treatment Equipment included an International TD-20E bulldozer, a Koering 266 excavator, a Caterpillar 225 excavator, a GMC dump truck, and a Ford 9000 with a low bed trailer. The wash plant consisted of a Pierson box with two sluice runs, one 2' wide by 10' long and on 2' wide by 12' long. The sluice runs were lined with Coco matting, carpet and 1.5'' angle-iron riffles. Water was supplied at 1200 IGPM by a Perkins-powered 6" to 4" Trash pump, enough to process 12 loose cubic yards (9 m^3) per hour. Water was acquired from dredge tailings ponds, was 100% recycled, and discharged into a 500 by 40 foot (152.4 by 12.2 m), out-of-stream settling pond.

Surficial Geology and Stratigraphy In 2009, the section consisted of 3 to 33 feet (1 to 10 m) of thawed gravel with no overlying muck. From 3 to 6.5 feet (1 to 2 m) of bedrock was sluiced along with several feet of gravel.

Bedrock Geology Bedrock encountered was quartz-mica schist.

Gold Characteristics Gold produced in 2009 was fine-grained with a few various sized nuggets.

Jackson Hill, a tributary of Klondike

115O/3 2007: 63º02'02"N, 139º21'51"W

Crawford, 2005-2009

Water License: PM02-272 (Active 2012)
Active Producer (2007-2009) **Operation no. 2**

Location The operation was located at the base of Jackson Hill on the left limit of Klondike River.

Work History and Mining Cuts In 2007 and 2008, Crawford and a crew of five miners and one camp personnel worked a daily 12-hour shift mining virgin Klondike River gravel on the left limit of Klondike River at the base of Jackson Hill beneath hydraulic tailings and black muck. In 2009, the operation moved up the hill to the base of Jackson Hill, where gravels were sluiced and tailings were discharged into the abandoned Klondike River cut.

Aerial view of Gary Crawford's operation on Klondike River, 2007.

Gary Crawford's operation at the foot of Jackson Hill, 2008.

Equipment and Water Treatment Equipment on site included an Ingersoll & Rand reverse circulation drill, a Caterpillar D10N bulldozer, a Caterpillar 245 excavator, a Samsung 350 excavator, a Caterpillar 988B loader, three Caterpillar 769B rock trucks and two Caterpillar D40D rock trucks. The wash plant was a 6-foot-diameter land-based trommel with two sets of sluice runs each 8 feet wide and 10 feet long, lined with expanded metal and Nomad matting. Water for the operation was acquired from dredge ponds and pumped by a V6 Jimmy-powered 10- by 8-inch Morris pump rated at 3000 igpm. Effluent was discharged to old dredge tailings and 100% recycled with seepage only to dredge ponds. The 2008 operation on Jackson Hill discharged tailings into the previous year's mining cut at the base of the hill.

Surficial Geology and Stratigraphy The Klondike valley section on the left limit consisted of 55 ft (16.8 m) of hydraulic tailings (from 1908, and 1980) overlying 20 ft (6.1 m) of black muck on top of 6 ft (1.8 m) of virgin Klondike River gravel. Organics from the black muck overlying the virgin Klondike gravel were C14 dated at > 45570 years B.P. All of the virgin gravel plus 5 ft (1.5 m) of bedrock was sluiced. The section at the base of Jackson Hill consisted of White Channel gravels which were excavated and processed at the bedrock contact.

Bedrock Geology The bedrock exposed at this site was graphitic and chloritic schist.

Gold Characteristics Gold was reported as dark-coloured and fine-grained with very few nuggets. The purity was 790.

Lovett Gulch, a tributary of Bonanza

116B/3 2009: 64º00'59"N, 139º21'43"W

Nicholson, 1973-2009

Water License: PM06-533 (Active 2016)

Active Producer (2007-2009) **Operation no. 3**

Location The property was situated on Lovett Hill, a high level right limit bench of Bonanza Creek near its mouth. In 1980, Mr. Nicholson began work on a high level bench on Bonanza Creek previously mined by Mr. Berg. In 1981, Mr. Nicholson began working on a property situated on a high level right limit bench of Bonanza Creek, just downstream from Pure Gold Gulch. In 1983, one property was located on Ophir Hill, a high level bench along the right limit of Bonanza Creek, just downstream from the mouth of Pure Gold Gulch. A second property was located on Sourdough Hill, immediately downstream from the mouth of Sourdough Gulch. In 1991, the operation was located on Bonanza Creek at the mouth of Lovett Gulch, a right limit tributary, near the base of Lovett Hill. In 1993, this operation was located at the mouth of Lovett Gulch, a right limit tributary to lower Bonanza Creek. From 1998-2009, Nicholson continued his three to four person operation on the first tier bench of Lovett Gulch, a right-limit tributary to lower Bonanza Creek.

Clive Nicholson's operation at Lovett Gulch on the right limit of Bonanza Creek, 2008.

Work History and Mining Cuts Mr. Clive Nicholson continued his mining operation to the end of the 2009 season. A Yukon miner for nearly 40 years, Mr. Nicholson passed away on March 14, 2010.

Equipment and Water Treatment Equipment used from 2007-2009 included a Caterpillar D9 bulldozer to strip overburden and excavate pay gravel, two Caterpillar 627 scrapers used to strip and stack overburden and waste gravels, and a Caterpillar 920 loader used to feed the wash plant. The wash plant consisted of a 7 foot by 40 foot trommel leading to a single sluice run, measuring 4 feet by 30 feet and lined with Nomad matting and expanded metal riffles. Water was supplied at 800-900 igpm by a 5" by 6" Paramount pump, powered by a Caterpillar 3304 diesel engine, processing 100 loose cubic yards (75 m^3) gravel per hour. Water was 100% recycled through two abandoned mine cuts used as settling ponds, with no discharge to the stream.

Surficial Geology and Stratigraphy The section consisted of up to 60 feet (20 m) of hydraulic tailings washed from the White Channel gravel terrace, overlying 35 to 45 feet (11 to 14 m) of original frozen muck and gravel. Pay gravel was 6 to 10 feet (2 to 3 m) deep and was sluiced along with 3 to 4 feet (0.9 to 1.2 m) of bedrock. Mammoth tusks and bones were found in the muck overburden and in frozen gravel.

Bedrock Geology The bedrock is chloritic quartzite and schist.

Gold Characteristics Gold found in this location is fine-grained with a fineness of 795.

Trail Gulch, a tributary of Bonanza

116B/3 2007: 64º00'35"N, 139º21'34"W

Tim Coles Enterprises Ltd., 2005-2008

Water License: PM01-258 (Active 2012)
Active Producer (2007-2009) **Operation no. 4**

Location The operation was located on Trail Gulch and on Trail Hill.

Work History and Mining Cuts Mr. Coles and 2 to 3 camp personnel worked a daily 12 hour shift between 2007 and 2008. During that time a cut was stripped and sluiced which measured 450 by 100 feet (137 by 31 m), squaring off the toe of the Trail Hill face.

Equipment and Water Treatment In 2007-2009, equipment included a Caterpillar D9H bulldozer and a Caterpillar EL300 excavator for stripping. The Caterpillar EL300 was also used for loading an International Harvester dump truck, which hauled pay and dumped into the trommel. A Caterpillar D8H bulldozer was used to remove tailings from wash plant. The wash plant was a 4 foot diameter land-based trommel with 5/8" screen over a 14 foot wide oscillating sluice, lined with Nomad matting and expanded metal. Water was delivered to the wash plant at 1400 IGPM by a 6" by 6" Cornell pump powered by a Detroit 671 engine. The water was acquired from a nearby dredge pond and 100% recycled through a 10 acre (40 500 m^2) settling pond. Final clean-ups were done using a long tom and gold wheel.

Surficial Geology and Stratigraphy The section exposed on Trail Hill between 2007 and 2008 consisted of 90 feet (27 m) of White Channel gravel, of which the bottom 18 feet (5.5 m) were sluiced, along with 2 feet (0.3 m) of bedrock.

Bedrock Geology Bedrock exposed was a sericite and chlorite schist.

Gold Characteristics Gold recovered 2007-2009 was described as fine-grained with a fineness of 820.

Tim Coles Enterprises Ltd. mining operation on Trail Gulch, 2007.

Quigley Gulch, a tributary of Klondike

116B/3 2009: 64º01'52"N, 139º18'29"W

Ruman, 2009

Water License: PM07-581 (Active 2018)
Active Producer (2007-2009) **Operation no. 5**

Location The operation was located between Quigley Gulch and Jackson Gulch on the left limit of the Klondike River.

Work History and Mining Cuts Mr. Ruman tested some ground at this location in 2009.

Equipment and Water Treatment Not reported.

Surficial Geology and Stratigraphy The area of activity in the Klondike valley near Quigley Gulch consists of a mixture of coarse and fine dredge tailings and in-place black organic muck overlying Klondike River gravels on bedrock.

Bedrock Geology Bedrock is mapped as Nasina quartzite.

Bonanza, a tributary of Klondike

116B/3 2009: 64º00'06"N, 139º21'11"W

Rauguth, 2009

Water License: PM07-584 (Active 2018)

Active Producer (2007-2009) **Operation no. 6**

Location The operation was located on a lower bench of Ophir Hill, located on Bonanza Creek between Cripple Creek and Pure Gold Creek.

Work History and Mining Cuts In 2009, most of the season was spent building infrastructure, access, drainage, pump intake and settling facilities, and moving equipment from Eldorado Creek to Ophir Hill. Mining commenced August 15th and shut down for the season was on October 5th.

Equipment and Water Treatment Most of the equipment used in 2009 came from Mr. Rauguth's previous operation on Eldorado Creek. It included a Hitachi 181 excavator for stripping and cutting pay, a Caterpillar 980 loader for hauling pay to the plant, and a Hitachi HU14 excavator for feeding the plant. A Hitachi HU 20 excavator was used to service and upgrade settling facilities, and a Komatsu E85D bulldozer used for road building, clearing and stripping. The wash plant consisted of a 5 by 14 foot Hull oscillating screen deck feeding into a 6 by 8 foot sluice run using mechanically pulsating riffles. It was powered by a Nissan 50 kva electric engine. Water was supplied by a 6" Gorman Rupp pump powered by a 4 cylinder John Deere engine. Secondary 20 foot long triple sluice runs were installed as well as a 45 foot long conveyor belt to assist with tailings removal from the screen deck. Water was supplied by a 6" by 8" Cornell high pressure pump, powered by a 225 hp Detroit engine, from a self-contained dredge pond. An Ingersoll Rand pump and 200hp Cummings engine were used as back-up.

Surficial Geology and Stratigraphy Mr. Rauguth observed that in an exposure which was 212 feet (65 m) high, there were several levels of intermediate gravel covered benches on bedrock, in increments of 12 feet (3.6 m) and then 5 feet (1.5 m) from the valley bottom to the valley side (uphill). Most of these are actually obscured and were covered by an alluvial fan. Initially, all materials from surface to bedrock were processed, but as mining progressed pay zones were more easily identified and waste was used for fill in previous mine cuts.

Bedrock Geology Bedrock is mapped as quartz-mica schist.

Bonanza, a tributary of Klondike

115O/14 2007: 63º59'21"N, 139º22'00"W

Kohlman Explorations Ltd., 1983-2007

Water License: PM99-087 (Expired 2009)

Active Producer (2007-2009) **Operation no. 7**

Location The property was located along the left limit of Bonanza Creek, on a terrace above the creek level, approximately 2,500 feet (762.0 m) upstream from the mouth of Sourdough Gulch.

Work History and Mining Cuts In 2007, Mr. Twordik and one other miner stripped and mined a cut along the left limit of Bonanza Creek adjacent to the 2006 mine cut.

Equipment and Water Treatment In 2007, equipment included a John Deere 890 excavator, a Lieb Herr 981 excavator, a Fiat Allis 41 bulldozer, a Hough 120 loader and a Terex 50 ton rock truck. The wash plant consisted of a 6-1/2 foot by 40 foot trommel classifying to 1/2 inch, leading to four 16 feet wide, oscillating sluice runs. Water was provided at 2500 igpm by a Cummins 195 diesel engine powered, 8" by 10" Paco water pump, from Bonanza Creek. Approximately 150-200 loose cubic yards (110-150 m^3) gravel was processed per hour, and waste water was settled in two large out-of-stream ponds, with seepage discharge only, made from old mine cuts.

Surficial Geology and Stratigraphy The section generally consisted of 50 feet (15 m) of frozen black muck overlying 16 feet (5 m) of pay gravel along the left limit, while the centre of the valley was covered with dredge tailings with localized remnant pay pockets in bedrock.

Bedrock Geology The bedrock at this site was light greyish and greenish sericite schist (Klondike Schist).

Gold Characteristics Gold from this location was fine grained with some flakes and small nuggets. The bulk fineness was approximately 780.

View of Kohlman Explorations Ltd. mining operation on Bonanza Creek, 2007.

KLONDIKE

115O/14 2009: 63º56'59"N, 139º20'55"W

LaBonte, 2003-2009

Water License: PM02-298 (Active 2013)
Active Producer (2007-2009) **Operation no. 8**

LOCATION This operation was located on the left limit on a White Channel terrace. Sluicing occurred in the Bonanza valley in 2003 to 2005, and moved to the bench from 2006 to 2009.

WORK HISTORY AND MINING CUTS From 2007 to 2009, the two to three person operation was located on a left-limit bench above Bonanza Creek.

EQUIPMENT AND WATER TREATMENT Equipment used from 2007-2009 included a Caterpillar 235 excavator, a Caterpillar loader, bulldozer and a dump truck. Sluicing took place on the bench with no surface discharge.

SURFICIAL GEOLOGY AND STRATIGRAPHY The section consisted of 60 to 90 feet (18 to 27 m) of White Channel gravel on a bedrock terrace.

BEDROCK GEOLOGY The bedrock at this site is mapped as Klondike schist.

Labonte's mining operation on Bonanza Creek, 2008.

BONANZA, A TRIBUTARY OF KLONDIKE

115O/14 2009: 63º56'51"N, 139º20'56"W

Jackson, D., 2004-2009

Water License: PM03-344 (Expired 2009)
Active Producer (2007-2009) **Operation no. 9**

LOCATION The operation was located on American Hill on the left limit of Bonanza Creek.

WORK HISTORY AND MINING CUTS Mr. Jackson actively mined in this location each season between 2007 and 2009.

EQUIPMENT AND WATER TREATMENT In the 2007-2009 mining seasons, equipment included a Bucyrus Erie 20 ton trackhoe, a Caterpillar D824 and D4 bulldozers, a Caterpillar 966 loader and a Clark 125 loader. The wash plant consisted of a 5 foot diameter trommel and a 4 foot by 10 foot single screen deck over 4 foot by 10 foot sluice runs, lined with Nomad matting and expanded metal. Water was acquired from Bonanza Creek and effluent was 100% recycled out-of-stream.

SURFICIAL GEOLOGY AND STRATIGRAPHY The section consisted of 80 feet (20 m) of White Channel gravel on bedrock, on the bench above Bonanza Creek valley. The bottom 4 to 6 feet (1 to 2 m) of gravel and 2 to 4 feet (0.6 to 1 m) of bedrock were sluiced.

BEDROCK GEOLOGY Bedrock is mapped as Klondike Schist.

GOLD CHARACTERISTICS Gold from this location was fine-grained with a bulk fineness of 800.

Doug Jackson's mining operation on American Hill, 2009.

BONANZA, A TRIBUTARY OF KLONDIKE

115O/14 2008: 63º56'28"N, 139º20'14"W

Bonanza Creek Mining, 2002-2009

Water License: PM02-300 (Active 2013)
Active Producer (2007-2009) **Operation no. 10**

LOCATION This operation was located in the valley of Bonanza Creek and on Magnet Hill on the left limit of Bonanza Creek.

WORK HISTORY AND MINING CUTS From 2007 to 2009, various locations along the valley of Bonanza Creek upstream of YCGC Dredge #4 were mined, as well as some areas of White Channel Gravel on the left limit bench.

EQUIPMENT AND WATER TREATMENT Equipment used from 2007-2009 included a Samsung 288LC excavator used for loading two 350 International Payhauler dump trucks, Caterpillar D8 and D9 bulldozers for stripping, a Caterpillar loader to remove tailings, and a Halla excavator to feed the sluice plant. The wash plant consisted of an oscillating single screen deck with a hopper and two sluice runs with angle iron and hydraulic riffles.

Bonanza Creek Mining operated just upstream of Dredge #4 on Bonanza Creek, 2008.

Surficial Geology and Stratigraphy The section on the left limit was a 100 foot (30 m) thick sequence of White Channel gravel on bedrock. The sections in the valley were a mixture of old-timers' tailings, dredge tailings, dredge pond silt and virgin gravel on bedrock. The original thickness of the gravel was 12 feet (3.7 m).

Bedrock Geology Bedrock is mapped as Klondike Schist. In the vicinity of the operation it was extremely undulating and variable.

View of Bonanza Creek Mining's wash plant, 2008.

Bonanza, a tributary of Klondike

115O/14 2009: 63º58'08"N, 139º21'34"W

Troberg, 1950-1955, 1981-1984, 1989-1992, 2006-2009

Water License: PM00-173(2010)
Active Producer (2007-2009) **Operation no. 11**

Location In 1981, the property was situated along the left limit of Bonanza Creek, just below its confluence with Boulder Creek. It occupies a broad embayment in the Bonanza Creek Valley wall between Boulder and 49 Hills. After 1989 the operation was working on the left limit bench of Bonanza Creek, immediately downstream of Boulder Creek. From 2007-2009, the operation was located approximately 500 metres downstream of the mouth of Boulder Creek on the left limit of Bonanza Creek.

Work History and Mining Cuts The operation was active in the seasons 2007 to 2009.

Equipment and Water Treatment Equipment included a wheeled loader for feeding the wash plant and a bulldozer for stripping and removing tailings. The wash plant was a dump box with two sluice runs.

Aerial view of Ralph Troberg's operation on the left limit of Bonanza near Boulder Creek, 2008.

Surficial Geology and Stratigraphy The left limit bench below Boulder Creek was about 160 vertical feet (50 m) above Bonanza Creek, and the cut has progressed about 300 feet (90 m) back from the rim. The overburden near the rim was about 10 feet (3 m) deep, but thinned down farther back. The gravel layer was about 40 feet (12 m) deep near the rim, but increased to about 90 feet (27 m) of White Channel near the back of the cut. The bottom 15 feet (4.5 m) of gravel and about 2 feet (0.6 m) of bedrock were processed.

Bedrock Geology Bedrock is blocky-weathering quartz-muscovite schist.

Gold Characteristics The gold recovered in the valley was fine grained but the bench gold was coarser. The fineness was 796.

Eldorado, a tributary of Bonanza

115O/14 2008: 63º54'52"N, 139º19'28"W

38945 Yukon Inc., 2007-2009

Water License: PM05-503 (Active 2016)

Active Producer (2007-2009) **Operation no. 12**

Location The operation was located near the mouth of Eldorado Creek at the base of Gold Hill.

Work History and Mining Cuts A cut approximately 400 by 300 feet (120 by 90 m) was taken from the left limit of Eldorado Creek in the 2007-2009 mining seasons. Pay was stockpiled and hauled up to the plant on Gold Hill for sluicing.

Equipment and Water Treatment Equipment used in 2007-2009 included four bulldozers, two Caterpillar excavators, a Komatsu excavator and a rock truck. The wash plant was a skid-mounted trommel with a tailings stacker.

Surficial Geology and Stratigraphy The section consisted of 60 feet (18 m) of hydraulic tailings overlying 15 feet (4.5 m) of silt and muck overlying 5 to 10 feet 1.5 to 3 m) of virgin gravel. All of the gravel was sluiced.

Bedrock Geology Bedrock was slabby quartzite.

Gold Characteristics Gold was bright, flattened and medium to coarse-grained (14 to 4 mesh) with a fineness of approximately 750.

38945 Yukon Ltd.'s mining operation on the left limit of Eldorado, 2009. The wash plant can be seen at the bottom centre of the photo.

Oro Grande Gulch, a tributary of Eldorado

115O/14 2008: 63º53'02"N, 139º16'26"W

Beron Placers Co. Ltd., 1991-1997, 2007-2009

Water License: PM05-507 (Active 2016)
Active Producer (2007-2009) **Operation no. 13**

Location This operation moved between various locations in the Eldorado Creek valley, Oro Grande Gulch and Nugget Gulch during the years 1991 to 1997. In 2009 the operation was located on Oro Grande Gulch near Bernie Johnson's cabin.

Work History and Mining Cuts Beron Placers prepared a cut at Oro Grande Gulch while they were mining downstream on Eldorado. In 2009, mining began on Oro Grande.

Equipment and Water Treatment Equipment used from 2007-2009 included a Caterpillar 245 excavator, a Caterpillar D8K bulldozer, a Caterpillar D6C bulldozer, and a Caterpillar 950 loader. Pumps providing water included a GM 471 powered Monarch pump, a Deutz powered Berkeley pump, a GM V-871 powered 10" by 8" Paco pump, and an Isuzu powered Worthington pump. The wash plant consisted of a 20' by 4' vibrating grizzly feeder over two 4' by 10' sluice runs with a 24" conveyor belt for removing tailings. The sluice runs were lined with Nomad matting, expanded metal and angle iron riffles. Water was supplied to the plant at 2500 igpm, enough to wash approximately 80 loose cubic yards of gravel per hour. Water was acquired from Eldorado Creek and effluent settled in a 200 by 50 feet (61 by 15.2 m) pond with final discharge into ground. Clean-ups were done using a long tom, a Wilfley concentrating table and a furnace.

Surficial Geology and Stratigraphy The stratigraphic section consisted of 35 to 55 feet (11 to 17 m) of slide rock and black muck overlying a 2 foot (0.6 m) pay layer of gravel on bedrock. All of the gravel was sluiced.

Bedrock Geology Bedrock was decomposed schist.

Gold Characteristics Gold from Oro Grande Gulch was rough and angular with lots of quartz attached.

French Gulch, a tributary of Eldorado

115O/14 2009: 63º53'49"N, 139º18'33"W

Archibald, 1978-2009

Water License: PM05-490 (Active 2010)
Active Producer (2007-2009) **Operation no. 14**

Location The operation was located on French Gulch and just downstream of the mouth of French Gulch in the Eldorado Creek valley.

Work History and Mining Cuts Mr. Archibald sluiced in the Eldorado valley at the mouth of French Gulch and made cuts along the left limit of Eldorado creek at the valley bottom. SettlinG/recycle ponds were located near the middle of the Eldorado valley with the Eldorado creek channel along the left limit and French Gulch along the right limit.

Equipment and Water Treatment Equipment used in 2007-2009 included a Caterpillar D6C bulldozer used for road building and maintenance, a Caterpillar D8K bulldozer used for stripping and excavating, and a Caterpillar 980B front-end loader to stock tailings and feed the wash plant. The wash plant consisted of a 10 by 12 foot Derocker with 2 1/2" openings leading to a single sluice run, measuring 2 1/2' wide and 24' long, with a slope of 2" every 12 feet, and lined with 2 1/2" angle iron riffles. Water was supplied at 1300 IGPM by a 471 Detroit diesel powered, 8" by 10" Fairbanks Morris pump, washing 55 loose cubic yards per hour. Effluent was recycled through two large settling ponds, covering 2 acres (8100 m^3) surface area, which are cleaned each fall, and an instream reservoir in French Gulch.

Surficial Geology and Stratigraphy Deposits along the left limit of Eldorado Creek consisted of frozen 1927-era dredge tailings up to 33 feet (10 m) thick, which covered residual virgin pay gravel with a thickness from 2 feet (0.6 m) to 15 feet (5 m) near the rim. Up to 40 feet (10 m) of White Channel gravel hydraulic tailings from operations on French Hill covered virgin gravel on the left limit of French Gulch.

Bedrock Geology Bedrock is a quartz-chlorite-sericite schist and black carbonaceous pyritic schist.

Gold Characteristics Gold from this location varies from minus 16 mesh below dredge tailings to plus 16 mesh on side pay, and the fineness was 710 to 760.

Eldorado, a tributary of Bonanza

115O/14 2008: 63º54'07"N, 139º19'01"W

Beron Placers Co. Ltd., 1975-1990, 2006-2009

Water License: PM04-458 (Active 2015)
Active Producer (2007-2009) **Operation no. 15**

Location In 1977, Beron Placers mined on Claim No. 11, immediately below the mouth of Gay Gulch. In 1986, the property was located just downstream from Nugget Gulch. In 1989, the operation was located between Oro Grande Gulch and Nugget Gulch. From 2006 to 2009, the operation was on a left limit bench between Irish Gulch and French Gulch.

Work History and Mining Cuts In 2007-2009, two miners and two camp personnel worked a daily 12 hour shift. A single mine cut was stripped and sluiced, measuring 100 by 250 feet (31 by 76 m).

Equipment and Water Treatment Equipment used from 2007-2009, included a Caterpillar 245 excavator, and Caterpillar D8K bulldozer, a Caterpillar D6C bulldozer, and a Caterpillar 950 loader. Pumps providing water included a GM 471 powered Monarch pump, a Deutz powered Berkeley pump, and an Isuzu powered Worthington pump. The wash plant consisted of hopper feeding an Allis Chalmers 5' by

Beron Placers mined on a White Channel Gravel terrace on the left limit of Eldorado Creek from 2006 to 2009.

12' single deck then onto four 4' by 10' sluice runs and disposing of material using a 36" wide conveyor belt. The sluice runs were lined with Nomad matting, expanded metal and angle iron riffles. Water was supplied to the plant at 2500 igpm by a GM V-871 powered 10'' by 8'' Paco pump, washing 80 loose cubic yards of gravel per hour. Water was acquired from Eldorado Creek and effluent settled in a pond 200 by 50 feet (61 by 15.2 m) with final discharge into the ground. Clean-ups were done using a long tom, a Wilfley concentrating table and a furnace.

Surficial Geology and Stratigraphy The stratigraphic section on the left limit bench of Eldorado from 2007 to 2009 was partially frozen to completely frozen. A 6 foot (1.8 m) organic/muck layer overlaid 40 feet (12.2 m) of White Channel gravel. The bottom 15 feet (4.6 m) on bedrock was sluiced.

Bedrock Geology Bedrock was described as a decomposed chlorite schist.

Gold Characteristics Gold recovered from 2007 to 2009 was granulated with a fineness around 720. It had a grotty appearance which was not suitable for jewelry.

Eldorado, a tributary of Bonanza

115O/14 2008: 63º52'42"N, 139º16'28"W

Rauguth, 2006-2008

Water License: PM03-328 (Closed 2009)
Active Producer (2007-2009) **Operation no. 16**

Location The operation was located on Eldorado Creek, between Oro Grande Gulch and Gay Gulch.

Work History and Mining Cuts In 2007-2008, Mr. Rauguth used a crew of four miners working a 10 hour daily shift from June 1 to September 30. In the process of mining, a portion of the Eldorado Creek road was relocated farther up the right limit.

Equipment and Water Treatment In 2007-2008, equipment included a Hitachi 181 excavator used to strip and cut pay gravel, a Hitachi HU14 excavator to feed the plant, and a Caterpillar 980 loader to transport pay gravels. The wash plant consisted of a 5 by 14 foot Hull oscillating screen deck feeding into a 6 by 8 foot sluice run using mechanically pulsating riffles. It was powered by a Nissan 50 kva electric engine. Water was supplied by a 6" Gorman Rupp pump powered by a 4 cylinder John Deere engine.

Surficial Geology and Stratigraphy Material processed in 2007-2008 included previously-mined tailings and bedrock. It was composed of 70% bedrock and flat large slide rock, 20% fine sand, soil, and slide material, and 10% creek gravel. The slide material contained random and intermittent pay zones.

Bedrock Geology Bedrock encountered is muscovite-chlorite-quartz-feldspar schist.

Gold Characteristics Mr. Rauguth recovered some coarse gold, 20 mesh and larger in size, and the bulk fineness was 750.

Erich Rauguth mined on the right limit of Eldorado Creek from 2006 to 2008.

Gauvin Gulch, a tributary of Upper Bonanza

115O/14 2009: 63º55'18"N, 139º16'30"W

Tatra Ventures Ltd., 2007-2009

Water License: PM03-308 (Active 2013)
Active Producer (2007-2009) **Operation no. 17**

Location This operation was located on Gauvin Gulch, 1300 feet (400 m) from the mouth.

Work History and Mining Cuts Tatra Ventures Inc.'s Gauvin Gulch operation employed between 1 and 3 miners, working a daily 11 hour shift. From 2007 to 2009, a mine cut 400 by 60 by 38 feet (122 by 18 by 12 m) deep was stripped and sluiced. In 2007, the activity was primarily stripping with a total of 20% of the mine cut being sluiced. In 2008, stripping was completed and the remaining pay gravel was sluiced, and in 2009 further testing along the right limit of Gauvin Gulch was done.

Equipment and Water Treatment Equipment in 2007-2009 included a Caterpillar 225 excavator for feeding the wash plant, a Kubota 161 excavator, a Caterpillar 235B excavator for loading haul trucks as well as stripping, a Caterpillar D9H bulldozer and D9G bulldozer for stripping, a Caterpillar D7E bulldozer for building and maintaining roads and removing tailings, and two articulating rock trucks (DJB-D330B and DJB-D350) for hauling both pay and waste gravels. The wash plant consisted of a 10 by 20 foot Derocker with a 3/4" screen leading to a oscillating sluice run, measuring 16 feet wide and 12 feet long and lined with Nomad matting and expanded metal riffles. An 8" to 10" Berkley pump, powered by a Detroit 6-71 diesel engine, supplied water at 2500 IGPM to allow a processing rate of 80 loose cubic yards (61 m^3) gravel per hour. Water was acquired from Upper Bonanza Creek and 90% recycled through an instream settling pond, measuring 800 feet by 200 feet (243.8 by 61 m), before final discharge into Gauvin Gulch. Clean-ups were done using a dual cell jig and gold wheel.

Surficial Geology and Stratigraphy The stratigrphic section in 2007-2009 was frozen and contained a wide variety of overlying materials, including muck, gravel, organics and slide rock. The gravel layer was 3 to 6 feet (0.3 to 1.8 m) thick, all of which was sluiced.

Bedrock Geology Bedrock was decomposed and fractured chlorite schist.

Gold Characteristics Gold recovered between 2007 and 2009 was described as rough and coarse-grained with a fineness of 663. Most of the gold (55%) was less than 20 mesh in size, 35% was between 12 and 18 mesh, and the remaining 10% was larger than 10 mesh.

Gauvin Gulch, a tributary of Upper Bonanza

115O/14 2009: 63º56'46"N, 139º14'34"W

Roberts, 1996-2009

Water License: PM02-286 (Expired 2008)
Active Producer (2007-2009) **Operation no. 18**

Location This operation was located on upper Gauvin Gulch about 2.5 miles (4 km) upstream from its confluence with Upper Bonanza Creek.

Work History and Mining Cuts Mr. Roberts worked a daily shift during each season.

Equipment and Water Treatment Equipment included a TD8 International bulldozer, a 721 BobCat, a Case 480E excavator, a Terex 71-51 loader, a Ford 15-cubic-yard-capacity dump truck and a Bucyrus-Erie 22B dragline. A

Between 2007 and 2009, Tatra Ventures Ltd. mined a cut on Gauvin Gulch, a right limit tributary of Upper Bonanza Creek.

Case 220B excavator was purchased in 2006. The Case 480E excavator fed the wash plant, while the TD8 International bulldozer was used to scrape pay from the cut bank. The 721 BobCat was used for small reclamation jobs. The dump truck was used to remove tailings after they were dried out and stacked against the hillside. The wash plant was fed at a rate of 12 to 15 loose cubic yards per hour and consisted of a single screen deck over a single run sluice 20 feet long and 2 feet wide, lined with hydraulic riffles. Water for the sluice was pumped by a Deutz-powered 4-inch Gorman Rupp pump. Cross-valley dams were built to capture run-off which was used for sluicing. Effluent was settled into an upper pond, which was regularly bailed out with the Bucyrus-Erie dragline. The second pond further settled material and the lower pond was a reservoir out of which water was pumped back up the hill to the sluice. Clean-ups were done with a 5-foot-diameter gold wheel once or twice a month.

Surficial Geology and Stratigraphy The mining exposure consisted of a buried alluvial terrace which was cut by the gulch. It was comprised of a coarse gravel layer 10 to 30 feet (3.1 to 9.1 m) thick, with large rounded quartz boulders up to 6 feet (1.8 m) in diameter. All of the gravel was sluiced.

Bedrock Geology Bedrock at this site was wavy quartz-sericite schist. Bedrock slabs were found in the rust-coloured gravel at all levels.

Gold Characteristics The gold recovered was described as coarse-grained, with a fineness of 664.

Homestake Gulch, a tributary of Upper Bonanza

115O/14 2009: 63º55'40"N, 139º14'41"W

McInroe, 2006-2009

Water License: PM03-306 (Active 2013)
Water License: PM08-615 (Active 2015)
Active Producer (2007-2009) **Operation no. 19**

Location The operation was located on Homestake Gulch.

Work History and Mining Cuts Mr. McInroe actively mined a cut in the seasons 2007 to 2009.

Equipment and Water Treatment Equipment used in 2007-2009 mining seasons included a Kobelco 250 excavator to strip ground and feed the wash plant, which was a land-based trommel. The plant had sluice runs 7 feet wide and 8 feet long, lined with hydraulic riffles, expanded metal and Nomad matting. Water was acquired from Homestake Gulch and supplied by a Perkins-powered 5- by 4-inch Ajax pump rated at 700 igpm. Effluent water was 100% recycled.

Surficial Geology and Stratigraphy The frozen section consisted of 10 to 20 ft (3.0 m to 6.1 m) of black muck overlying 2 to 6 ft (0.6 m to 1.8 m) of gravel on bedrock. The lower 2 ft (0.6 m) of gravel plus 1 ft (0.3 m) of bedrock was sluiced.

Bedrock Geology Bedrock is mapped as Klondike Schist.

View of Dave McInroe's operation on Homestake Gulch in 2009.

Upper Bonanza, a tributary of Bonanza

115O/14 2009: 63º54'01"N, 139º08'19"W

6077 Yukon Ltd., 1990-2009

Water License: PM06-515 (Active 2016)
Active Producer (2007-2009) **Operation no. 20**

Location In 1990, the operation was located on Upper Bonanza Creek upstream from Victoria Gulch. In 2009, the property was located on Upper Bonanza Creek in the valley bottom, approximately one km from the confluence with Carmack Fork.

Work History and Mining Cuts Two miners stripped and mined ground on the left limit of Upper Bonanza Creek upstream of Carmack Fork.

Equipment and Water Treatment Equipment included a Caterpillar D8H bulldozer, a Caterpillar 980 loader, a Caterpillar 235 excavator and a 4" hydraulic monitor. A Galion grader was used for maintaining roads including the Upper Bonanza road. The wash plant consisted of a 6 ft by 8 ft' shaking 1" screen deck leading to sluice run lined with hydraulic riffles. Water was supplied at 1000 igpm by a 6 inch Perkins-powered pump. The water used was not recycled and the effluent was settled instream. Clean-ups were done using a Spriggs jig.

Surficial Geology and Stratigraphy The section consisted of frozen black muck 15 to 20 ft (4.6 to 6 m) thick overlying 6 to 8 ft (1.8 to 2.4 m) of pay gravel. All of the gravel plus 1 to 2 ft (0.3 to 0.6 m) of decomposed bedrock were sluiced.

Bedrock Geology Bedrock was chloritic quartzite and muscovite-chlorite schist.

Gold Characteristics The gold is generally fine-grained with a fineness of 750.

6077 Yukon Inc.'s mining operation on Upper Bonanza Creek in 2009.

Carmack Fork, a tributary of Upper Bonanza

115O/14 2009: 63º54'58"N, 139º08'26"W

6077 Yukon Ltd., 1997-2004, 2009

Water License: PM06-542 (Active 2017)

Active Producer (2007-2009) **Operation no. 21**

Location In 1997, Dave Trainer and Barbara Coomes started mining on Carmack Fork, about ½ mile upstream from its confluence with the right limit of upper Bonanza Creek. Between 2003 and 2004, mining took place on Lafferty Pup, Flannery Pup and Carmack Fork. In 2009, mining resumed on Carmack Fork.

Work History and Mining Cuts In 2009, two miners stripped and mined a 50 by 200 feet (15 by 61 m) mining cut.

Equipment and Water Treatment In 2009, equipment included a Caterpillar D8H bulldozer used for stripping and transporting pay gravel, a Caterpillar 980 loader used to remove tailings, a Caterpillar 235 excavator used to feed the wash plant and a 4" hydraulic monitor which was used for 50% of the stripping. A Galion grader was used for maintaining roads including the Upper Bonanza road. The wash plant consisted of a 6 ft by 8 ft' shaking 1" screen deck leading to sluice run lined with hydraulic riffles. Water was supplied at 1000 igpm by a 6 inch Perkins-powered pump. The water used was not recycled and the effluent was settled instream. Clean-ups were done using a Spriggs jig.

Surficial Geology and Stratigraphy The stratigraphic section in 2009 consisted of 10 feet (3 m) of frozen organics overlying 3 feet (1 m) of frozen gravel. All of the gravel and 3 feet (1 m) of decomposed bedrock were sluiced.

Bedrock Geology Bedrock was chloritic quartzite and muscovite-chlorite schist.

Gold Characteristics In 2009, the gold ranged in size from fine-grained to half-ounce nuggets with a bulk fineness of 670.

Lindow, a tributary of Bear

115O/14 2007: 63º58'51"N, 139º13'09"W

Hawker, 2006-2009

Water License: PM04-388 (Valid 2015)

Water License: PM05-506 (Active 2015)

Active Producer (2007-2009) **Operation no. 22**

Location The operation was located on Lindow Creek downstream of Alf Robert's operation.

Work History and Mining Cuts From 2007 to 2009, three miners and one cook/helper worked a 12 hour shift each day, stripping and mining a single cut per season. In 2007 the cut measured 600 by 100 feet (183 by 31 m), in 2008 it was 1200 by 100 feet (366 by 31 m), and in 2009 the cut was 750 by 75 feet (230 by 23 m). Mining finished up in 2009.

Aerial view of Frank and Karen Hawker's mining operation on Lindow Creek in 2009.

Equipment and Water Treatment In the 2007-2009 mining seasons, equipment included a Hitachi EX300 excavator, a Hitachi EX200 excavator, a Hitachi ZX200 excavator, a Komatsu D375 bulldozer, and a Caterpillar D30D rock truck. The bulldozer and excavators were used primarily for stripping and the rock truck for hauling pay gravel. There were two land-based trommels, one 4 feet in diameter and the other 5 feet in diameter. Two sluice runs, each 7 feet wide by 8 feet long, were lined with hydraulic riffles. Water was supplied to the plants by a Indeng 6" by 6" pump at 1200 IGPM, powered by a Caterpillar 3208 engine, processing 90 loose cubic yards (70 m^3) of gravel per hour. Water was acquired from both Bear Creek and Lindow Creek and discharged into both instream and out of stream settling ponds measuring 100 by 250 feet (30.5 by 76.2 m) and 150 by 300 feet (45.7 m by 91.4 m). Processing water was 80% recycled with final discharge into Bear Creek. Clean-ups were done daily using a long tom and gold wheel.

Surficial Geology and Stratigraphy The stratigraphic section from 2007-2009 was frozen and consisted of 35 feet (10.7 m) of organic black muck overlying 5 feet (1.5 m) of gravel. Sluiced material included 4 feet (1.2 m) of gravel and 1 to 6 feet (0.3 to 1.8 m) of bedrock. The paystreak was narrow and heavily worked by the 'old timers'.

Bedrock Geology The bedrock is mapped as Klondike Schist.

Gold Characteristics Gold recovered from Lindow Creek was mostly coarse, ranging in size between -4 and +20 mesh, with a purity of 640 fine.

Lindow, a tributary of Bear

115O/14 2007: 63º57'45"N, 139º12'01"W

115O/14 2009: 63º57'45"N, 139º12'01"W

Roberts, 2003-2009

Water License: PM03-334, AP03334 (Closed 2008)

Water License: PM07-554 (Active 2013)

Active Producer (2007-2009) **Operation no. 23**

Location This operation was located on upper Lindow Creek, a tributary of Bear Creek.

Work History and Mining Cuts Alf and Marlene Roberts were active on the property for each season from 2007 to 2009.

Equipment and Water Treatment Alf and Marlene Roberts equipment included a Caterpillar D8H bulldozer with U-blade and no ripper for stripping and pushing pay, an International 125C track loader with a 1-1/2 cubic yard bucket and ripper for loading the wash plant and a Bay City dragline with a 3/4-cubic-yard bucket for moving overburden and cleaning out the settling ponds. The wash plant was a 5 by 10 foot wet double screen shaker with 2-inch openings on the top and 1-inch openings on the bottom. This fed to an 18 inch by 20 foot sluice run with Nomad matting, of which the first 12 feet was inclined at 1 1/2 inch to 1 foot grade and lined with 4 lb expanded metal, and the last 8 feet was inclined at 3 inches to 1 foot and lined with 1 inch riffles. Water for the plant was supplied at 600 igpm by a Gorman Rupp 6 inch pump powered by a GM 353 diesel engine, enough to process 20 loose cubic yards per hour. Clean-ups were done once weekly with a wash tub, long tom and gold wheel. Effluent was settled out-of-stream and 100% recycled.

Surficial Geology and Stratigraphy The stratigraphic section mainly consisted of 1 foot (0.3 m) of moss and dirt over 6 feet (2 m) of gravelly slide rock overlying 11 feet (3.5 m) of gravel. The valley side had up to 18 feet (5.5 m) of overburden. A 5-foot (1 m) thickness of gravel was sluiced.

Bedrock Geology Bedrock is mapped as Permian quartzite and schist.

Alf and Marlene Roberts' mining operation on upper Lindow Creek in 2009.

Gold Characteristics Mr. Roberts recovered rough and chunky 'gulch' gold up to 10 mesh in size. The fineness was reported as 658.

Hunker, a tributary of Klondike

116B/3	2008: 64º01'26"N, 139º10'09"W
116B/3	2009: 64º01'30"N, 139º10'48"W

T.D. Oilfields Services Ltd. 1996-2009

Water License: PM04-382 (Active 2015)
Active Producer (2007-2009) **Operation no. 24**

Location This operation was located at the mouth of Hunker Creek in 1996, and continued upstream in 1997. Between 1998 and 2009, it was located close to the mouth of Hunker Creek and on the left limit of Klondike River valley.

Work History and Mining Cuts In 2007, two cuts were stripped and sluiced and in 2009, three cuts were stripped and sluiced, measuring 150 by 500 feet (45.7 by 152.4 m), 300 by 400 feet (91.4 by 121.9 m), and 100 by 1000 feet (30.5 by 304.8 m). Work was done by 8 miners with a cook at camp during a daily 12 hr shift.

Equipment and Water Treatment From 2007 to 2009 equipment included a Caterpillar D10W bulldozer, two Caterpillar D9H bulldozers, two Caterpillar 980C loaders, a Caterpillar 980B loader, three Caterpillar 769C rock trucks, a Hitachi 450 excavator, and a Caterpillar 330 excavator. The wash plant consisted of a 25 cubic yard hopper feeding a 5' by 10' Clemro screen, leading to eight sluice runs, each 2' wide by 20' long, and tailings are removed by a 36" by 80' conveyor. Water was supplied at 3500 igpm by a 10" by 12" Berkeley pump, powered by a Caterpillar 3208 engine, washing 100 loose cubic yards (76.5 m^3) of gravel per hour. Water was 100% recycled through an 800 by 1000 foot (243.8 by 304.8 m) settling pond throughout the season. Clean-ups were done daily.

Surficial Geology and Stratigraphy From 2007-2009, the frozen stratigraphic section in the valley consisted of 10 feet (3 m) of black muck overlying 30 feet (9 m) of mud/sand followed by 6 feet (1.8 m) gravel. All of the gravel and 2 feet (0.6 m) of bedrock were sluiced. An intermediate level bench on the left limit consisted of up to 30 feet (9 m) of black muck overlying 9 to 15 feet (3 to 4.5 m) of quartz rich, white/orange stratified sandy gravel on top of a quartz-carbonate-altered quartz mica schist.

Bedrock Geology Bedrock varied from quartz-carbonate altered mica schist to chloritic and graphitic schist.

Gold Characteristics Gold recovered in 2009 was fine-grained and rough with a fineness of 750.

Loading pay at T.D. Oilfields Klondike River operation in 2009.

Aerial view of T.D. Oilfields operation on the left limit of Klondike River in 2008.

Hunker, a tributary of Klondike

116B/3 2007: 64º01'48"N, 139º10'35"W

Farley's Machine Inc., 1998-2007

Water License: PM04-440 (Active 2015)

Active Producer (2007-2009) **Operation no. 25**

Location This operation was located at the mouth of Hunker Creek immediately next to the Klondike Highway.

Work History and Mining Cuts In 2007, a volume of stockpiled pay gravel was sluiced.

Equipment and Water Treatment Equipment used by Mr. Farley in 2007 included a Caterpillar 235 excavator, a Caterpillar EL-300 excavator, an O&K RH 75 excavator, a Caterpillar D8K bulldozer, a Komatsu 355 bulldozer, and a Caterpillar 769 dump truck. The operation used full recycling with wastewater sluiced into the mine pit.

Surficial Geology and Stratigraphy The top 14 feet (4.3 m) of gravel was wasted and the lower 5 feet (1.5 m) of gravel and 3 feet (0.9 m) of bedrock was sluiced. The bottom 15 feet (4.6 m) of the profile was found to be frozen in areas, and the water table was near the surface which required continuous dewatering.

Bedrock Geology The bedrock was graphitic schist.

Gold Characteristics The gold at this location was 80 to 90% minus 10 mesh with the remainder plus 10 mesh. It was typically flat, rough and dull with a fineness of 780.

Farley's Machine on Klondike River in 2007.

Hunker, a tributary of Klondike

116B/3 2007: 64º01'27"N, 139º09'23"W

116B/3 2008: 64º01'18"N, 139º09'13"W

116B/3 2009: 64º01'37"N, 139º09'27"W

Tatra Ventures Ltd., 2007-2009

Water License: PM06-545 (Active 2012)

Active Producer (2007-2009) **Operation no. 26**

Location The operation was located on the right limit of Hunker Creek at the foot of Australian Hill.

Work History and Mining Cuts From 2007-2009, five crew members worked a daily 11 hour shift. A total of 9 cuts were made over the three mining seasons, with a yearly average of 2000 by 150 feet (610 by 46 m), ranging from 24 to 65 feet (7 to 20 m) in depth.

Equipment and Water Treatment Equipment used in 2007-2009 included a Caterpillar 235B excavator and a Caterpillar 235C excavator for stripping and loading haul trucks, a John Deere 230 CLC excavator to feed the wash plant, a Caterpillar D9H bulldozer, a Caterpillar D7E bulldozer, and a Caterpillar D9G bulldozer for stripping and maintaining waste piles, a Caterpillar 980B loader to remove tailings and load haul trucks, a Caterpillar 621 scraper and a Caterpillar 631 scraper for stripping, three articulating rock trucks (DJB-D350, DJB-D330B, DJB-D25B) to haul pay, and an 8" auger drill for testing. The wash plant consisted of a 5 by 12 foot, single deck, Hull oscillating screen with a 3/4" punch plate, a 2 foot wide and 40 foot long conveyor belt and two sluice runs. The sluice runs were 7 feet wide each, lined with Nomad matting and expanded metal riffles leading to two boil boxes, 5 feet of hydraulic riffles and then back to expanded metal riffles over Nomad matting. Water was supplied to the wash plant by a Caprari pump with a 6 cylinder Deutz engine, at 1800 IGPM, enough to process 90 loose cubic yards (70 m^3) gravel per hour. Sluice water was acquired from groundwater and 100% recycled from settling ponds made from previous mine cuts, with no discharge to the creek. The most recent pond (2009) measured 1200 by 200 feet (366 by 61 m). Clean-ups were done using a dual cell jig and gold wheel.

Tatra Ventures operation on Hunker Creek in 2008.

Surficial Geology and Stratigraphy The stratigraphic section seen in 2007-2009 ranged from thawed to frozen, consisting of 15 to 60 feet (5 to 18 m) of muck mixed with gravel seams and 10 to 12 feet (3 to 4 m) of gravel, of which 6 feet (1.8 m) or more was sluiced.

Bedrock Geology Bedrock was decomposed black graphitic schist.

Gold Characteristics Gold recovered during the mining seasons 2007-2009 was 90% fine-grained with a purity of 780-800. Some nuggets were found that had attached quartz and some nuggets had a dendritic texture. Gold was strongly associated with pyrite grains in concentrate.

Stripping overburden at Tatra Ventures Hunker Creek operation in 2008.

Hunker, a tributary of Klondike

116B/3	2009: 64º01'07"N, 139º08'06"W
116B/3	2009: 64º01'08"N, 139º08'04"W

Henry Gulch Explorations Ltd., 1997-2000, 2005-2009

Water License: PM04-416 (Active 2015)

Active Producer (2007-2009) **Operation no. 27**

Location In 2000, this operation was located 2000 ft (609.6 m) downstream from the mouth of Henry Gulch. In 2005 and 2006, this operation was located on the left limit approximately one mile (1.6 km) from the confluence with the Klondike River. From 2007 to 2009, the operation was in the river valley and on the right limit of Hunker near Hattie Gulch, and on the left limit downstream of Henry Gulch.

Work History and Mining Cuts In 2007-2008, four miners and a helper worked a daily 10 hour shift and in 2009, 6 miners and one helper mined a daily 10 hour shift as well. In 2007, a mine cut measuring 200 feet (61 m) by 400 feet (121.9 m) by 70 feet (21.3 m) deep was stripped and sluiced. In 2008, four cuts were mined. The first was along the creek and measured 60 by 200 by 35 feet (18.3 by 61 by 10.7 m) deep, the second, was a deep channel cutting through the first tier bench and measured 40 by 200 by 20 feet (12.2 by 61 by 6.1 m) deep. The third cut was along the first tier bench measuring 75 by 250 by 6 feet (22.9 by 76.2 by 1.8 m) deep and the fourth was started on the second tier bench, measuring 100 by 150 by 40 feet (30.5 by 45.7 m by 12.2 m) deep. In 2009, three main areas were mined. The first area, a second tier bench on the right limit, was an area that Yukon

Gold Company had mined underground around 1911. This area had lots of underground workings and corresponds to a 1911 map which Mr. Alton found in the archives in Ottawa. The values in the gravel are good and it is continuing under the hill. There is a thick (70 foot, (21 m)) layer of oxidized, decomposed bedrock and slide rock with occasional gravel lenses overlying this intact bench gravel. The second area is a deep channel which was discovered in 2008. This channel was heading into the hill but further excavation proved that it makes nearly a 180 degree turn and comes back out. There were fair values in this channel which was worked by the oldtimers. The third area mined in 2009 was a left limit cut on the downstream end of the property, an area which was monitored in 2008. The gravel was mostly thawed, under slide rock and there were some oldtimers workings.

Equipment and Water Treatment In 2007-2008, mining equipment included three excavators used for stripping and sluicing, a Hitachi EX400LO-5, a Hitachi EX200LC-5, and a Caterpillar 235 while two Caterpillar D350 articulating trucks hauled waste and pay gravels. A Caterpillar D9H bulldozer, a Caterpillar D9G bulldozer, a Caterpillar D7E bulldozer, a Caterpillar 980B loader, a Caterpillar 631B and 631-C scrapers were all used for general mine duties. In 2009, two Caterpillar D400E articulating trucks were added and a Hitachi EX450LC-5 excavator replaced the Caterpillar 235 excavator. The wash plant consisted of a hopper feeding a 5 feet by 12 feet, oscillating screen deck with 3/4" punch plate, leading to two sluice runs and boil boxes. Waste from the screening deck was removed using a 50 foot conveyor. The upper part of each run was 8 feet by 10 feet and lined with Coco matting, Nomad matting and expanded metal, leading to four 6" boil boxes. The lower section of the runs were 18" by 6-1/2' and lined with Coco matting, Nomad matting, and hydraulic riffles. Water was supplied by a 6" by 6" Indeng pump, powered by a Isuzu engine, at 1600 IGPM, processing 90-110 loose cubic yards(70 - 84 m^3) gravel per hour. In 2007-2008, water was acquired from Hunker Creek and 95-100% recycled through two settling ponds, each measuring 100 by 500 feet (31 by 152 m), before being released back into the creek. In 2009, water was collected from Hunker Creek as well as an old mine cut operating as an instream settling pond, and was 95% recycled. The top of the runs were cleaned daily using a pan, but full clean-ups were done every 100 hours of sluicing using a dual cell jig and gold wheel for the fines.

Surficial Geology and Stratigraphy The stratigraphic section in 2007 was frozen with 50-60 feet (15.2 - 18.3 m) frozen muck overlying 8 to 10 feet (2.4 to 3 m) gravel, of which 4 to 6 feet (1.2 to 1.8 m) was sluiced. From 3 to 6 feet (0.9 to 1.8 m) of schist bedrock was sluiced. In 2008, the section was thawed and on average consisted of 15 to 25 feet (4.6 m to 7.6 m) of overlying material and 8 to 12 feet (2.4 to 3.7 m) gravels, 6 feet (1.8 m) of which was sluiced. In 2009, the sections in each area varied from frozen to thawed

View looking north at Henry Gulch Placers mining operation on the right limit of Hunker Creek in 2008.

View looking south at Henry Gulch Placers operation on Hunker Creek in 2009.

and consisted of variable overlying material from 20 to 70 feet (6.1 to 21.3 m) thick and approximately 6 feet (1.8 m) of gravel, all of which was sluiced, along with 2 to 4 feet (0.6 to 1.2 m) of bedrock.

Bedrock Geology Bedrock in the valley on the left limit was described as yellow layered to dark blocky schist. On the right limit bedrock is described as flat, fractured blocky schist. In 2007 and 2008, 3 to 6 feet (0.9 to 1.8 m) were sluice and in 2009, 2 to 4 feet (0.6 m to 1.2 m) were sluiced.

Gold Characteristics Gold from the right limit benches and the deep channel was described as sharp, raw, rough-edged, and crystalline, whereas the downstream left limit gold was finer, smoother and darker. Approximately 15% of the gold was between 4 and 10 mesh, while the other 85% was around 12 mesh in size. The purity of the gold was 730-770 fine.

Henry Gulch Placers wash plant on Hunker Creek in fall of 2009.

Henry Gulch, a tributary of Hunker

116B/3 2009: 64º00'46"N, 139º08'29"W

Gillespie, 1995-2002, 2005, 2008-2009

Water License: PM04-377 (Active 2009)

Active Producer (2007-2009) **Operation no. 28**

Location This operation was located on Henry Gulch, a left-limit tributary of Hunker Creek.

Work History and Mining Cuts Mr. Gillespie and his crew continued to mine in an upstream direction between 2008 and 2009.

Equipment and Water Treatment Equipment used in 2008-2009 included a Caterpillar 320 excavator, a Caterpillar 212 excavator, a Caterpillar 966C loader, and a Volvo rock truck. The wash plant consisted of a 5 foot by 100 oscillating screen deck with a stacker leading to a 3 feet wide and 10 feet long sluice run, lined with Nomad matting and expanded metal. The plant was capable of processing 50-60 loose cubic yards gravel per hour. Water for sluicing was 100% recycled.

Surficial Geology and Stratigraphy The section consisted of approximately 50 feet (15 m) of black muck overlying 6 to 8 feet (2 to 3 m) of gravel. All of the gravel (described as quartz-rich and 'chunky') plus 2 feet (1 m) of black slabby bedrock were sluiced.

Bedrock Geology Bedrock was generally solid and fractured and some gumbo clay was encountered. Klondike Schist occurs near the headwaters of the gulch, with Nasina quartzite outcropping lower in the valley.

Gold Characteristics Gold was reported to be coarse and ranging in fineness between 650 and 680.

Aerial view of Gillespie Mining on Henry Gulch in 2007.

Last Chance, a tributary of Hunker

116B/3 2009: 64º00'18"N, 139º06'45"W

Favron Enterprises Ltd., 2000-2009

Water License: PM04-369 (Active 2014)

Water License: PM04-403 (Active 2014)

Active Producer (2007-2009) **Operation no. 29**

Location This operation was located on the left limit bench (Dago Hill) and in the valley of Last Chance Creek.

Work History and Mining Cuts A mine cut which included previous mine tailings was processed on Dago Hill on the left limit of Last Chance Creek.

Favron Enterprises Ltd. mining operation on Dago Hill in 2009.

Equipment and Water Treatment Equipment included a Hitachi EX750 excavator, Caterpillar D9L and D8K bulldozers, a Komatsu 155-3 bulldozer, a Terex 8230B bulldozer, a Terex TS24B scraper and two Terex TA40 rock trucks. The wash plant was a dozer-trap screened hopper over a 42 inch by 16 foot conveyor, which fed material to an ELEVATING 36 inch by 60 foot conveyor. The second conveyor fed pay to the 5 foot by 10 foot double oscillating screen deck. Plus 3/4 inch material was removed by a 36 inch by 30 feet radial stacking conveyor while minus 3/4 inch material fed to six, 32 inch by 16 foot sluice runs lined with angle iron riffles, expanded metal and Nomad matting. Later in the 2009 season, a new wash plant was employed. Water for sluicing was 100% recycled with no discharge.

Surficial Geology and Stratigraphy On the bench the stratigraphy consists of up to 80 feet (25 m) of White Channel gravel on bedrock. It is variably boulder rich in places and rusty brown and cemented in other areas. The highest gold values are in the lowest 20 feet (6 m) of gravel on bedrock.

Bedrock Geology Bedrock was variably altered black and orange graphitic schist.

Last Chance, a tributary of Hunker

115O/14	2008: 63º59'08"N, 139º07'13"W
115O/14	2009: 63º59'24"N, 139º06'48"W

Last Chance Placers Ltd., 1991-2009

Water License: PM05-498 (Active 2015)
Active Producer (2007-2009) **Operation no. 30**

Location This operation was located at various places on the main valley of Last Chance Creek between 15 Above Pup and 8 A/M Pup.

Work History and Mining Cuts In 2009, 5 miners worked a daily shift of 10.5 hours to process two mine cuts in the centre of the Last Chance Creek valley. Previous miner's tailings up to 25 feet (7.6 m) thick were overlying parts of both cuts. Cut 1 was 55 feet to 75 feet (22.9 m) deep by 230 feet (70.1 m) wide by 330 feet (100.6 m) long, but was partially located beneath a previous settling pond which made material handling difficult. Once fully excavated, cut 1 was transformed into the 2009 seasons settling pond. All 5 feet (1.5 m) of gravel and the top 4 feet (1.2 m) of bedrock from cut 1 were sluiced. Cut 2 was 55 feet (16.8 m) deep by 80 feet (24.3 m) wide by 80 feet (24.3 m) long. From this cut, 5 feet (1.5 m) of gravel and top 4 feet (1.2 m) of bedrock were sluiced. Material passing through sluice trays was loaded into the Payhauler trucks by an excavator and transported to the plant for re-sluicing.

Equipment and Water Treatment In 2009, equipment included a Caterpillar D8H bulldozer, a Caterpillar D8K bulldozer, two International Harvester/Payhauler 350 dump trucks (50 ton), a Hitachi EX450 LC excavator, a Hitachi EX270 LC excavator, and a Caterpillar 235 excavator. The bulldozers were used to strip overburden, maneuver paydirt and tailings, and spread overburden for reclamation. The excavators were used to strip and remove overburden, and to transfer paydirt into the Payhaulers and sluice plant. The wash plant consisted of a 5 by 11 foot single deck oscillating screen with 3/4 inch punch plate, feeding a 4 by 6 foot tray lined with Nomad matting and 1 inch angle iron riffles, which fed into two 4 by 8 inch oscillating trays with Nomad matting under large expanded metal. Water was supplied at 2000 igpm from the stream by an 8 by 6 inch Allis Chambers pump, powered by a 6-cylinder John Deere diesel engine, allowing the plant to process 80 loose cubic yards (61.2 m^3)

Last Chance Placers auger drilling on Last Chance Creek in 2008.

of gravel per hour. Water was then released into a 230 by 330 foot (70.1 by 100.6 m) out of stream settling pond at the cut 1 site and 50% was recycled.

Surficial Geology and Stratigraphy The two cuts mined in 2009 had 40 feet of black muck overlying 5 feet (1.5 m) of gravel. All the gravels and 4 feet (1.2 m) of bedrock were sluiced. The cuts were also overlain by previous miners tailings; Cut 1 had 25 feet (7.6 m) of overlying tailings in some places and Cut 2 had 6 feet (1.8 m) of tailings.

Bedrock Geology Bedrock was described as decomposed 'gumbo' graphitic black and orange schist.

Gold Characteristics In 2009 the gold produced directly downstream of 5 Above Pup was bright coloured and moderately smooth. Some gold was dendritic in nature. Fineness was 695. A total of 80 percent of gold was 4 to 20 mesh in size, 0.5% was greater than 4 mesh and 19.5% was less than 20 mesh.

Last Chance, a tributary of Hunker

115O/14 2009: 63º56'55"N, 139º10'32"W

WAM Exploration, 2007-2009

Water License: PM06-541 (Active 2016)

Active Producer (2007-2009) **Operation no. 31**

Location The operation was located at the headwaters of Last Chance Creek.

Work History and Mining Cuts Mr. McIntyre worked alone and conducted bulk sampling and testing in 2007. In 2008 and 2009 a cut was mined on the right limit of the upper right fork of Last Chance.

Equipment and Water Treatment Equipment included a Hitachi excavator and a Caterpillar loader. The wash plant was a triple run sluice with a hopper dump box. The operation was licensed for instream works.

Surficial Geology and Stratigraphy The section was frozen and consisted of 20-25 feet (6 to 7.6 m) of black muck mixed with pebbly gravel overlying 5 to 10 feet (1.5 to 3 m) of angular boulder cobble gravel on bedrock. Remnant tailings were evident downstream of the current mining activity.

Bedrock Geology Bedrock was graphitic schist.

WAM Exploration on upper Last Chance in 2009.

Paradise Hill, a tributary of Hunker

115O/14 2007: 63º59'29"N, 139º03'51"W

Tamarack Inc., 1983-1986, 1989-1999, 2005-2009

Water License: PM02-296 (Active 2013)
Water License: PM07-571 (Active 2018)
Active Producer (2007-2009) **Operation no. 32**

Location In 1983, one property was situated along the left limit of Hunker Creek, at the foot of Paradise Hill. The second property was located on Paradise Hill, just downstream from Hester Creek. In 1984, the property was located on 80 Pup, a left limit tributary of Hunker Creek. Between 1991 and 1998, this operation was located on Paradise Hill on a left limit bench above Hunker Creek. Operations were moved to the Indian River in 1999, until the fall of 2005 when this operation returned to Paradise Hill. The operation continued to mine on the southwest part of the bench from 2006 to 2009.

Work History and Mining Cuts Several cuts were stripped and mined on Paradise Hill between 2007 and 2009.

Equipment and Water Treatment Equipment used in 2007-2009 included a Caterpillar 245 excavator used to transfer pay to the three Caterpillar 657 scrapers, a Caterpillar 988 loader to remove tailings and two Caterpillar D9 bulldozers, one of which fed and the plant and the other served as back-up. The wash plant consisted of a 8 foot diameter land trommel, processing 200 loose cubic yards (150 loose m^3) of gravel per hour. Water was supplied at 3000 IGPM by a Crane Demming 8" by 8" pump, powered by a Caterpillar D398 engine. The water was collected from an instream reservoir on Hunker Creek and effluent was released into a series of settling ponds in the Hunker Creek valley.

Surficial Geology and Stratigraphy The section generally consists of 80 to 120 feet (25 to 37 m) of White Channel gravel on bedrock. On the southwest part of the hill, gold-bearing White Channel gravel was found both above and below a shallow-dipping thrusted slab of decomposed bedrock.

Bedrock Geology Exposed bedrock was decomposed, clay-altered, fractured graphitic to chloritic schist.

Gold Characteristics Gold recovered from this location is fine-grained with a purity of 830.

Hester, a tributary of Hunker

115O/14 2008: 63º59'02"N, 139º09'00"W
115O/14 2009: 63º59'16"N, 139º02'15"W

Crawford, 2008-2009

Water License: PM07-552 (Valid 2017)
Active Producer (2007-2009) **Operation no. 33**

Location The operation was located at the mouth of Hester Creek and just upstream on the left limit of Hunker Creek, close to the location where Mr. Crawford had mined in the 1980's.

Tamarack Inc.'s mining operation on Paradise Hill in 2007.

Gary Crawford's mining operation at the mouth of Hester Creek in 2008.

Work History and Mining Cuts Mr. Crawford and two helpers processed one cut in 2008 at the mouth of Hester, and two cuts just upstream on the left limit of Hunker in 2009.

Equipment and Water Treatment Equipment included an International 350B Payhauler Rock truck, 2 Caterpillar Rock Trucks, 2 Caterpillar loaders, a Caterpillar D10N bulldozer, a Samsung excavator and a Caterpillar 245 excavator. The wash plant was a skid-mounted trommel with a tailings stacker and sluice runs lined with angle iron riffles and expanded metal.

Surficial Geology and Stratigraphy The stratigraphic section consisted of 25 feet (7.6 m) of frozen black muck overlying 5 to 8 feet (1.5 to 2.4 m) of thawed, stratified cobbly rusty gravel with abundant quartz clasts. All of the gravel and some bedrock were sluiced.

Bedrock Geology Bedrock exposed was graphitic schist.

Gold Characteristics The gold was fine-grained with a fineness of approximately 820. Gold recovered from Hester creek valley included some angular and not well travelled pieces. Abundant crystalline pyrite was recovered in the concentrates.

Independence, a tributary of Hunker

115O/14 2009: 63º59'00"N, 139º02'07"W

Brickner, 2007-2009

Water License: PM06-538 (Active 2016)

Active Producer (2007-2009) **Operation no. 34**

Location The operation was located on Nugget Hill, adjacent to Independence Creek.

Work History and Mining Cuts Mr. Brickner worked on the property each season from 2007 to 2009. A stockpile of gravels was trucked from the cut at the back side of Nugget Hill to the sluice plant at the edge of the hillside.

Equipment and Water Treatment The sluice plant was situated at the edge of the hill and effluent was settled out of stream in the Hunker Creek valley.

Surficial Geology and Stratigraphy The deposit at Nugget Hill is White Channel Gravel on bedrock. The section mined from 2007 to 2009 was a thick sequence of rusty gravel.

Bedrock Geology Bedrock is mapped as Nasina Quartzite.

Independence, a tributary of Hunker

115O/14 2009: 63º58'54"N, 139º01'17"W

Kosuta, 1988-2009

Water License: PM03-338 (Closed 2009)
Water License: PM08-622 (Active 2020)
Active Producer (2007-2009) **Operation no. 35**

Location The property was situated at the mouth of Independence Creek, a left-limit tributary of Hunker Creek.

Work History and Mining Cuts Tony Kosuta worked 10 hours a day independently, expanding a mining cut from 35 to 60 feet (10.7 to 18.3 m) in the 2009 season. Mr. Kosuta sluiced only 1-2 hours a day using ground water and discharging waste water into a settling pond.

Equipment and Water Treatment In 2009, heavy equipment included a Caterpillar D5 bulldozer, Caterpillar D6 bulldozer, Caterpillar 941 track loader, and a Caterpillar 930 wheel loader. The wash plant consisted of a 6 by 20 foot dump box and 3 by 25 foot sluice run lined with Coco matting, expanded metal and angle iron riffles. An 8 by 6 inch Dayton Dowd pump, powered by a Detroit diesel engine, acquired ground water to supply the wash plant which processed approximately 20 cubic yards (15.3 m^3) per hour. Wastewater was discharged into a 120 by 180 foot (36.6 by 54.9 m) settling pond and not recycled. Clean-ups were done once a month.

Surficial Geology and Stratigraphy The section of the cut expanded in 2009 was partially frozen with 14 to 18 feet (4 to 5.5 m) of organic overburden, overlying 3 to 4 feet (0.9 to 1.2 m) of cobbly gravel with occasional boulders. All of the gravel and some bedrock were sluiced.

Bedrock Geology Bedrock is mapped as Nasina quartzite.

Gold Characteristics In 2009, gold recovered was rough and jagged with a fineness of 708.

Tony Kosuta has been mining in the area of Hester and Independence creeks for several decades. In this 1978 photo Mr. Kosuta pushes pay into a straight-run box with a vintage Caterpillar bulldozer.

Tony Kosuta and his Cat 930 loader on Independence Creek in 2008.

Tony Kosuta's mining operation at the mouth of Independence Creek in 2009.

Hunker, a tributary of Klondike

115O/15 2008: 63º58'27"N, 138º59'33"W

Gould, 1960-1988, 1993-1994, 1998-2002, 2005-2009

Water License: PM01-245 (Expired 2007)
Water License: PM04-392 (Expired 2009)
Water License: PM09-654 (Active 2020)
Active Producer (2007-2009) **Operation no. 36**

Location From 2004 to 2009 the operation was on the right limit of Hunker Creek near the mouth of Colorado Creek.

Work History and Mining Cuts A mine cut was processed each season from 2007 to 2009. The Hunker road was moved to access remnant virgin pay gravel beneath.

Equipment and Water Treatment Equipment included a Komatsu PC220 excavator used to feed the wash plant, a Caterpillar D9 bulldozer for stripping dredge tailings and excavating pay gravels, a Caterpillar 245 excavator to load the rock trucks, and two rock trucks, a Moxy 5222B and a Caterpillar 769B, which were used to haul pay to the plant. A Caterpillar 950B loader was used to remove tailings. The wash plant consisted of a 4 foot diameter trommel, 20 feet long, leading to a single 5 foot by 8 foot sluice run lined with hydraulic riffles. Water was supplied at 700 IGPM by a 6" Gorman Rupp pump, processing 25-60 loose cubic yards gravel per hour. Mine cuts were made below the water table, therefore supplying groundwater for processing, which was recycled with no discharge to the creek.

Surficial Geology and Stratigraphy The section on the right limit consisted of 15 to 25 feet (4.5 to 7.6 m) of silt and slide rock colluvium overlying 5 to 8 feet (1.5 to 2.4 m) of virgin Hunker side pay gravel on bedrock. All of the gravel and some bedrock were sluiced.

Aerial view of Dave Gould's mining operation on Hunker Creek in 2008. Both the old and the new Hunker road can be seen.

Bedrock Geology Bedrock consisted of carbonaceous schist.

Gold Characteristics Gold from this location is generally fine, flat and smooth, and has a fineness of 820.

Dave Gould's trommel in operation on Hunker Creek in 2008.

Hunker, a tributary of Klondike

115O/15 2008: 63º57'37"N, 138º56'54"W

Mogul Gold Placers Ltd., 2005-2009

Water License: PM07-588 (Active 2018)
Active Producer (2007-2009) **Operation no. 37**

Location The operation was located upstream of the roadhouse on the left limit of Hunker Creek.

Work History and Mining Cuts Mr. Millar moved to the left limit of Hunker just downstream of the mouth of Gold Bottom in August 2005, where he mined old dredge tailings. In June of 2006, operations were relocated to a site upstream of the roadhouse on the left limit of Hunker Creek. Between 2007 and 2009, Mr. Millar and crew mined cuts at two locations on the left limit, on either side of a winding narrow meander of Hunker Creek.

Equipment and Water Treatment Equipment included a Hitachi EX200 excavator, and Caterpillar 966C loader, and Caterpillar D8H bulldozer. A hydraulic monitor was used to wash the frozen section. The wash plant consisted of a 5 foot diameter trommel with a hopper over a 10 foot wide oscillating sluice run with 4 feet of hydraulic riffles and 4 feet of expanded metal. Tailings were stacked with a 30 foot conveyor.

Mogul Gold Placers mined on Hunker Creek downstream of their prior season's mining cut in 2008.

Surficial Geology and Stratigraphy The left limit cuts were frozen and had a thick section of muck overlying a thin pay gravel on bedrock. Dredge tailings were partially thawed.

Bedrock Geology Bedrock is mapped as Klondike Schist.

Mogul Gold Placers' mining operation on Hunker Creek in 2007.

Gold Bottom, a tributary of Hunker

115O/15 2009: 63º54'44"N, 138º59'36"W

Jackson, K., 2005-2007, 2009

Water License: PM04-455 (Active 2015)

Active Producer (2007-2009) **Operation no. 38**

Location This operation was located at West Gold Bottom and Gold Bottom creeks.

Work History and Mining Cuts Mr. Jackson sluiced on West Gold Bottom Gulch in 2007 and 2009.

Equipment and Water Treatment Equipment used in 2007 included a small Caterpillar excavator and Heinz Werner C128 backhoe, used to dig test pits. A mobile wash plant was built and test gravels were processed using a long tom and pump. Water was acquired from Gold Bottom Creek.

Surficial Geology and Stratigraphy The section was estimated to have 20 ft (6.1 m) of black muck over 10 ft (3.0 m) of gravel on bedrock.

Bedrock Geology Bedrock has been mapped as quartzite and a quartz-muscovite-chloritic schist.

Gold Bottom, a tributary of Hunker

115O/15 2007: 63º53'18"N, 138º59'05"W

Aimola, 1998-2008

Water License: PM02-275 (Active 2012)
Water License: PM03-313 (Active 2014)
Active Producer (2007-2009) **Operation no. 39**

Location Alfredo and Sergio Aimola began mining the hillsides of Gold Bottom Creek and Gold Bottom Gulch in 1998. Mr. Aimola also mined some of the intervening claims owned by Don Donis downstream of Soap Creek by agreement in 2001. Between 2003 and 2005 mining continued at two locations, on upper Gold Bottom and at the confluence with Soap Creek. In 2006, the operation relocated downstream from the confluence of Soap creek to a location on Gold Bottom creek approximately 0.3 miles (0.49 km) from camp.

Work History and Mining Cuts Mr. Aimola was active at the mining site in 2007 and 2008.

Equipment and Water Treatment Equipment included a Caterpillar 235 excavator used to strip and clear overburden, a Caterpillar D8K bulldozer with a U-blade and ripper to strip and push pay dirt, and a Caterpillar 980C loader used to feed the wash plant. The wash plant, capable of processing 80-90 loose cubic yards gravel per hour, consisted of a dump box equipped with a shuffle board and conveyor belt feeding into a trommel with 3/8" screen. Three sluice runs followed, two of which measured 4 feet by 8 feet and the third measuring 2 feet by 8 feet, and lined with Nomad matting and 1" riffles. Water was supplied at 1800 IGPM by a Jimmy diesel powered, 12" by 10" Worthington pump. Water was acquired from Gold Bottom Creek and recycled out-of-stream.

Surficial Geology and Stratigraphy The section consisted of 3 to 4 ft (0.9 to 1.2 m) of gravel overlying bedrock. All of the gravel and one foot of bedrock were sluiced.

Bedrock Geology Bedrock at this site was decomposed to blocky chlorite schist.

Gold Characteristics The gold recovered varied in size from 60 mesh to 10 mesh and larger. Nuggets were round with quartz attached.

Hunker, a tributary of Klondike

115O/15 2008: 63º56'14"N, 138º53'30"W

Erickson & Hayema, 2007-2008

Water License: PM05-495 (Active 2011)
Active Producer (2007-2009) **Operation no. 40**

Location The operation was located along Hunker Creek near the mouth of Mint Pup.

Work History and Mining Cuts Mr. Erickson and Mr. Hayema worked a daily 10 hour shift in the 2007 and 2008 mining seasons, stripping and mining a cut measuring 100 by 150 feet (31 by 46 m).

Erickson and Hayema's mine on Hunker Creek near Mint Gulch in 2007.

Aerial view of Erickson and Hayema's mining operation on Hunker Creek in 2008.

Equipment and Water Treatment Equipment used in 2007-2008 included a Caterpillar D9G bulldozer for stripping and stocking paydirt, a Caterpillar 235 excavator for feeding the wash plant and building the drain, and a Caterpillar 966 loader for tailings removal. The wash plant consisted of a 4 foot diameter skid-mounted trommel over a 4 foot by 10 foot sluice run lined with Coco matting, Nomad matting, expanded metal, hydraulic riffles, and angle-iron riffles. Water was supplied at 800 IGPM by a 6" by 6" Hatz engine-powered Gorman Rupp pump, enough to process 50 loose cubic yards (40 m^3) of gravel an hour. Water was acquired from Hunker Creek and settled out-of-stream in a

pond measuring 200 by 75 feet (61 by 23 m), and eventually discharged into Hunker Creek. Clean-ups were done after every 30 hours of sluicing using a long tom.

Surficial Geology and Stratigraphy The area stripped and mined in 2007-2008 had been previously mined by early miners. The stratigraphic section was thawed and consisted of previously mined overburden and 2 feet (0.6 m) of gravel, which was sluiced along with 2 feet (0.6 m) of bedrock.

Bedrock Geology Bedrock is mapped as Klondike schist.

Gold Characteristics Gold recovered in 2007-2008 was mostly 8 to 30 mesh in size with some small nuggets. Purity of the gold was approximately 820 fine.

Erickson and Hayema's wash plant on Hunker Creek in 2008.

24 Pup, a tributary of Hunker

115O/15 2009: 63º54'47"N, 138º54'28"W
115O/15 2008: 63º54'49"N, 138º54'30"W

Ahnert, 1980-2009

Water License: PM04-379 (Active 2015)
Active Producer (2007-2009) **Operation no. 41**

Location This property was located 2500 feet (750m) up 24 Pup, a small left-limit tributary to the Right Fork of Hunker Creek.

Work History and Mining Cuts Gerald and Elizabeth Anhert hand-mined for 5 hours a day near the top of the valley from 2007 to 2009. In 2008, a large amount of bones were found including bison, mammoth and horse. In 2009, a shaft was sunk approximately 100 feet (30 m) down the valley from the mechanized operation. Plans are to continue this work into the 2010 season.

Equipment and Water Treatment From 2007 to 2009, this was a hand mining operation using no heavy equipment. The wash plant consisted of a long tom 24 feet long and one foot wide, lined with Nomad matting, 1" expanded metal and 1-1/4" angle-iron riffles. Water was supplied at 200 IGPM by a 3" Honda pump powered by a Honda 5 HP engine. Water was acquired from groundwater and rain water collection, 100% recycled through an 8 foot (2.4 m) deep and 20 foot (6.1 m) diameter, circular settling pond, before being released into 24 Pup. Clean-ups were done after every 10 hours of sluicing, using a wash tub and pan.

Surficial Geology and Stratigraphy The stratigraphic section from 2007-2009 was frozen and consisted of 12 feet (3.7 m) of loess overlying 6 feet (1.8 m) of peat-like material and 2 feet (0.6 m) of coarse gravel. All of the gravel and 1 foot (0.3 m) of bedrock was sluiced.

Bedrock Geology Bedrock at this site was a mixture of decomposed schist and hard slabby quartzite.

Gold Characteristics Gold recovered from 2007 to 2009 had a dendritic nature with 60% nuggets weighing up to 3 dwt (5 g). The fineness was 850.

Gerry Ahnert hand shafting at his mine on 24 Pup, on the Right Fork of Hunker Creek. Gerry and Elizabeth Ahnert have mined at this location for 30 years.

Hunker, a tributary of Klondike

115O/15 2009: 63º54'37"N, 138º53'01"W

Larose, 2008-2009

Water License: PM06-531 (Active 2017)
Active Producer (2007-2009) **Operation no. 42**

Location This operation was located on the left fork of Hunker Creek, near the confluence of the left and right forks.

Work History and Mining Cuts Stephan Larose, along with a cook/helper worked a daily 6 hour shift in 2008-2009. In 2008, stripping and a test run for the trommel were completed. In 2009 only stripping was done.

Equipment and Water Treatment Equipment used by Larose in 2008-2009 included a Koehring Bantam 166-C excavator and a Caterpillar D9G bulldozer, both used to strip and maneuver material. Minimal water has been used so far in testing.

Stephan Larose's mining cut on the Left Fork of Hunker in 2008.

Surficial Geology and Stratigraphy The stratigraphic section in 2008-2009 was frozen with 16 to 25 feet (5 to 8 m) of black muck overburden and 4 feet (1.2 m) of coarse gravel.

Bedrock Geology The bedrock is mapped as quartz-mica schist.

Allgold, a tributary of Flat

115O/15 2009: 63º54'37"N, 138º42'44"W

Tatra Ventures Inc., 2009

Water License: PM04-401 (Valid 2015)

Active Producer (2007-2009) **Operation no. 43**

Location The operation was located along Allgold Creek, 6 kilometers from the mouth.

Work History and Mining Cuts Tatra Ventures Ltd. started testing on Allgold Creek in 2008 and began mining after a stripping program in June 2009. Four miners worked a daily 11 hour shift, and stripped and sluiced a single mine cut measuring 400 by 90 by 18 feet (122 by 27 by 5 m). Waste was ripped and hauled uphill into the mouth of an adjacent pup, and dewatering of the cut was employed when the drain was insufficient.

Equipment and Water Treatment Equipment used in 2009 included a Caterpillar 235B excavator used for stripping, loading haul trucks and building drainage systems, a John Deere 230 CLC excavator to feed the wash plant and load haul trucks, a Caterpillar D7E bulldozer to build/maintain roads and remove tailings, a Caterpillar D9G bulldozer used for stripping, two articulating rock trucks (DJB-D25B and DJB-D330B) to haul waste and pay gravels, and a 8" auger drill used for testing. The wash plant consisted of a 5 by 12 foot single deck, Hull oscillating screen with a 1/2" punch plate over two sluice runs. Each sluice run was 7 feet wide and lined with Nomad matting and expanded metal followed by two boil boxes, 5 feet of hydraulic riffles and another 2 feet of Nomad matting and expanded metal. Tailings were stacked by a 2 by 40 foot conveyor. Water was supplied at 1800 IGPM by a Caprari pump powered by a 6 cylinder Deutz engine. Water was acquired from Allgold Creek and effluent was settled out-of-stream in a pond measuring 600 by 300 feet (183 by 91 m), before being released back into Allgold Creek. Clean-ups were done using a dual cell jig and gold wheel.

Surficial Geology and Stratigraphy The stratigraphic section in 2009 was frozen to partially frozen with 18 to 20 feet (5.5 to 6.1 m) of silt and organic overburden, of which 11 feet was frozen muck. This was overlying a thickness of 7 feet (2.1 m) of "disturbed" gravels, 4 feet (1.2 m) of which was sluiced.

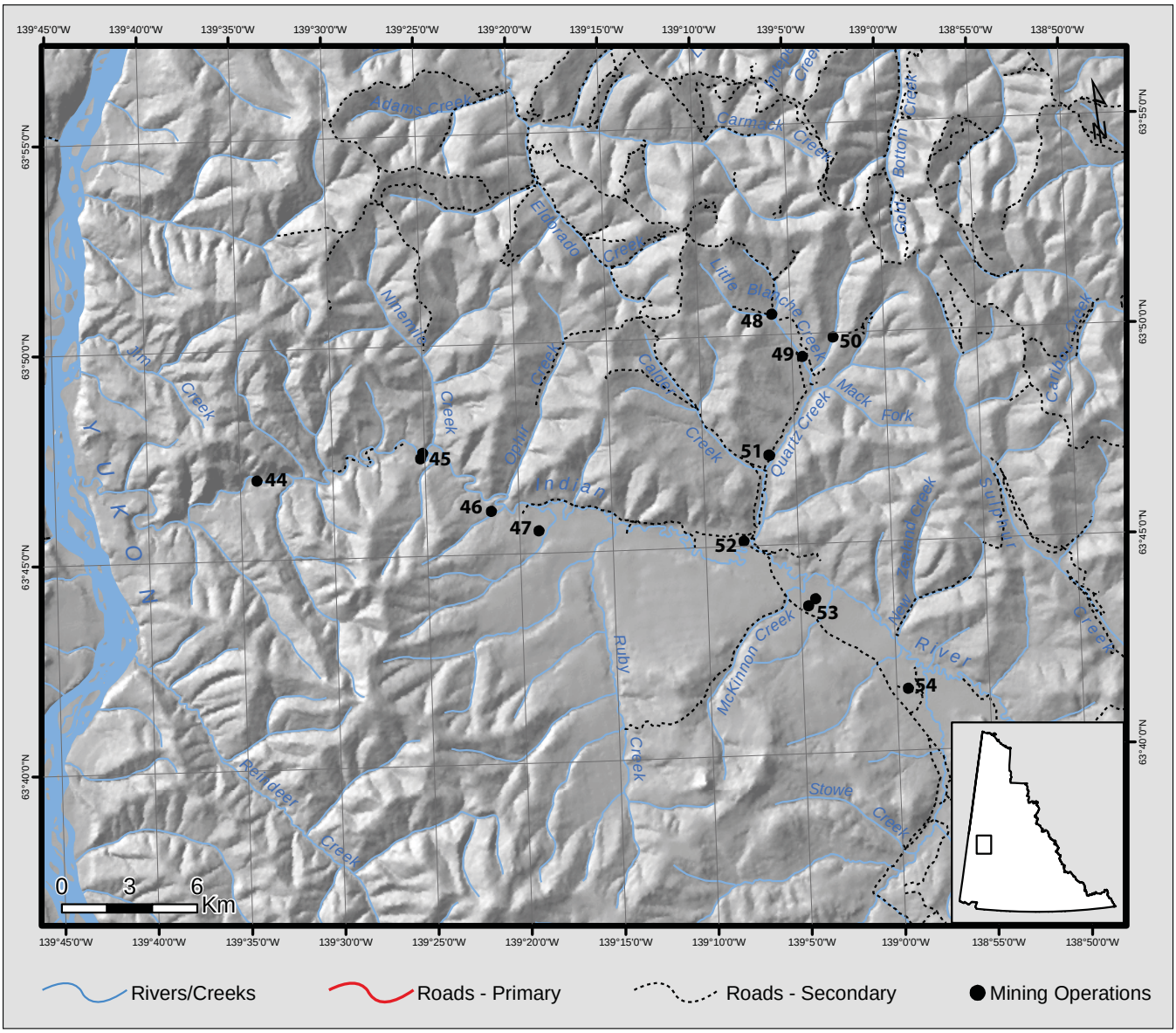
Bedrock Geology Bedrock was described as decomposed and slabby schist.

Gold Characteristics Gold recovered in 2009 was described as coarse, flat, and well-rounded with a purity of 870. The gold varied in size; 45% was less than 20 mesh, 40% was between 12 and 18 mesh and the remaining 15% was greater than 10 mesh.

Tatra Ventures wash plant on Allgold Creek in 2009.

KLONDIKE:
INDIAN RIVER
PLACER AREA

SITES 44 - 54



LEGEND

44 ..... S & L General Contracting
45 ..... McBurney
46 ..... Arkinstall
47 ..... Northern Exposures Inc.
48 ..... Carlson
49 ..... Schmidt Mining Corp.
50 ..... Tim Coles Enterprises Ltd.
51 ..... Favron Enterprises Ltd.
52 ..... Ferguson
53 ..... Gimlex Enterprises Ltd.
54 ..... Klondike Star Mineral Corporation Ltd.

Indian, a tributary of Yukon

115O/13 2008: 63º46'56"N, 139º34'07"W

S & L General Contracting Ltd., 2007-2008

Water License: PM06-535 (Active 2017)
Active Producer (2007-2009) **Operation no. 44**

Location The operation was located on the lower Indian River approximately 3 Kilometers downstream of the Bertha Creek and Indian River confluence.

Work History and Mining Cuts In the 2007 and 2008 mining season two to three miners worked a daily 15 hour shift. In 2007 a single test cut was made with dimensions 500 by 120 feet (153 by 37 m). In 2008 two cuts were made; the first measured 1200 by 150 to 180 feet (366 by 45 to 55 m); and the second measured 1000 by 120 to 180 feet (305 by 37 to 55 m).

Equipment and Water Treatment Equipment used in 2007-2008 included two Hitachi EX300LC-3 excavators, a Caterpillar D9H bulldozer, and a Caterpillar D9N bulldozer. The wash plant was a 6 by 20 foot, track mounted trommel over two sluice runs, each 8 feet wide and 8 feet long and lined with Coco matting, Nomad matting, expanded metal and hydraulic riffles. A 50 foot conveyor stacked tailings. Water was supplied at 1200 IGPM by a John Deere engine powered 6" by 8" pump, allowing the plant to process 90-120 loose cubic yards (70 - 90 m^3) gravel per hour. Water was acquired from Indian River and settled out-of-stream in a pond measuring 120 by 150 feet (37 by 46 m) in 2007. In 2008 the pond sizes were 150 by 250 feet (46 by 76 m) and 120 by 150 feet (37 by 46 m). Clean-ups were done daily using a long tom and final clean-ups were done with a gold wheel.

Surficial Geology and Stratigraphy In 2007, the test cut was comprised of 8 to 10 feet (2.4 to 3 m) of partially frozen silt and muck overlying 3 to 5 feet (0.9 to 1.5 m) of gravel which was sluiced. In 2008, the first cut consisted of 7 feet (2.1 m) of mostly thawed muck overlying 3 to 5 feet (0.9 to 1.5 m) of waste gravel, overlying 3 feet (0.9 m) of pay gravel. The second cut was frozen and consisted of 6 to 8 feet (1.8 to 2.4 m) of frozen muck overlying 3 to 4 feet (0.9 to 1.2 m) of waste gravel, overlying 3 to 5 feet (0.9 to 1.5 m) of pay gravel. Up to 3 feet (0.9 m) of bedrock was also sluiced from both cuts.

S & L General Contracting Ltd.'s mining operation on Indian River in 2008.

Bedrock Geology Bedrock is mapped as dark-grey to black carbonaceous quartzite and metapelite and is described as large and blocky with areas of decomposition.

Gold Characteristics Gold recovered from 2007 to 2008 was mostly fine-grained, with a small percentage of coarser gold. The fineness was approximately 780.

Indian, a tributary of Yukon

115O/14 2008: 63º47'29"N, 139º25'07"W
115O/14 2009: 63º47'21"N, 139º25'14"W

McBurney, 1994-2009

Water License: PM96-076 (Closed 2007)
Water License: PM04-412 (Active 2015)
Active Producer (2007-2009) **Operation no. 45**

Location The property was located on the left and right limits of Indian River in various locations downstream of the mouth of Ninemile Creek.

Work History and Mining Cuts Crew during the years 2007-2009 consisted of 2 to 3 miners and a single cook/helper, working 1-1/2, 12-hour shifts per day. Between 1994 and 2007, Mr. McBurney leased 30 claims from Tim Osler and mined them along the leave strip and banks of the Indian River under a site specific authorization from the Department of Fisheries and Oceans. Restoration and reclamation was ongoing during that time and included reconstruction of the river bank using boulder groups every 20 m, spreading of stockpiled organics over restored river banks and transplantation of live trees at 20 m intervals. In 2007, after two cuts were mined, (a bench cut measuring 500 by 200 feet (152 by 61 m) and a river valley cut measuring 1000 by 150 feet (305 by 46 m), final reclamation was done and the site decommissioned. In 2008, camp and all equipment was moved approximately 10 km upstream to the junction of Indian River and Ninemile creek. In 2008 and 2009, mining took place on the right limit, river valley and leave strip, on a low bench approximately 20 feet above the valley, and on a high bench approximately 150 feet above the valley. A drilling program was conducted on the benches and in the valley bottom. The cuts in 2008 were: a river valley cut measuring 500 by 100 feet (152 by 31 m); a lower bench cut measuring 450 by 150 feet (137 by 46 m) and an upper bench cut measuring 300 by 1500 feet (91 by 457 m). In 2009, the cut in the river valley measured 1000 feet by 200 feet (305 by 61 m).

Equipment and Water Treatment Equipment used by Mr. McBurney from 2007 to 2009 included a Caterpillar D9G bulldozer with a U-blade and single shank ripper used for stripping and reclamation work, and three excavators, a

Dave McBurney's mining operation on Indian River in 2007. Two levels of terraces were mined at this location.

Several levels of terraces were mined by Mr. McBurney on Indian River in 2009.

Hitachi EX200-1, a Hitachi EX200-3, and a Hitachi ZX200 added in 2009, all with 1 to 1-1/2 cubic yard buckets and used for stripping, feeding the sluice, and reclamation. A 3 foot wide and 100 foot long conveyor, mounted on a Hitach UH07 excavator, was used to strip thawed waste materials at a rate of 200-250 yards per hour. The wash plant consisted of a 5 foot diameter, New Zealand made trommel, with a 40 foot long conveyor removing tailings. The two sluice runs, located on either side of the wash plant, each measured 6 feet wide and 6 feet long, and were lined with boil boxes and hydraulic riffles with a small section of angle iron riffles. Water was acquired from Indian River and effluent settled out-of-stream in a pond 300 by 60 feet (91 by 18 m) with long drains, used for further settling, before being discharged back into Indian River. A 6" by 6" Indeng pump, powered by a Isuzu 6BGIT engine, supplied water at 1000 IGPM to the wash plant, processing approximately 80 loose cubic yards (60 m^3) gravel per hour. Clean-ups were done using a long tom and gold wheel.

Surficial Geology and Stratigraphy The sections exposed from 2007 to 2009 were variable as they were located in several levels and locations between the river valley and the high bench. Generally all sections were frozen and consisted of 1 to 10 feet (0.3 to 3 m) silt and muck overburden with 0 to 6 feet (0 to 1.8 m) of sand and waste gravel overlying 3 to 6 feet (0.9 to 1.8 m) of pay gravel. In addition to the pay gravel, from 1 to 4 feet (0.3 to 1.2 m) of bedrock were sluiced.

Dave McBurney mined a White Channel Gravel terrace on Indian River in 2008.

Bedrock Geology Bedrock was mostly dark grey graphitic schist and ranged from soft and decomposed to hard and blocky, with minor limestone/marble layers.

Gold Characteristics Gold recovered in the years 2007 to 2009 was mainly fine-grained with a purity of 790-830. The gold occurred as flakes to small granular gold with some smooth small nuggets found in some benches.

Indian, a tributary of Yukon

115O/15 2007: 63º45'41"N, 138º31'15"W

Arkinstall, 2005-2007

Water License: PM99-046 (Expired 2009)

Active Producer (2007-2009) **Operation no. 46**

Location The operation was located on a left-limit bench of Indian River, opposite the mouth of Ophir Creek.

Work History and Mining Cuts In 2007, Mr. Arkinstall, along with a single helper, worked a daily shift.

Equipment and Water Treatment Equipment used in 2007 included two bulldozers for stripping overburden and a Hough 90C loader to feed the wash plant and for removing tailings. The wash plant consisted of a 6 1/2 foot trommel, 40 feet long, with a hopper and final spray wash, classifying material to 1/2". Material was then fed onto four oscillating, 16 feet wide, sluice runs, lined with hydraulic riffles. The wash plant processed 150-200 loose cubic yards (110-150 m^3) per hour, using 100% recycled water from an out-of-stream settling pond with no discharge.

Surficial Geology and Stratigraphy The stratigraphic section consisted of up to 9 feet (2.7 m) of organic material and silt overlying 6 to 8 feet (2.1 to 2.4 m) of stratified rusty pebble gravel on top of 6 feet (2.1 m) of massive cobble pebble white gravel on bedrock. The white cobble gravel was sluiced.

Bedrock Geology Bedrock at this site was blocky schist.

Gold Characteristics Recovered gold was generally fine-grained and flat with occasional small nuggets. The fineness was 830.

Indian, a tributary of Yukon

115O/14 2009: 63º45'33"N, 139º18'58"W

Northern Exposures Inc., 2009

Water License: PM04-368 (Valid 2014)
Water License: PM04-446 (Active 2015)
Active Producer (2007-2009) **Operation no. 47**

Location The property extends along Indian River from Quartz Creek to the mouth of Ophir Creek. It was purchased from Boulder Mining Corporation in 2008.

Work History and Mining Cuts A program of auger drilling and test mining was conducted on the property in 2009.

Equipment and Water Treatment A Marooka tracked dump vehicle, a small test trommel and a large double screen deck wash plant were acquired from the previous property owners.

Surficial Geology and Stratigraphy Generalized stratigraphy consists of a Tertiary-age, "White Channel" gold-bearing gravel on a bedrock terrace, which is in part overlain by glaciofluvial and glaciolacustrine sediments deposited during the earliest pre-Reid glaciation.

Bedrock Geology Bedrock is decomposed to fractured graphitic to chloritic schist.

Little Blanche, a tributary of Quartz

115O/14 2008: 63º50'31"N, 139º06'00"W

Carlson, 2007-2009

Water License: PM98-055(Closed2009)
Water License: PM08-602 (Active 2019)
Active Producer (2007-2009) **Operation no. 48**

Location The operation was located in the valley of the right fork and on the bench between the right and left forks of Little Blanche Creek.

Work History and Mining Cuts Mr. Carlson bought the property from Irv Nafziger in 2007 and conducted a small amount of stripping that year on the left limit of the right fork. In 2008 and 2009, cuts were mined on the terrace above the forks and in the valley on the right fork.

Equipment and Water Treatment Equipment included a Terex O&K RH-121 excavator, a Caterpillar D8L bulldozer, a Caterpillar loader and a Volvo rock truck. The wash plant was a land-based trommel with a 3/4 inch screen, with a hopper feeder and conveyor and using a stacker for discharge of coarse tailings. The sluice runs were lined with expanded metal and Nomad matting. Approximately 50 loose cubic yards of gravel were processed per hour. Clean-ups were done with gold wheels and by hand.

Surficial Geology and Stratigraphy The section on the bench was 20 to 25 feet (6 to 7.6 m) thick and overlain by a thin organic. It was mostly thawed, deeply-weathered and sandy, with the gravel containing abundant quartz clasts. The bench gravel had gold values starting at the surface. Valley sections consisted of frozen organic overburden 20 ft (6 m) thick, occasionally mixed with gravel layers, overlying an angular to subrounded gravel pay layer 5 feet (1.5 m) thick on bedrock.

Bedrock Geology Bedrock was blocky, brown, quartz-muscovite schist.

Gold Characteristics The gold on the bench was fine to coarse and rough with some nuggets recovered. Nuggets often had quartz attached.

Miles Carlson's mining operation on Little Blanche Creek in 2008.

Little Blanche, a tributary of Quartz

115O/14 2009: 63º49'30"N, 139º04'27"W

Schmidt Mining Corp., 2009

Water License: PM03-332 (Active 2014)
Active Producer (2007-2009) **Operation no. 49**

Location The operation located in the valley of Little Blanche Creek upstream of the mouth of Canyon Creek.

Work History and Mining Cuts In 2009, a cut was stripped and mined in Little Blanche Creek valley.

Equipment and Water Treatment Equipment on site included a Caterpillar D-10 bulldozer and a Hitachi excavator. The wash plant was a track-mounted trommel with a conveyor for stacking tailings.

Surficial Geology and Stratigraphy In 2009 the section consisted of 5 to 6 feet (1.5 to 1.8 m) of rusty gravel which was overlain by 20 to 25 feet (6 to 7.5 m) of black muck.

Schmidt Mining on Little Blanche Creek in 2009.

Bedrock Geology The bedrock exposed was decomposed quartz-mica schist.

Canyon, a tributary of Little Blanche

115O/14 2009: 63º49'55"N, 139º02'45"W

Tim Coles Enterprises Ltd., 2009

Water License: PM07-572 (Active 2018)
Active Producer (2007-2009) **Operation no. 50**

Location The operation was located approximately 2 km from the mouth of Canyon Creek.

Work History and Mining Cuts The 2009 season was the first time mechanized mining activity took place in this valley. Mr. Coles along with 4 other miners and camp personnel worked a daily 12 hour shift, stripping and sluicing a mine cut measuring 500 by 100 feet (152 by 31 m). Access road construction to the Quartz Creek road and camp construction were completed early in the season. Auger drilling and testing was ongoing.

Equipment and Water Treatment Equipment used in 2009 included a Caterpillar D9H bulldozer used for stripping and to construct roads, a Caterpillar 235C excavator, and a Caterpillar EL300 excavator, both for stripping, feeding the sluice plant and removing tailings. The wash plant consisted of a 4 foot land-based trommel with 3/4" screen over a 14 foot wide oscillating sluice run which was lined with Nomad matting and expanded metal. Processing rate was 70 loose cubic yards (54 m^3) per hour. Water was supplied at 1400 IGPM by a 8" by 6" Paramount pump powered by a 8 cylinder Deutz engine. Sluice water was 75% recycled from a 400 by 75 foot (122 by 23 m) return pond. Final clean-ups were done using a long tom and gold wheel.

Surficial Geology and Stratigraphy The stratigraphic section seen in 2009 consisted of 20 to 30 feet (6 to 9 m) of black muck overlying 4 to 5 feet (1.2 to 1.5 m) of gravel. All of the gravel was sluiced along with 2 feet (0.3 m) of bedrock.

Auger drilling on Canyon Creek in the spring of 2009.

Bedrock Geology Bedrock exposed was quartz-mica schist.

Gold Characteristics Gold recovered in 2009 was mostly coarse with very little fine material. The purity was reported as 750 fine.

The mining operation of Tim Coles Enterprises Ltd. on Canyon Creek in 2009. This new mine lies between historically-mined Little Blanche Creek and upper Quartz Creek.

Quartz, a tributary of Indian

115O/14 2007: 63º47'10"N, 139º06'27"W
115O/14 2008: 63º47'10"N, 139º06'24"W

Favron Enterprises Ltd., 2003, 2007-2008

Water License: PM06-519 (Active 2011)
Active Producer (2007-2009) **Operation no. 51**

Location This operation was located on the right limit of Quartz Creek at the airstrip.

Work History and Mining Cuts In 2007 and 2008, Favron stripped and sluiced a large cut on the bench gravels on the right limit of Quartz Creek beside the airport, and also mined a cut in the valley under the upstream half of the airport.

Equipment and Water Treatment Equipment used in 2007-2008 included three Terex scrapers, a Komatsu D155 AX bulldozer, two Caterpillar bulldozers (D9L and D8K), a Bucyrus Erie excavator and a Hitachi EX750 excavator. The wash plant consisted of a dozer-trap screened hopper feeding a 42" by 16" conveyor, leading to a 5 by 10 foot double oscillating screen deck with 1-1/2" and 3/4" screens. Material larger than 3/4" was removed by a 30 foot by 36" conveyor, while minus 3/4" was fed onto a 32" by 16 foot sluice run. The sluice was lined with Nomad matting, angle iron riffles, and expanded metal riffles. An old mining cut beside the Quartz Creek road served as a settling pond and as a reservoir for recycling water back to the plant.

Surficial Geology and Stratigraphy White Channel gravel forms a terrace along the right limit of Quartz Creek from the mouth of Little Blanche Creek to the confluence of Quartz Creek with Indian River. The area of the airstrip on Quartz Creek has abundant tailings from mechanical mining, but some parts of the bench have been stripped and not mined. The valley near the airport has not been mined in places and the section there consisted of 5 to 8 feet (1.5 to 2.4 m) of gravel on bedrock, which was overlain by 5 to 10 feet (1.5 to 3 m) of silt/muck and 5 to 10 feet (1.5 to 3 m) of tailings and disrupted overburden.

Bedrock Geology Bedrock is mapped as quartz-muscovite schist.

Indian, a tributary of Yukon

115O/14 2007: 63º45'08"N, 139º07'57"W

Ferguson, 2002-2007

Water License: PM02-304 (Expired 2008)
Active Producer (2007-2009) **Operation no. 52**

Location In 2003, the operation was located upstream of the mouth of Quartz Creek. In 2002 and 2004 to 2007, the operation was located at the mouth of Quartz Creek on a low-level right-limit bench of Indian River.

Favron Enterprises Ltd's wash plant on Quartz Creek in 2008.

Kim Ferguson's wash plant and mining cut at the Quartz Creek/ Indian River confluence in 2007.

Work History and Mining Cuts Mr. Ferguson mined several cuts in this area from 2002 to 2007.

Equipment and Water Treatment The operation used a New Zealand trommel fed by a Hitachi EX300 excavator. Also on site were a Caterpillar 245 excavator and Caterpillar D9L bulldozer. The operation sluiced and recycled out-of-stream.

Surficial Geology and Stratigraphy The section consisted of up to 6 ft (1.8 m) of silt overlying 6 ft (1.8 m) of rusty, angular stratified gravel mixed with organic pods, which was overlying 5 ft (1.5 m) of bleached quartz-rich white gravel on bedrock. The white gravel was sluiced along with approximately a foot of bedrock, which was undulating. The white gravel may be equivalent to the Ross gravel on Dominion Creek, as described by Froese et al (2000).

Bedrock Geology Bedrock exposed at this site was decomposed schist.

Gold Characteristics The gold was described as fine and flaky with very few nuggets. Fineness was 785.

Indian, a tributary of Yukon

115O/11	2007: 63º43'43"N, 139º04'12"W
115O/11	2009: 63º43'33"N, 139º04'36"W

Gimlex Enterprises Ltd., 2004-2009

Water License: PM95-077 (Active 2014)
Active Producer (2007-2009) **Operation no. 53**

Location The operation was located at the mouth of McKinnon Creek in the Indian River valley.

Work History and Mining Cuts From 2007 to 2009 between 5 and 10 miners, four welders/mechanics, and one cook were working one to two 12 hour shifts per day. The double shift took place from July to Sept when there was enough thawed material to sluice continuously. Mining cuts were variable in size, averaging 200 by 300 feet (61 by 91 m), but ranging up to 900 feet (274 m) in length due to the use of conveyors. The annual total mining area in 2008 and 2009 was approximately 1.0 million square feet (92 900 m^2), with 6 to 8 plant moves per year.

Equipment and Water Treatment From 2007 to 2009 equipment included two Komatsu D475 bulldozers, two Komatsu D375 bulldozers, and a Komatsu PC400 excavator used to strip and mine materials as well as reclamation work. Four Komatsu WA600 loaders were used for sluicing, tailings removal and general mine duties, a Komatsu D115 bulldozer was used for light work and moving conveyors, a Komatsu PC200 excavator was used for mining and ditching, a Caterpillar 235 excavator for general mine duties, and a Caterpillar 14 grader and International dump truck were used for roadwork and maintenance. All bulldozers are equipped with U-blades and rippers, and all the loaders are equipped with 10 cubic yard spade nose buckets. The wash plant consisted of two hoppers with grizzlies feeding two conveyors, leading to a custom-made washer chute lined with rubber and urethane panels for Durex-Camline leading onto a 4 by 16 foot El Russ double deck, inclined screen. On the upper deck, there are Durex-Camline, custom-built, heavy 3" screens and stock 2" Western Screens whereas the lower deck is Western Screen urethane stock screens with 14mm square openings. The screen is mounted on a Gimlex-designed and built skid-mounted, sluice plant with five sluice runs. The top two sluice runs each measure 4 feet by 20 feet and are lined with Nomad matting and 1-1/2" angle iron riffles, whereas the bottom three sluice runs each measure 4 feet by 32 feet and are lined with Nomad matting and 6 lb expanded metal riffles. Water was supplied by a Caterpillar 3408 engine powered, 10" by 12" Morris pump at 4000-5000 IGPM, processing 250-370 loose cubic yards (283 m^3) gravel per hour, depending on the feed rate. Water acquisition was from run-off and seepage into a large recycle pond/channel system. The water was 100% recycled before being released into a secondary pond system which ultimately discharged the water into Indian River through a culvert. Final clean-ups were done every 40 to 48 hours of

Aerial view of Gimlex Enterprises Ltd's mining cut on Indian River in 2008.

Gimlex Enterprises Ltd's wash plant on Indian River in 2009.

sluicing, initially using a small screen plant and long tom, with later upgrading techniques including panning wheels, jigs, and shaker tables. Other essential equipment used in 2008-2009 included a Nodwell hydraulic auger drill, a Bombardier tracked drill support vehicle, five mechanical service/welder trucks, two Hiab equipped flat deck trucks, a long deck pipe truck, a 16,000 lb Hyster forklift, and 4 other conveyors.

Surficial Geology and Stratigraphy The stratigraphic section was mostly frozen with a few areas partially frozen, generally associated with surface or groundwater flow. A peat, mud, silt, and sand layer, 1 to 18 feet (0.3 to 5.5 m) thick, overlayed 1 to 12 feet (0.3 to 3.7 m) of gravel, of which the lower, more coarse-grained sections were sluiced. On average, a total of 6 feet of material was sluiced from each section, which included 1 to 3 feet (0.3 to 0.9 m) of bedrock.

Bedrock Geology Bedrock was described as blocky quartz-mica schist and impure quartzite, and variably decomposed chlorite-muscovite schist.

Gold Characteristics Gold was very fine and flat with 95% less than 10 mesh in size. The purity was 810-830 fine.

Indian, a tributary of Yukon

115O/10 2007: 63º41'30"N, 138º59'23"W

Klondike Star Mineral Corporation Ltd., 2005-2007

Water License: S3DD0026 (Expired 2007)

Active Producer (2007-2009) **Operation no. 54**

Location The test mining took place along the Indian River valley between Eureka Creek and Montana Creek, mainly in the area of the mouth of Montana Creek.

Work History and Mining Cuts In 2007, the company continued a bulk placer test program that had commenced in 2006.

Equipment and Water Treatment Equipment on site in 2007 included two Caterpillar bulldozers, a Hitachi EX200LC excavator and a skid-mounted trommel capable of processing 80 cubic yards per hour. Water was acquired from a reservoir filled by seepage and effluent was settled into the test pits with no discharge to the creek.

Surficial Geology and Stratigraphy The section consisted of 12 feet (3.6 m) of organic material and silty overburden overlying 8 to 11 feet (2.4 to 3.3 m) of brown gravel unconformably overlying 10 feet (3 m) of white gravel, which may be similar to the Ross Gravel found upstream on Dominion Creek. The gold was mainly in the white gravel, which was cobbly and massive lower in the section and sandy and stratified near the top. Organics from this layer were radiocarbon dated at >45570 years B.P.

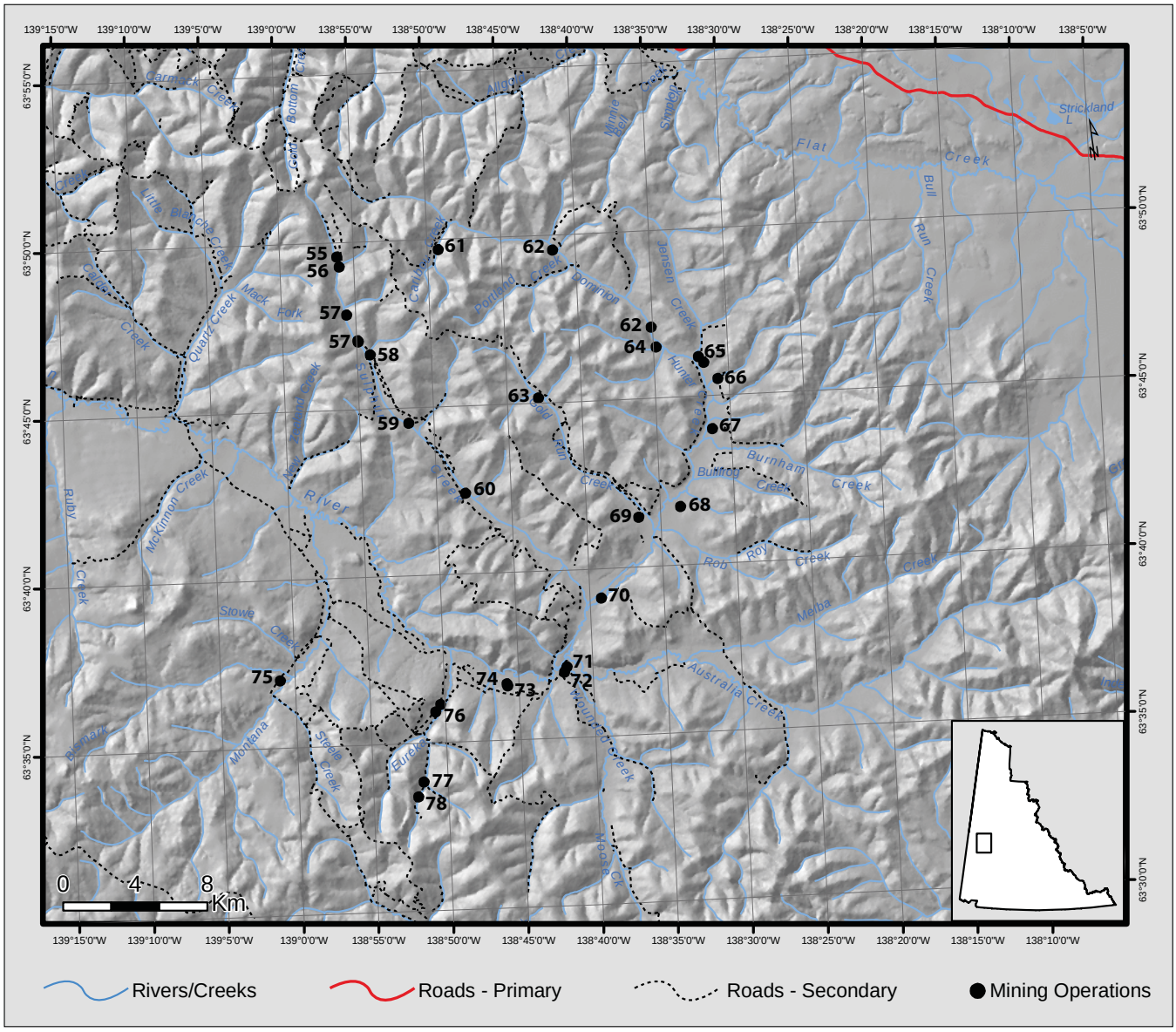
Bedrock Geology Bedrock was clay-altered grey schist.

Gold Characteristics Gold was generally fine grained with occasional flakes and small nuggets.

Klondike Star's mining operation on Indian River, downstream of Montana Creek, in 2007.

KLONDIKE:
DOMINION-SULPHUR
PLACER AREA

SITES 55 - 78



LEGEND

55 ..... Henry Gulch Explorations
56 ..... Tunica Gold
57 ..... D.C. Klippert Exploration
58 ..... Gritzka
59 ..... Lucky Lady Placers
60 ..... Kruger
61 ..... Stuart
62 ..... Sailer
63 ..... Alberta Gold Diggers Ltd.
64 ..... Conklin
65 ..... Hollis
66 ..... Bodin
67 ..... A-1 Cats/365334 - Alberta Ltd.
68 ..... Ross Mining Services Ltd.
69 ..... T.D. Oilfield Services Ltd.
70 ..... Gatenby Mining
71 ..... Erickson and Hayema
72 ..... Abermeth
73 ..... Colonial Gold Joint Venture
74 ..... Ferguson/Fine Gold Resources Ltd.
75 ..... 16406 Yukon Inc.
76 ..... Fine Gold Resources Ltd.
77 ..... Eureka Placers Ltd.
78 ..... Ripper Mining

Sulphur, a tributary of Dominion

115O/15 2007: 63º49'37"N, 138º56'09"W

Henry Gulch Explorations Ltd., 2007

Water License: PM04-444 (Active 2015)

Active Producer (2007-2009) **Operation no. 55**

Location The operation was located at the upper part of Sulphur Creek, just upstream of Green Gulch.

Work History and Mining Cuts Over a 7 week period in 2007, four miners and one camp person worked a daily 10 hour shift. Neils Sprokkreeff had previously stripped a long narrow mine cut, which Henry Gulch Explorations Ltd. widened and test sluiced the remaining gravel. The final dimensions of the mine cut were 450 by 50 by 8 feet (137 by 15 by 2 m). The ground had been worked hard by the oldtimers and many shafts and rooms were encountered. Henry Gulch Explorations Ltd. returned to Hunker Creek for the remainder of the season.

Equipment and Water Treatment Equipment used in 2007, included a Hitachi EX200LC-5 excavator to strip and feed the wash plant, a Hitachi EX400LC-5 excavator for stripping and loading pay into haul trucks, two Caterpillar D350 articulated rock trucks to haul waste to dumps and pay to wash plant, and a Caterpillar D9H bulldozer used for general mine duties. The wash plant consisted of a 5 foot by 12 foot, off-set bearing with 3/4" punch plate, single screen deck leading to two sluice runs. The first sluice run was lined with Coco matting, Nomad matting and expanded metal, leading to four 6" boil boxes and the second run, which was lined with Coco matting, Nomad matting, and hydraulic riffles. A 6" by 6" Indeng pump powered by a Isizu engine supplied water to the wash plant at 1600 IGPM, processing approximately 80-110 loose cubic yards (61-84 m^3) of gravel per hour. Water was acquired from Sulphur Creek and 90% recycled through an out-of-stream settling pond, measuring 50 by 300 by 4 feet (15 by 91 by 1.2 m) deep, and finally discharged back into Sulphur Creek.

Surficial Geology and Stratigraphy The stratigraphic section seen in 2007 had both frozen and thawed areas. It consisted of 20 to 25 feet (6.1 to 7.6 m) of organics with abundant wood and roots overlying 10 to 12 feet (3 to 3.6 m) of gravel. A thickness of 4 to 6 feet (1.2 to 1.8 m) of gravel was sluiced.

Bedrock Geology Bedrock in the area has been mapped as Klondike Schist and was described as heavy and blocky.

Gold Characteristics The gold recovered in 2007 was described as rough with some nuggets, and approximately 85% of the gold was 14 mesh in size or smaller. The bulk fineness was 800.

Sulphur, a tributary of Dominion

115O/15 2009: 63º49'19"N, 138º56'00"W

Tunica Gold, 1979-1981, 1995-2000, 2003-2009

Water License: PM04-444, AP04444 (Active 2015)

Water License: PM99-125 (Expired 2009)

Active Producer (2007-2009) **Operation no. 56**

Location The property was situated along the upper portion of Sulphur Creek, at the mouth of Green Gulch and farther upstream.

Work History and Mining Cuts In 2007, Mr. Sprokkreeff sluiced for a short time in August, and later some of the ground was mined under lease by Henry Gulch Placers Ltd. In 2008 and 2009, two miners worked a minimum 12 hour shift daily.

Equipment and Water Treatment In the 2007, 2008 and 2009 seasons, equipment included a Caterpillar D8K bulldozer, a Hough wheel loader, and an American 35A excavator. The wash plant consisted of a 25 ft long trommel and two sluice runs, one 5 ft by 6 ft and the other 10 ft by 6 ft. The sluice runs were lined with Astroturf, hydraulic riffles and angle-iron riffles. Water was provided at 4000 IGPM by a GMC Jimmy-powered 10" by 10" Gorman Rupp pump, enough to process 25 loose cubic yards per hour.

The sluicing water was acquired from Sulphur Creek and discharged to a 100 by 1000 by 10 feet (30 by 305 by 3 m) settling pond with return to Sulphur Creek. Clean-ups were done using a long-tom and a Spriggs double jig.

Surficial Geology and Stratigraphy The stratigraphic section during the 2007 to 2009 mining seasons was frozen and consisted of 40 feet (12 m) of overlying black muck and 6 feet (1.8 m) of gravel. All 6 feet (1.8 m) of gravel and the top 6 feet (1.8 m) of bedrock were sluiced.

Bedrock Geology Bedrock is mapped as Klondike Schist.

Gold Characteristics Gold recovered in the 2007-2009 mining seasons was mainly 12 mesh or smaller in size, although some nuggets were found. The fineness was 800.

Tunica Gold's trommel on Sulphur Creek in 2009.

Tunica Gold on upper Sulphur Creek in 2008.

Sulphur, a tributary of Dominion

115O/15	2007: 63º47'04"N, 138º54'55"W
115O/15	2008: 63º47'06"N, 138º58'32"W
115O/13	2009: 63º47'53"N, 139º55'38"W

D.C. Klippert Explorations, 2007-2009

Water License: PM06-540 (Active 2017)
Water License: PM99-125 (Expired 2009)
Active Producer (2007-2009) **Operation no. 57**

Location The operation was located on the left limit of Sulphur Creek between Meadow Gulch and Friday Gulch.

Work History and Mining Cuts Dan Klippert optioned the property from Sulphur Gold Placers in 2007. Several areas just upstream of camp on the left limit were tested that year and in 2008. In 2009, a cut was monitored and processed on the left limit downstream of Meadow Gulch.

Equipment and Water Treatment Equipment included a Caterpillar 235 excavator, a Caterpillar bulldozer and a Caterpillar loader. The wash plant was a skid-mounted New Zealand trommel which screened gravel to ¾ minus and fed a 10 by 12 foot sluice run lined with hydraulic riffles and rubber matting. Tailings were stacked with a 15 degree radial conveyor.

Surficial Geology and Stratigraphy The section downstream of Meadow Gulch on the left limit was frozen and consisted of 20 to 30 feet (6 to 9 m) of black muck overlying 4 to 10 feet (1.2 to 0.9 m) of compact, subangular cobble pebble gravel on bedrock. All of the gravel was sluiced along with some bedrock.

Bedrock Geology Bedrock exposed in 2009 was a decomposed, clay-altered grey to brown schist.

Dan Klippert's upstream mining cut on Sulphur Creek in 2009.

Aerial view of Dan Klippert's downstream mining cut on Sulphur Creek in 2008.

Sulphur, a tributary of Dominion

115O/15 2009: 63º46'40"N, 138º54'08"W

Gritzka, 1981-1984, 2009

Water License: PM04-373 (Active 2015)

Active Producer (2007-2009) **Operation no. 58**

Location In 1983, the operation was located on the left limit of Sulphur Creek, immediately downstream from the mouth of Friday Gulch. Claims mined in 2009 included both Sulphur Creek and Friday Gulch.

Work History and Mining Cuts In 2009, two miners stripped and sluiced a 100 by 300 ft (30 by 90 m) cut, working a daily 8 hour shift.

Equipment and Water Treatment In 2009 equipment included a Caterpillar D8H bulldozer used for stripping, transporting tailings, and removing material from the settling pond, and a Hitachi 300 excavator used to feed the wash plant and build ditches. The wash plant consisted of a home-built shaker with a 3 by 30 ft sluice run lined with Astroturf and expanded metal riffles. Water was provided by a 6 inch pump, enough to wash approximately 30 loose cubic yards (23 m^3) gravel per hour. The water was acquired from Friday Gulch, 60% recycled and discharged into Sulphur Creek. Clean-ups were done using a long tom.

Surficial Geology and Stratigraphy The stratigraphic section in 2009 was partially frozen and consisted of 25 ft (7.6 m) of frozen muck overlying 2 ft (0.6 m) of gravel. All the gravel and the upper 2 ft (0.6 m) of bedrock were sluiced.

Bedrock Geology Bedrock exposed was decomposed quartz-mica schist.

Gold Characteristics Gold recovered in 2009 was described as very fine-grained with a purity of 800.

Sulphur, a tributary of Dominion

115O/10 2008: 63º44'35"N, 138º51'42"W

Lucky Lady Placers, 1981-2009

Water License: PM01-263, AP01263 (Active 2014)

Active Producer (2007-2009) **Operation no. 59**

Location In 1981, the property was situated along the left limit of Sulphur Creek, just upstream from the mouth of Brimstone Gulch. The operation moved to the right limit of Sulphur Creek near its confluence with Brimstone Gulch in 1998. The property has been mined continuously since the early seventies by the Gibson family.

Work History and Mining Cuts From 2007 to 2009 several cuts were processed on the left limit and in the valley centre.

Equipment and Water Treatment Equipment used in 2007-2009 included, a Caterpillar 245 excavator, three Caterpillar D9 bulldozers, two Caterpillar 980 loaders, a Caterpillar 977 loader, a Caterpillar 621 scraper, a Caterpillar12E grader and two 35 ton Terex rock trucks. An automatic hydraulic monitor was used to strip overburden. The wash plant included a 5 by 14 foot double inclined deck, a 60 foot by 42 inch conveyor, two 80 foot by 36 inch feed conveyors, an 8 foot by 36 inch dozer trap feeder, a 65 foot by 36 inch tailings stacking conveyor, and two 4 by 20 foot sluice runs lined with angle iron riffles and Nomad matting. Pumps for monitoring and supplying the wash plant included a Cornell 6 by 8 inch-powered by Detroit Jimmy V671 and

Lucky Lady Placers' Sulphur Creek mine in 2008.

rated at 1800 IGPM, a Gorman Rupp 12 by 12 inch powered by Caterpillar 3406 rated at 3500 igpm, and a Cornell 10 by 10 inch powered by Caterpillar 3406 rated at 3500 IGPM. Approximately 100 to 125 loose cubic yards per hour were processed. Water was acquired from Sulphur Creek and settled both in-stream and out-of-stream.

Surficial Geology and Stratigraphy The section on the right limit consisted of 30 to 60 feet (9 to 20 m) of black muck overlying 6 to 8 feet (2 to 3 m) of gravel on bedrock. The valley centre section consisted of local areas of high bedrock with remnant gravel that was not mined by the dredge, and areas of silt and pockets of gravel left by the dredge. All of the gravel plus 4 feet (1 m) of the slabby bedrock were sluiced.

Bedrock Geology Bedrock exposed was quartz muscovite schist.

Gold Characteristics The gold was mostly fine grained and dark yellow with little quartz. The fineness was 810 to 840.

Sulphur, a tributary of Dominion

115O/10 2009: 63º42'26"N, 138º48'05"W

Kruger, 1975-2009

Water License: PM04-358 (Active 2014)
Active Producer (2007-2009) **Operation no. 60**

Location In 1978, the property was situated along the right limit of Sulphur Creek, approximately 8.6 km (5.4 miles) upstream from its confluence with Dominion Creek. In 1983, the property was located along the right limit of the creek, approximately 5.5 miles upstream from its confluence with Dominion Creek. From 1998 to 2009, Mr. Kruger continued his one man operation on the right limit of Sulphur Creek valley.

Work History and Mining Cuts Mr. Kruger worked a daily 8 hour shift in 2007-2009. Coulee Resources operated on Mr. Krugers ground for a period of time in 2007.

Equipment and Water Treatment In 2007-2009, equipment included a Caterpillar 225 excavator, two Caterpillar bulldozers (D7 and D9), a Caterpillar 955K loader, two Hough 120C loaders, and Koehring 605 dragline. Water was supplied at 1500-2000 IGPM, by an 8" by 8" Murphy pump powered by a 671 detroit engine, enough to process 50 loose cubic yards gravel per hour.

Henry Kruger's Sulphur Creek mine in 2007.

Surficial Geology and Stratigraphy The stratigraphic section consisted of 15 feet (5 m) of frozen black muck overlying 15 to 20 feet (5 to 6 m) of various gravel layers. These gravel units had 'White Channel' rocks, oxidized rounded rocks and flat slide rocks, and were comprised of a 4-foot (1-m) rusty layer, a 4-foot (1-m) yellow layer and a 4-foot (1-m) grey layer on bedrock. From 15 to 20 feet (5 to 6 m) of gravel were sluiced along with 1/2 to 1 foot (0.2 to 0.3 m) of bedrock.

Bedrock Geology The bedrock at this site was described as decomposed schist.

Gold Characteristics Gold was fine-grained and bright yellow with a fineness of 790 to 820.

Caribou, a tributary of Dominion

115O/15 2007: 63º49'43"N, 138º49'16"W

Stuart, 1977-86, 1989-1990, 1994-2005, 2007-2008

Water License: PM04-451 (Expired 2009)
Active Producer (2007-2009) **Operation no. 61**

Location The operation started off in 1977 on the upper reaches of Caribou Creek, a right limit tributary of Dominion Creek. In 1983, the operation was located approximately 3,500 feet upstream from its confluence with Dominion Creek, and 4000 feet upstream by 1985. In 1994, the location was between Caribou Creek and Lions Gulch, and in 1995, it was 2,500 feet upstream from its confluence with Dominion Creek. From 2003 to 2005, the operation was on Dominion Creek at the mouth of Caribou Creek. From 2006 to 2008, the operation was on Caribou Creek.

Work History and Mining Cuts From 2007-2008, two miners worked a daily 12 hour shift. The plant was set up in a central location and pay was hauled from various places in the valley.

Equipment and Water Treatment In mining seasons 2007-2008, equipment included a Hitachi EX300 excavator used to strip overburden and load pay, a 50 ton International Payhauler rock truck used to haul gravel, a Caterpillar D9G bulldozer to remove overburden and tailings as well as building settling ponds, and a Caterpillar 966C loader used to feed the wash plant. The wash plant consisted of a trommel with a 54" diameter barrel and 3/4" screen and two sluice runs, each 5' wide and 10' long. The sluice runs were lined with Nomad matting and 2" hydraulic riffles. Water was provided at 1500 IGPM by a 6" by 8" Monarch pump, powered by a GM 671 engine, washing 60-70 cubic yards (46-53 m^3) of gravel per hour.

Surficial Geology and Stratigraphy The section consisted of variable thicknesses of black muck and overburden overlying 3 to 5 feet (1 to 2 m) of gravel. From 2 to 3 feet (0.6 to 0.9 m) of gravel and 1 foot (0.3 m) of bedrock were sluiced.

Bedrock Geology Bedrock at this site was described as quartz-sericite schist.

Gold Characteristics Gold recovered from 2007-2008 was mainly coarse, bright and smooth with a purity of 820-850 fine.

Jim and Roger Stuarts' Black Hills Creek mining operation in fall 2009.

Dominion, a tributary of Indian

115O/15 2009: 63º47'09"N, 138º35'06"W
115O/15 2008: 63º49'34"N, 138º41'33"W

Sailer, 1990-2009

Water License: PM98-040 (Closed 2009)
Water License: PM04-421 (Active 2015)
Active Producer (2007-2009) **Operation no. 62**

Location Arthur Sailer mined on three properties on Dominion Creek, including Nevada Creek and Champion Pup. From 2003 to 2009, the locations varied between 15 and 25 miles (25 and 40 km) from the confluence.

Work History and Mining Cuts Mr. Sailer's camp consisted of 5 miners and one cook working one 10 hr shift daily. On average 4 mining cuts were stripped and sluiced per year from 2007-2009, each approximately 200 by 100 feet (61 by 30 m) in size.

Equipment and Water Treatment For mining seasons 2007-2009, equipment included four Caterpillar bulldozers (D9H, D9G, and two D814A), four Caterpillar excavators (225, 235B, and two 235C), four Caterpillar Loaders (980C and three 980B), and an International Harvester 350 Payhauler. The wash plants consisted of a 6' diameter, 12' long trommel, a 5' by 14' El Russ double screen deck, and a 10' by 20' Derocker. Four 2-1/2 by 10 foot sluice runs were lined with Coco matting, Nomad matting, and 1-1/2 inch angle iron riffles. Water was supplied at 2500 igpm by four pumps, a Caterpillar 10" Dayton Dowd, a Caterpillar 12" Byron Jackson, a Deutz 8" Marlow, and a John Deere 6" Gorman Rupp, washing 100 loose cubic yards of gravel per hour. Water was acquired from Dominion Creek and discharged out-of-stream into a 200 by 200 foot (61 by 61 m) settling pond. Final clean-ups were done daily using a jig.

Surficial Geology and Stratigraphy The average stratigraphic section from 2007-2009 was 10 to 50 feet (3 to 15 m) thick. Muck/silt overburden varied from 5 to 45 feet (1.5 to 14 m) in thickness, and the gravel varied in thickness from 5 to 10 feet (1.5 to 3 m). All of the gravel was sluiced along with several feet of bedrock.

Bedrock Geology Bedrock is mapped as Permian quartzite and quartz-mica schist.

Gold Characteristics Gold recovered in 2007-2009 mining seasons was described as fine, flat, and flakey with a fineness of 820.

Art Sailer's mining cut on Dominion Creek downstream of YCGC dredge #12 in 2009.

Art Sailer's upstream mining operation on Dominion Creek in 2008.

Gold Run, a tributary of Dominion

115O/15 2009: 63º45'11"N, 138º42'54"W

Alberta Gold Diggers Ltd., 2005-2009

Water License: PM99-065 (Expired 2009)
Water License: PM10-020 (Active 2020)
Active Producer (2007-2009) **Operation no. 63**

Location This operation was located on Gold Run Creek approximately 5 miles (8 km) from the confluence with Dominion Creek. It was bought from D&P Mining Exploration Ltd.

Work History and Mining Cuts In the 2007-2009 mining seasons, 4 miners and one camp person worked a daily 12 hour shift. Various-sized mining cuts were processed totalling approximately 15,000 bedrock square yards (12 542 m^2) per year.

Equipment and Water Treatment In the 2007-2009 mining seasons, equipment included a Caterpillar D10N bulldozer, a Komatsu D85 bulldozer, a Hitachi 400 excavator, a John Deere 270 excavator, a Komatsu 450 Loader, and two 27-ton Terex rock trucks used for hauling pay gravel and tailings. The wash plant consisted of a 5 cubic yard hopper feeding a 25' conveyor leading to a dump box which fed a 4 by 10 foot double screen deck. The sluice runs were 32' in length, the first 16' of which were 6' wide, lined with Nomad matting and Hungarian riffles, and sloped at 3" per foot. The second 16' of sluice runs were 6' wide, lined with Nomad matting and expanded metal, and sloped at 1-1/2" for every foot in length. Water was acquired from Gold Run Creek by a Caterpillar 3208 engine-powered, 10" by 12" pump, providing water at 1200 igpm to wash 60 loose cubic yards of gravel per hour. Water was discharged out-of-stream into a 98 by 328 foot (30 by 100 m) settling pond where it was 100% recycled. Clean-ups were done after every 40 hours of sluicing using a long tom.

Surficial Geology and Stratigraphy The 2007-2009 mining seasons exposed a section averaging 30 feet (9.1 m) of black muck and 5 feet (1.5 m) of gravel. All of the gravel and the upper 2 feet (0.6 m) of bedrock were sluiced from each cut.

Bedrock Geology Bedrock consisted of fractured and decomposed Klondike Schist.

Gold Characteristics Gold recovered from 2007 to 2009 was mostly fine-grained with a purity of 850.

Aerial view of Alberta Gold Diggers' operation on Gold Run Creek in 2009.

Dominion, a tributary of Indian

115O/15 2005: 63º46'33"N, 138º34'49"W

Conklin, 1998-2009

Water License: PM05-460 (Active 2015)
Active Producer (2007-2009) **Operation no. 64**

Location In 1998, this operation was located on the left limit of Dominion Creek, upstream from its confluence with Hunter and Laura creeks. From 2003 to 2009, this operation was located on a moderately wide section of Dominion Creek on the right limit of the valley at the mouth of Hunter Creek.

Work History and Mining Cuts Jim Conklin and crew actively mined at the site from 2007 to 2009. Jim Conklin was tragically killed in a heavy equipment accident at the mine site in September 2009.

Equipment and Water Treatment Equipment consisted of a Caterpillar D9H bulldozer for stripping, a Michigan 175B loader for feeding the wash plant, and a Bucyrus Erie 350 excavator for digging pay and stripping. An International 350 rock truck with a 45-cubic-yard capacity was used for hauling pay. The wash plant was a 4 by 8 foot screen deck with 3/4 inch punch plate and four 8 by 4 foot oscillating sluice runs lined with expanded metal and Nomad matting. Water for the plant was supplied at 800 igpm by a Gorman Rupp 6-inch pump powered by a 4 cylinder Perkins engine, and from 80 to 100 loose cubic yards per hour were processed. Water was supplied by an intake on Hunter Creek and effluent was settled out-of-stream.

Surficial Geology and Stratigraphy The section consisted of 5 to 8 ft (1.5 to 2.4 m) of frozen muck overlying 16 to 17 ft (4.8 to 5.2 m) of gravel. Four feet (1.2 m) of gravel plus 3 to 4 feet (0.9 to 1.2 m) of bedrock were sluiced.

Bedrock Geology Bedrock was fractured green schist.

Gold Characteristics The gold was reported as fine grained and yellow, with 80% minus 60 mesh and 20% plus 60 mesh. Much of the gold was minus 200 mesh. The fineness was 823.

Dominion, a tributary of Indian

115O/15 2009: 63º46'01"N, 138º31'39"W
115O/15 2007: 63º46'13"N, 138º32'00"W

Hollis, 2001-2009

Water License: PM97-047 (Active 2013)
Water License: PM02-299 (Closed 2008)
Water License: PM05-471 (Closed 2008)
Active Producer (2007-2009) **Operation no. 65**

Location From 2003 to 2009, this operation was on the left limit of Dominion Creek just downstream of the confluence with Jensen Creek.

Jim Conklin's mine on Dominion Creek at the confluence with Hunter Creek in 2007.

Work History and Mining Cuts Mr. Hollis and crew stripped and mined several cuts on Dominion in the area near the mouth of Jensen Creek between 2007 and 2009.

Equipment and Water Treatment Equipment at various times included a Caterpillar D9L bulldozer, three Komatsu excavators (PC400-3, PC300-HD and PC400-5), a Hitachi EX450-LCH excavator, a Terex Rock Truck and a 120 foot by 4 foot mobile conveyor which was mounted on the Hitachi EX450-LCH. Muck was stripped by the bulldozer and two of the excavators fed overburden to the mobile conveyor, which had a capacity to move 500 cubic yards per hour. An extension "slinger" on the conveyor allowed an additional throw of 45 feet. The wash plant consisted of a 5 foot by 11 foot oscillating screen deck with 7/16 inch screen, over three, 8 foot by 3 foot sluice runs with hydraulic riffles. A conveyor stacked coarse tailings.

Surficial Geology and Stratigraphy The section was frozen in places and thawed in places. From 32 to 34 feet (9 to 10 m) of black muck and gravel were stripped off. The sluiced section consisted of 4 to 5 feet (1 to 1.5 m) of fractured and decomposed bedrock.

Bedrock Geology Bedrock was described as green chlorite schist.

Gold Characteristics The gold was fine-grained, flat and bright yellow, with a fineness from 825 to 860.

Adrian Hollis' Dominion Creek operation used a mobile conveyor mounted on a Hitachi EX450-LCH with an extension 'slinger' to strip overburden.

Aerial view of Adrian Hollis' Dominion Creek operation in 2007.

Kentucky, a tributary of Dominion

115O/15 2008: 63º45'32"N, 138º30'46"W

Bodin, 2000-2008

Water License: PM99-071 (Expired 2009)

Active Producer (2007-2009) **Operation no. 66**

Location Kentucky Creek is a left-limit tributary of Dominion Creek.

Work History and Mining Cuts Mr. Bodin worked a daily 8-hour shift alone, stripping and mining a cut at the mouth.

Aerial view of Peter Bodin's mining operation at the mouth of Kentucky Creek in 2008.

Equipment and Water Treatment Equipment consisted of two Caterpillar bulldozers (D8H and D6), a Caterpillar 977H front-end loader and a Caterpillar 215 excavator, which fed the wash plant. A Caterpillar 966 loader was added in 2006. A 50-foot conveyor belt from the dump box fed the 36-inch drum trommel. Sluice runs measuring 3 by 16 feet were lined with expanded metal and Nomad matting. Water was supplied using a Dietz engine-powered 4 inch Monarch pump at 1400 igpm, enough to wash 25 cubic yards (19.1 m^3) per hour. Water was obtained from Kentucky Creek and almost 100% was recycled. The pond doubled as a reservoir and settling facility.

Surficial Geology and Stratigraphy The section consisted of up to 40 feet (10 m) of frozen black muck overlying 3 to 6 feet (1 to 2 m) of gravel on bedrock.

Bedrock Geology Bedrock was muscovite and chlorite schist.

Gold Characteristics Gold recovered was fine, flaky and bright coloured, with a fineness of 800 to 825.

Dominion, a tributary of Indian

115O/10 2007: 63º44'03"N, 138º31'15"W

A-1 Cats/365334 Alberta Ltd., 2002-2007

Water License: PM97-047 (Active 2013)

Water License: PM02-283, AP02283 (Active 2012)

Active Producer (2007-2009) **Operation no. 67**

Location A-1 Cats mined at the former location of the operation of Miles and Vicki Johnson. In 2002 and 2003, the operation was located at the west and east side of Dominion Creek valley bottom downstream from the confluence of left limit tributary Arkansas Creek. In 2004 and 2005, the pits were located in Dominion Creek valley across from the confluence of Cache Creek. In 2006, operations moved downstream from camp in the center of the valley and along the left limit portion of the Dominion creek road. In 2007, the operation was located on the left limit of Dominion Creek east of the Dominion Creek road.

Work History and Mining Cuts A large cut was mined in 2007 which was downstream of the previous year's pit, on the east side of the Dominion Creek road. The operation ceased mining after the 2007 season, and reclamation was completed in 2008.

Equipment and Water Treatment A variety of equipment was used in 2007 including Caterpillar rock trucks, bulldozers and excavators. The wash plant was a hopper and conveyor-fed double screen deck with a stacker for coarse tailings.

Surficial Geology and Stratigraphy The section consisted of 10 to 25 feet (3 to 8 m) of mud and silt overlying 7 to 13 feet (2 to 4 m) of sand and gravel. Economic concentrations of gold were mostly confined to the lowermost 3 feet (1 m) of cobble/boulder gravel units and 1 foot (0.3 m) of bedrock. Between 3 and 5 feet (1 and 1.5 m) of gravel and 1 to 3 feet (0.3 to 1 m) of bedrock were sluiced.

A-1 Cats' wash plant on Dominion Creek in 2007.

Bedrock Geology Bedrock exposed consisted of a dark-grey and greenish-grey, garnet-rich, micaceous schist.

Gold Characteristics Gold was mainly fine-grained with the majority less than 30 mesh in size. The fineness was 830.

Dominion, a tributary of Indian

115O/10 2009: 63º41'46"N, 138º33'39"W

Ross Mining Services Ltd., 1980-1984, 1990-2009

Water License: PM97-047(Active 2013)

Active Producer (2007-2009) **Operation no. 68**

Location In 1980, the property was situated along the right limit of Dominion Creek, in the broad, flat valley just downstream from the mouth of Gold Run Creek. In 1983, the property was located along the right limit of the creek, just downstream from the mouth of Gold Run Creek, near the edge of the wide Dominion Creek Valley. In 1999, the location of the operation was still on Dominion Creek, but at the confluence with Rob Roy Creek. Between 2003 and 2006, the operation was located just upstream of the mouth of Gold Run Creek. From 2007 to 2009, the mine continued to move in an upstream direction.

Ross Mining Ltd. on Dominion Creek was the largest operating placer mine in Yukon in 2008.

Work History and Mining Cuts The mine continued to operate in the 2007, 2008 and 2009 seasons, however it was transferred to receivers and put up for sale in mid-2009.

Equipment and Water Treatment There was a wide variety of equipment at various times, including five Caterpillar bulldozers (D11R, D10L, D10N, D9L, D8L) four excavators (Hitachi ZX850, Hitachi EX-1100, Caterpillar 245, Komatsu PC400), five Terex rock trucks (three Model 3309, 60-ton; two Model TA40, 40-ton), two Caterpillar 777B rock trucks, two Komatsu 330 rock trucks, three loaders (Caterpillar 980, 988, 992) three Caterpillar 631D scrapers and a Caterpillar 16G grader. The wash plant consisted of a grizzly hopper feeder with a conveyor to the plant, which had a 6- by 20-foot double screen deck and six oscillating sluice runs lined with angle iron riffles, expanded metal and Nomad matting.

Surficial Geology and Stratigraphy The stratigraphic section generally consisted of 10 to 20 feet (3 to 6 m) of black muck overlying 8 to 10 feet (2 to 3 m) of Dominion gravel and sand, overlying 8 to 12 feet (2 to 4 m) of Ross gravel, a white gravel which has been interpreted to be younger than White Channel gravel and has been paleomagnetically dated by Froese et al (2000) as greater than 780,000 years old. From 5 to 8 feet (1.5 to 2 m) of gravel were sluiced along with 2 to 6 feet (0.6 to 2 m) of bedrock.

Bedrock Geology Bedrock consists of Klondike Schist.

Gold Characteristics The gold was fine-grained with 50% less than 50 mesh in size, with a fineness of 825 to 853.

Gold Run, a tributary of Dominion

115O/10 2009: 63º41'30"N, 138º36'29"W

115O/10 2008: 63º42'56"N, 138º40'07"W

T.D. Oilfields Services Ltd. 2006-2009

Water License: PM08-599 (Active 2018)

Water License: PM98-020 (Expired 2008)

Active Producer (2007-2009) **Operation no. 69**

Location Between 2006 and 2009 the operation had two main areas of activity, one a few km upstream and one area near the mouth adjacent to the Dominion Creek road.

Work History and Mining Cuts This ground was purchased from Mary Ange Resources in 2005. From 9 to 11 miners worked in two main areas from 2007 to 2009. One cut was located upstream of the main camp near the mouth of Whitman Gulch and two cuts were located downstream on the both the left and right limits near the Dominion Creek road.

Equipment and Water Treatment Equipment on site at various times included Caterpillar rock trucks, loaders and bulldozers, a Caterpillar 345B excavator, a Volvo loader, a Volvo A30D rock truck, and a Hitachi excavator. The wash plant was a hopper-fed double screen deck with double to

T.D. Oilfields Services Ltd.'s wash plant on Gold Run Creek in 2009.

triple sluice runs and a conveyor to discharge coarse tailings. Water was acquired from Gold Run creek and settled out of stream with eventual discharge to Gold Run Creek.

Surficial Geology and Stratigraphy The section mined at the mouth on the right limit in 2009 consisted of 3 feet (1 m) meter of organic, overlying 16 feet (5 m) of cross-bedded fine sand and pebbly gravel, overlying 13 to 20 feet (4 to 6 m) of rusty red gravel, overlying 16 to 26 feet (5 to 8 m) of a grey/white pay gravel. Some of the red gravel as well as the grey gravel were sluiced.

Bedrock Geology Bedrock is quartz-mica schist.

Gold Characteristics Gold is likely similar to the previous operation of Mary Ange Resources at this location, which was 75% fine-grained and 25% small to medium-sized nuggets. Fineness was 840 to 850.

Dominion, a tributary of Indian

115O/10 2009: 63º39'09"N, 138º39'14"W

Gatenby Mining, 1998-2009

Water License: PM04-407, AP04407 (Active 2012)
Water License: PM07-563 (Active 2012)
Active Producer (2007-2009) **Operation no. 70**

Location Mining on this operation took place at the confluence of Dominion and Sulphur creeks.

Work History and Mining Cuts Gatenby Enterprises Ltd. had three miners working in the 2007-2009 mining seasons, working 1-1/2, 10 hour shifts per day. Each year the miners stripped and mined a block which measured approximately 60,000 cubic yards (46 000 m^3) in volume. Each block was subdivided into cuts which were approximately 10,000 to 15,000 cubic yards (7,600 to 11 500 m^3) each. In 2007, Block J was mined, 2008 was Block K, and 2009 was Block L.

Aerial view of T.D. Oilfields Services Ltd.'s left limit mining cut and wash plant on Gold Run Creek in 2008.

Gatenby Mining at the mouth of Sulphur Creek in 2008.

Equipment and Water Treatment Heavy equipment used during 2007-2009 included a Caterpillar D9L bulldozer and a Caterpillar D8H bulldozer for stripping, two Hitachi EX400 excavators used for mining and ditching, a Kawasaki 95Z III wheel loader to feed the wash plant, and a John Deere 844 loader for feeding the plant and as back-up. The wash plant consisted of a 36" El Russ feeder with a 42" feed conveyor leading to 6 by 20 foot double screen deck, which classified first to 1 inch and then to 1/2", and 5 sluice runs, the upper run measuring 8 by 8 feet and the bottom four runs each measuring 4 by 16 feet, all lined with Nomad matting and expanded metal. Water was supplied at 2000 igpm by a 8 by 10 inch Goulds pump, powered by a Cummins 855P engine, allowing the plant to process 130 loose cubic yards (100 m^3) gravel per hour. Water was acquired from ground water and 90% recycled out-of-stream in a 500 by 300 foot (152 by 91 m) settling pond before being discharged into Sulphur Creek. Clean-ups were done every 30 hours with a mechanical jig.

Surficial Geology and Stratigraphy The 2007-2009 mine cuts exposed a frozen stratigraphic section which was composed of 8 to 15 feet (2.4 to 4.6 m) of peat and/or soil overlying 5 to 15 feet (1.5 to 4.6 m) of Dominion gravel and 5 to 15 feet (1.5 to 4.6 m) of the much older "EL" gravel. Material sluiced was 5 feet (1.5 m) of the lowermost gravel and 2 feet (0.6 m) of bedrock. Dominion gravel is a rusty, pyrite-rich gravel which unconformably overlies a grey, kaolinite, quartz-clast and garnet-rich gravel known locally as 'EL' gravel. The 'EL' gravel is, stratigraphically, the same age as the Ross gravel, a reconcentrated White Channel derivative which has been paleomagnetically dated as greater than 780,000 years old (Froese et al. 2000).

Bedrock Geology The bedrock was described as decomposed chloritic schist with cross-cutting quartz veins.

Gold Characteristics The majority of gold recovered in 2007-2009 was flat, pounded out flakes, ranging mainly from 30 to 100 mesh in size with less than 2% greater than 10 mesh. It was very brightly coloured with a bulk fineness of 865.

Wounded Moose, a tributary of Indian

115O/10 2009: 63º37'08"N, 138º41'45"W

Erickson & Hayema, 2009

Water License: PM07-556 (Active 2017)

Active Producer (2007-2009) **Operation no. 71**

Location The operation was located at the mouth of Wounded Moose Creek, 0.3 kilometres from Indian River.

Work History and Mining Cuts John Erickson and Jan Hayema moved to this location from Hunker Creek and test-mined a pit in 2009.

Peter Erickson and Jan Hayema mined at the mouth of Wounded Moose Creek in 2009.

Equipment and Water Treatment Equipment used in 2009 included a Caterpillar D9G bulldozer for stripping and stocking paydirt and a Caterpillar 235 excavator for feeding the wash plant and building the drain. The wash plant consisted of a hopper/feed box with a spray bar and a straight-run sluice box lined with punch plate, expanded metal and angle-iron riffles. A side-run for undersize was lined with expanded metal and Nomad matting.

Surficial Geology and Stratigraphy The stratigraphic section was frozen and from 9 to 14 feet (2.7 to 4.2 m) thick. Nine feet (2.7 m) of organic and silt overburden was overlying a rusty imbricate stratified gravel with mixed angular and well-rounded clasts. The lowest 5 feet (1.5 m) of the gravel and from 3 to 9 feet (0.9 to 2.7 m) of the slabby fractured bedrock was sluiced.

Bedrock Geology Bedrock is mapped as Devonian/ Mississippian felsic orthogneiss.

Gold Characteristics Gold recovered in 2009 was rounded and flat to chunky with a fineness of 820-840.

Wounded Moose, a tributary of Indian

115O/10 2009: 63º37'20"N, 138º41'24"W

Abermeth, 2003, 2009

Water License: PM03-311 (Closed 2008)
Water License: PM09-653 (Active 2019)
Active Producer (2007-2009) **Operation no. 72**

Location The operation was located on Wounded Moose Creek, a tributary of the Indian River.

Work History and Mining Cuts In 2009, Mr. Abermeth and one assistant miner resumed testing on the property. A cut with dimensions 82 X 246 feet (25 by 75 m) was sluiced over a two week period.

Equipment and Water Treatment Equipment used in 2009 consisted of a Hitachi 270 excavator for stripping, feeding the plant and clearing tailings. A Caterpillar D-8 bulldozer was rented for occasional stripping. The wash plant consisted of a "shuffle feeder" with a vibrating double screen (2 inch and 3/4 inch) deck, an 8 foot wide sluice and a tailrace conveyor for coarse tailings. It was fed 1400 IGPM water by an 8 by 6 inch GM 4-53-powered pump. Miscellaneous Honda pumps were used for drainage, priming and camp. Water was 100% recycled, acquired from the old mining cut and discharged into the same mining cut into a pond with dimensions 655 by 245 by 20 to 25 feet (200 by 75 by 6 to 8 m). Clean-ups were done with a Spriggs Jig by Hanley River Resources in Dawson City.

George Abermeth's mining operation at the mouth of Wounded Moose Creek in 2009.

Surficial Geology and Stratigraphy In 2009, the mining cut was partially frozen and consisted of 10 to 20 feet (3 to 6 m) of gravel overlain by 4 to 10 feet (1.2 to 3 m) of silt and muck. An average of 6 feet (1.8 m) of gravel was sluiced along with some of the bedrock.

Bedrock Geology Bedrock in the mining cut in 2009 consisted of a purple schist.

Gold Characteristics In 2009, the gold was fine-grained with a purity of 856.

Indian, a tributary of Yukon

115O/10 2007: 63º36'39"N, 138º45'45"W

Colonial Gold Joint Venture, 2007

Water License: PM99-127 (Expired 2009)
Active Producer (2007-2009) **Operation no. 73**

Location This operation was located on the Indian River approximately two miles (3.2 km) upstream of the mouth of Eureka Creek.

Aerial view of Colonial Gold Joint Venture on Indian River upstream of the mouth of Eureka Creek in 2007.

Work History and Mining Cuts In 2007, Colonial Gold Joint Venture (Paul O'Brien and Gordon Watson) mined a pit about 2 miles (3.2 km) upstream of Eureka Creek on a left limit Indian River bench claim, that had been drilled and partially mined by a previous operator. They sluiced approximately 28,000 cubic yards (21 000 m^3) and then retired at the end of the year.

Equipment and Water Treatment Equipment on site included a Caterpillar D9H bulldozer, two Hitachi excavators and a skid-mounted New-Zealand style trommel which processed approximately 100 cubic yards (76.5 m^3) per hour.

Surficial Geology and Stratigraphy The section consisted of 12 to 15 feet (3.6 to 4.6 m) of organic and silt overlying 4 to 5 feet (1.2 to 1.5 m) of gravel on bedrock. There were two types of gravel, an upper brown stratified pebbly gravel and a lower grey, massive to stratified cobble gravel. Most of the gold was at the bedrock contact although values were found higher in the section. Organics within the brown gravel were radiocarbon dated at 6220 ± 40 years B.P.

Bedrock Geology The bedrock was fractured, hard quartz-mica schist with abundant coarse garnet.

Gold Characteristics The gold was reported as fine-grained and flat.

Indian, a tributary of Yukon

115O/10 2008: 63º36'42"N, 138º45'49"W

Ferguson/Fine Gold Resources 2008-2009

Water License: PM99-127 (Expired 2009)
Water License: PM10-001 (Active 2020)
Active Producer (2007-2009) **Operation no. 74**

Location This operation was located on Indian River approximately 3 km upstream of the mouth of Eureka Creek.

Work History and Mining Cuts In 2008 and 2009 Kim Ferguson and his family (operating under 10796 Yukon Ltd) leased some Indian River claims from Fine Gold Resources Ltd. In 2008, they cleared a 12,000 square yard (10 000 m^2) area, stripped 68,000 cubic yards (52 000 m^3) and sluiced 20,000 cubic yards (15 000 m^3) of pay gravel. In 2009, they cleared a 23,000 square yard area, stripped 136,000 cubic yards (104 000 m^3) and sluiced 45,000 cubic yards (34 000 m^3) of pay gravel.

Equipment and Water Treatment Kim Ferguson used a Caterpillar D9L bulldozer to strip and push up the pay, and a Caterpillar EL300 excavator to excavate material, feed the plant, perform reclamation, and for general service work around the mine. His wash plant consisted of a New Zealand style trommel with a capability of processing approximately 100 yds (76.5 m^3) per hour.

Surficial Geology and Stratigraphy The section consisted of 15 feet (4.6 m) of black muck overlying 4 feet (1.2 m) of gravel on bedrock, although there were the occasional areas with large sand lenses and no gravel. The gold was at the bedrock contact, and within the bedrock

Kim Ferguson mined on Indian River upstream of the mouth of Eureka Creek in 2008 and 2009, under an option agreement with Fine Gold Resources Ltd.

whenever hard fractured schist was encountered. There was also abundant garnet in the final cleanups.

Bedrock Geology Bedrock was a mixture of decomposed and hard fractured schist.

Gold Characteristics Gold was fine grained and dark yellow, with a fineness of 850.

Montana, a tributary of Indian

115O/11 2008: 63º37'04"N, 139º01'00"W

16406 Yukon Inc., 2009

Water License: PM08-625 (Active 2014)
Active Producer (2007-2009) **Operation no. 75**

Location The operation was located on a low, left limit bench of Montana Creek just upstream of the confluence with Bismark Creek.

Work History and Mining Cuts Mr. Tom Morgan began test-mining on the property in 2008.

Equipment and Water Treatment Equipment on-site included a Caterpillar bulldozer and a Hitachi excavator. The wash plant, a skid-mounted trommel with a stacker for tailings, was acquired from Klondike Star's former operation on Indian River. Water was acquired from Montana Creek, and effluent was discharged out of stream and fully recycled.

Kim Ferguson's wash plant on Indian River upstream of the mouth of Eureka Creek in 2009.

Surficial Geology and Stratigraphy The section consisted of a thin layer of organic overlying 2 to 3 feet (0.6 to 0.9 m) of sandy, mixed angular and rounded gravel on bedrock. All of the gravel and several feet of bedrock were sluiced. The pay was mainly in the bedrock and in narrow gravel pockets in undulating contacts.

Bedrock Geology Bedrock consisted of a mixture of carbonaceous sandstone and white limestone bands.

Gold Characteristics Gold from this location generally ranges from 10 to 60 mesh in size with a fineness of 790.

Eureka, a tributary of Indian

115O/10 2007: 63º35’58”N, 138º50’41”W
115O/10 2009: 63º36’15”N, 138º50’10”W

Fine Gold Resources Ltd. 2006-2009

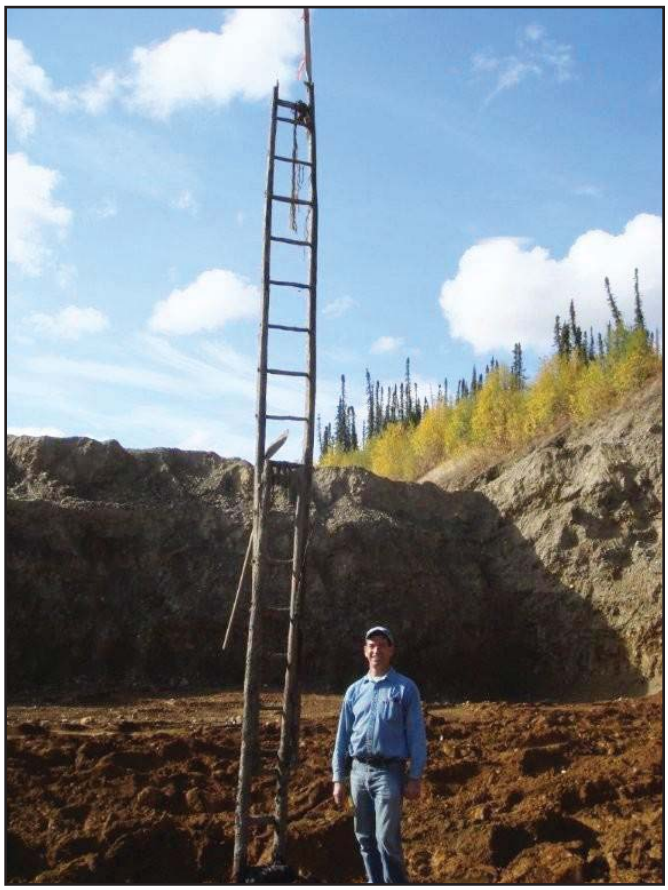
Water License: PM99-127 (Expired 2009)
Water License: PM10-001 (Active 2020)
Active Producer (2007-2009) **Operation no. 76**

Location This operation acquired the claims previously owned by Star North Placers Ltd, on the left limit bench of Eureka Creek, approximately 2.5 miles upstream from the mouth.

Work History and Mining Cuts In 2006, Mike Heisey moved his operations from Hattie Gulch (Australian Hill) to Eureka Creek and began working where the previous operator had left off, on a left limit bench of Eureka Creek with approximately 100 feet (30 m) of gravel overburden. Mike employed a crew of five miners and a cook, and they worked 2-hour shifts daily from the beginning of May until the end of September. They stripped and mined a separate pit each year (2007, 2008 and 2009) at the upstream left limit bench of Eureka, each with approximate dimensions of 12,000 square yards. An average of 25 yards of overburden was stripped away, 300,000 cubic yards (229 366 m^3) and 5 yards (4.6 m^3) of pay gravels were sluiced 60,000 cubic yards (45 873 m^3) each year. Because the bedrock appeared to be dropping into the mountain, a bedrock mapping study (Geoelectrical Resistivity Tomography) was undertaken in 2007 by Arctic Geophysics. This was done in an attempt to determine the bedrock profile to guide future mining operations, given the significant depth of stripping which is required and the difficulty of accurate auger drilling recovery at depths exceeding 100 feet (30.5 m). An extensive auger drilling program was conducted in different areas of the claims each year in an effort to build a database and to obtain information to high grade future mining efforts. In 2009, a downstream right limit bench of Eureka Creek yielded excellent drilling results in an area less than half the depth to bedrock of the current operations. Therefore, a stripping operation was immediately begun in that lower right limit area. In addition, stripping was also performed on the next upstream left limit bench pit, as well as a third area located on the left limit about a mile below the current operations, where drilling results were also positive.

Equipment and Water Treatment In 2006 and 2007, one D9H Caterpillar bulldozer with U-blade and ripper was used for stripping, ripping, pushing pay, stacking tailings, building settling ponds, reclamation work, repairing roads and improving the existing runway. Additional equipment included a Hitachi 400 excavator, a 769b Caterpillar (35 ton) rock truck, and a Komatsu WA500 loader (8-yard bucket). The excavator and truck were used for a majority of the stripping work and for hauling pay gravels to the plant. In 2008, an additional D9H bulldozer, Hitachi 450 excavator and Caterpillar D550 (55 ton) rock truck were added. In 2009, another D9H bulldozer, Hitachi Zaxis 450 excavator and Caterpillar 773b (50 ton) rock truck were added to the fleet. The Komatsu WA500 loader was used each year to feed the plant, remove tailings, and for general service work around the mine. The wash plant consisted of a 6’ x 35’ trommel mounted on a highboy trailer and fed by a belt driven feeder with a 25 yard hopper and 40’ conveyor. The trommel was powered by a 30 Hp electric motor and processed approximately 100 loose cubic yards (76.5 m^3) / hour. The sluice box measured 12’ wide x 10’ long and consisted of 4’ of expanded metal in the top, followed by a boil box, and then three sets (6’) of hydraulic riffles. Water was supplied from Eureka Creek by an 8x10 Fairbanks Morse pump powered by a Caterpillar 3306 engine which provided approximately 1500 igpm of water. Slurry was settled in out-of-stream settling ponds prior to returning to Eureka Creek. Cleanups were performed daily using an oscillating long tom, a gold wheel, and an RP-4 shaker table.

Surficial Geology and Stratigraphy Mining on the Eureka left limit bench occurs well above the valley floor. The section consists of approximately 10 feet (3 m) of organic muck at the surface, followed by approximately 90 feet (27.4 m) of alternating layers of gravel, mud and sand, with a mixture of alluvial and colluvial gravel and a generally increasing gravel size with depth. A separate



Mike Heisey of Fine Gold Resources Ltd. stands beside an old timer’s shaft and ladder found at the mining operation on Eureka Creek.

Fine Gold Resources Ltd. mining cut on the left limit bench of Eureka Creek in 2007.

pay layer was found 25 feet (7.6 m) above bedrock when the large size of the gravel rocks prompted several days of testing. When it was determined that the richness was only about 25% of the gravels at bedrock, the gold-bearing layer was wasted. Future mining will be conducting in part with a hydraulic monitor to aide in capturing the gold throughout the entire section. The pay gravels at bedrock were a bright red color and the sluiced interval generally included 8 feet (2.4 m) above bedrock and 4 feet (1.2 m) into bedrock. Occasional old-timer's shafts and drifts were encountered in the pits.

Bedrock Geology Bedrock was generally decomposed schist in varying colors (cream, gray, blue, red) with occasional quartz veins.

Gold Characteristics The gold was approximately 25% coarse and 75% fine, with some nuggets. It had a rough and untraveled look with quartz embedded in many of the coarse pieces. The gold exhibited two different colors suggesting different sources. One was a bright, shiny yellow color and the second was a dark brown and reddish color that could be mistaken as waste if not careful. The fineness averaged 740.

Eureka, a tributary of Indian

115O/10 2009: 63º33'53"N, 138º51'38"W

Eureka Placers Ltd. 1995-2009

Water License: PM05-489 (Active 2015)
Water License: PM06-536 (Active 2017)
Active Producer (2007-2009) **Operation no. 77**

Location In 1995 the property was located on the right fork of Eureka Creek approximately ½ mile upstream from the main forks, and in subsequent years the operators continued to mine in an upstream direction.

Work History and Mining Cuts The operation was active in several locations on the left fork of Eureka Creek between 2007 and 2009.

Equipment and Water Treatment In the 2007-2009 mining seasons, equipment included two Caterpillar excavators (225 and 235), a Caterpillar D9 bulldozer and a Caterpillar D8 bulldozer with a ripper. The wash plant consisted of a 6 foot diameter trommel with 1" angle iron riffles and expanded metal. Water was supplied by a 10" by 12" Morris pump powered by a Caterpillar 3406 engine at 2000 igpm.

Surficial Geology and Stratigraphy The stratigraphic section consisted of 25 to 35 ft (7 to 11 m) of frozen black muck overlying 5 to 6 ft (1.5 to 1.8 m) of gravel on decomposed bedrock. All of the gravel was sluiced.

Eureka Placers operation on Eureka Creek in 2008.

Bedrock Geology Bedrock at this site was decomposed chlorite schist.

Gold Characteristics Gold was reported to be less than 30 mesh in size, bright and red-stained, and having a fineness of 740.

Eureka, a tributary of Indian

115O/10 2008: 63º33'27"N, 138º52'03"W

Ripper Mining, 1998-2009

Water License: PM06-526 (Active 2011)
Active Producer (2007-2009) **Operation no. 78**

Location This operation was on an unnamed right limit tributary of the right fork of Eureka Creek.

Work History and Mining Cuts The operation had one to two miners and one helper during the seasons from 2007 to 2009. A small cut was completed in 2008 on the left limit, which was expanded upstream in 2009.

Equipment and Water Treatment In 2008, a John Deere 690 excavator was used to feed a small single-run sluice with a hopper. A Kubota KH007 was on-site for small-scale testing. In 2009, a trommel was added to the operation.

Surficial Geology and Stratigraphy The section mined on the left limit consisted of 8 to 10 feet (2.4 to 3 m) of black muck and organics overlying 6 feet (1.8m) of gravel on bedrock. All of the gravel plus 3 feet (0.9m) of bedrock were sluiced.

Bedrock Geology Bedrock at this location was a shattered quartzite and schist.

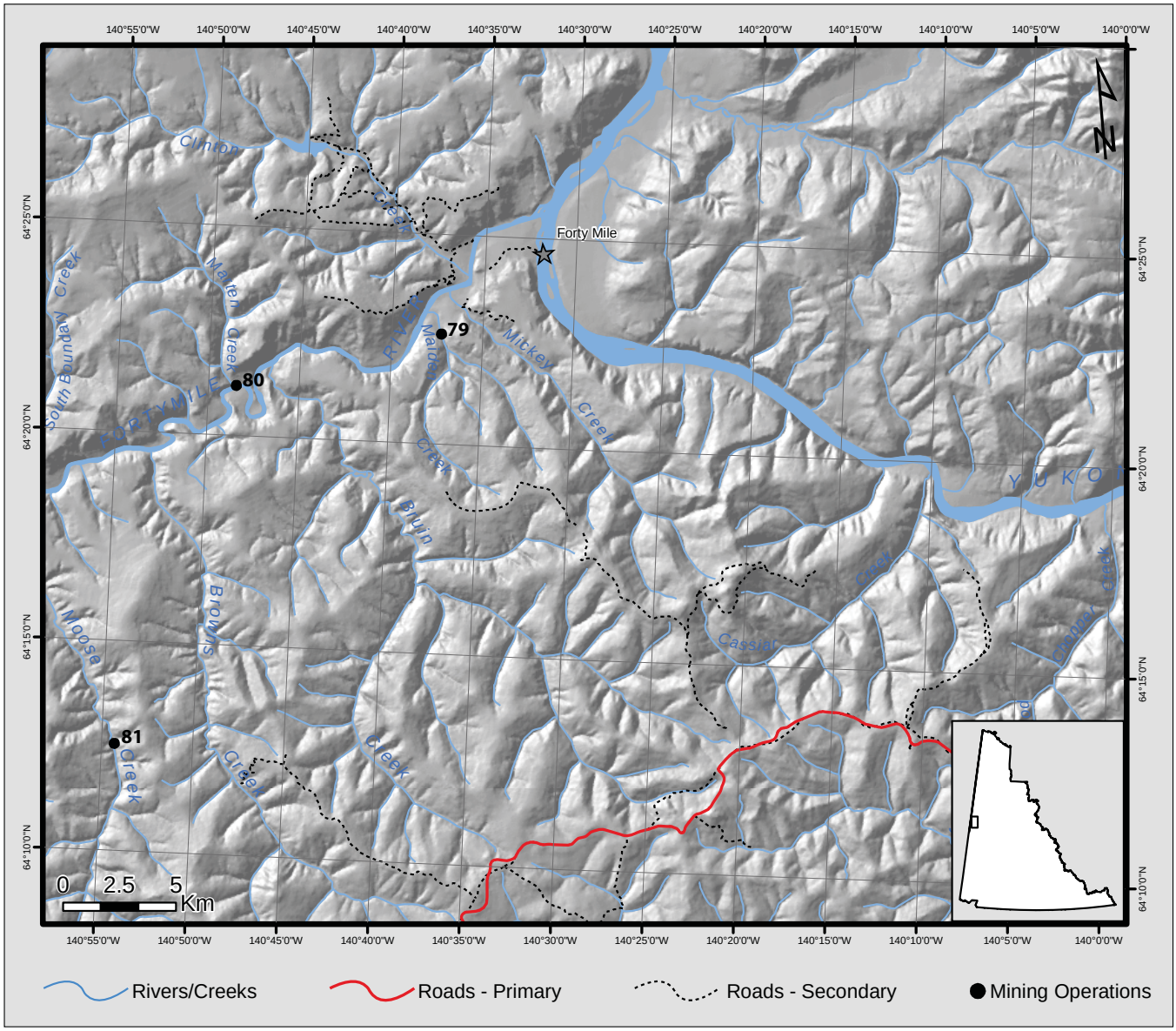
Gold Characteristics The gold was hackly and coarse with quartz attached, and it had a dull yellow colour. The fineness was 703. Concentrates included abundant barite.

Aerial view of Ripper Mining on upper Eureka Creek in 2009.

Ripper Mining on upper Eureka Creek in 2008.

FORTYMILE
PLACER AREA

SITES 79 - 81



LEGEND

79 ..... Groundhog Exploration Co. Ltd.
80 ..... Fortymile Placers
81 ..... Jones

Maiden, a tributary of Fortymile

116C/7 2007: 64º22'39"N, 140º37'16"W

Groundhog Exploration Co. Ltd., 2003-2007

Water License: PM05-501 (Expired 2007)
Water License: PM07-592 (Active 2013)
Active Producer (2007-2009) **Operation no. 79**

Location The operation was located on the right limit of Maiden Creek, a tributary of Fortymile River.

Work History and Mining Cuts Angus Woodsend and his son Cam drilled, stripped and sluiced ground on Maiden Creek beginning in 2003. The operation was active until 2007.

Equipment and Water Treatment The property was drilled using an 8 inch auger. Black muck was stripped with a Hitachi EX200 excavator, which also fed the plant. The plant consisted of a 3 1/2 foot diameter New Zealand-style trommel with a conveyor for stacking tailings. A 1 1/2 inch pump with a rotating fish screen installed on the pump intake was used to acquire make-up water from the creek, and a 4 1/2 inch pump was used in the cut to dewater. A single out-of-stream pond was used for settling and recycling water.

Surficial Geology and Stratigraphy Depths of black muck ranged between 0 to 6 feet (0 to 2 m) with a gravel layer from 12 to 18 feet (3 to 6 m); the bottom 10 feet (3 m) were processed.

Bedrock Geology Bedrock is mapped as Nasina group graphitic quartzite and muscovite quartz-rich schist.

Fortymile, a tributary of Yukon

116C/7 2008: 64º21'13"N, 140º48'28"W

Fortymile Placers, 1987-2009

Water License: PM97-072 (Closed 2008)
Water License: PM97-071 (Closed 2008)
Water License: PM07-579 (Active 2018)
Active Producer (2007-2009) **Operation no. 80**

Location In 1993, the operation mined on an island 5 miles upstream from the confluence with the Yukon River. In 1994, activity took place on the left limit of the river, 15 miles upstream from its confluence with the Yukon River. Between 1998 and 2002, two bench deposits and one gravel bar were mined on the left limit of the river, about 10 miles upstream from its confluence with the Yukon River. From 2003 to 2009, operations continued on the left limit in two locations, on a low bench and on river gravel bars during low water levels.

Work History and Mining Cuts A crew of 3 miners worked a daily 10 hour shift during the 2007-2009 mining seasons. In this time, one mine cut was stripped and sluiced, measuring 160 feet (50 m) wide and 500 feet (150 m) long.

Equipment and Water Treatment Equipment included a Hitachi UH10 excavator used to feed the wash plant, a Caterpillar D6G bulldozer for ground preparation and berm building, and a Caterpillar 920 loader as support. The wash plant consists of a 4 foot diameter floating trommel over two sluice runs each measuring 12 feet long and 6 feet wide, lined with hydraulic riffles. The wash plant processed 80 loose cubic yards of gravel per hour and clean-ups were done after every 50 hours of sluicing using a gold wheel. Processing water was acquired from the dredge pond and 100% recycled within the pond. Mining was carried out during low water periods only with no discharge of effluent other than by seepage. Restoration and stabilization of the gravel bar and bank was completed at the end of each season.

Surficial Geology and Stratigraphy The section consisted of thawed gravel bars with no overburden. A thickness of 16 feet (5 m) of gravel was overlying bedrock. All of the gravel was processed.

Bedrock Geology Bedrock consisted of Nasina series micaceous quartzite, quartz-mica schist and graphitic schist.

Gold Characteristics Gold was mostly fine-grained but ranged in size between 14 and 150 mesh, with a purity of 840.

Moose Creek, a tributary of Fortymile

116C/2 2009: 64º12'34"N, 140º54'18"W

Jones, 1995-2005, 2007-2009

Water License: PM99-145 (Closed 2010)
Water License: PM04-359 (Active 2014)
Active Producer (2007-2009) **Operation no. 81**

Location This operation was located near the upper end of Moose Creek, a trans-boundary tributary to the Fortymile River, near the Alaska border. In 2005, the operation moved to a downstream location where it was still active in the 2009 season.

Work History and Mining Cuts From 2007 to 2009 the operation was run by two miners working a daily 12 hour shift.

Equipment and Water Treatment The 2007-2009 mining seasons used a Hitachi UH14 excavator with a 1 1/2 yard bucket, a Hitachi EX300 excavator with a 2 1/2 yard bucket, and a Caterpillar D8H bulldozer. The wash plant was a self-propelled, 5 by 10 foot oscillating deck on tracks with a 3/4" screen leading to a 4 foot wide and 8 foot long sluice run, lined with Astroturf, 1/2" expanded metal and 1" angle iron riffles. Water was supplied at 500 IGPM by a 4" by 6" pump, powered by a 371 Detroit diesel engine, processing 70-80 loose cubic yards (54 to 61 m^3) of gravel per hour. Water was acquired from Moose Creek and effluent settled out-of-stream in 2007 and instream in the 2008-2009 seasons. Clean-ups were done daily using a small sluice box, gold wheel, and panning.

Surficial Geology and Stratigraphy The sections in 2007-2009 were thawed to frozen, consisting of up to 2 feet (0.6 m) of black muck and organics, overlying 4 to 10 feet (1.2 to 3 m) of gravel. All of the gravel was sluiced along with 2 feet (0.3 m) of bedrock.

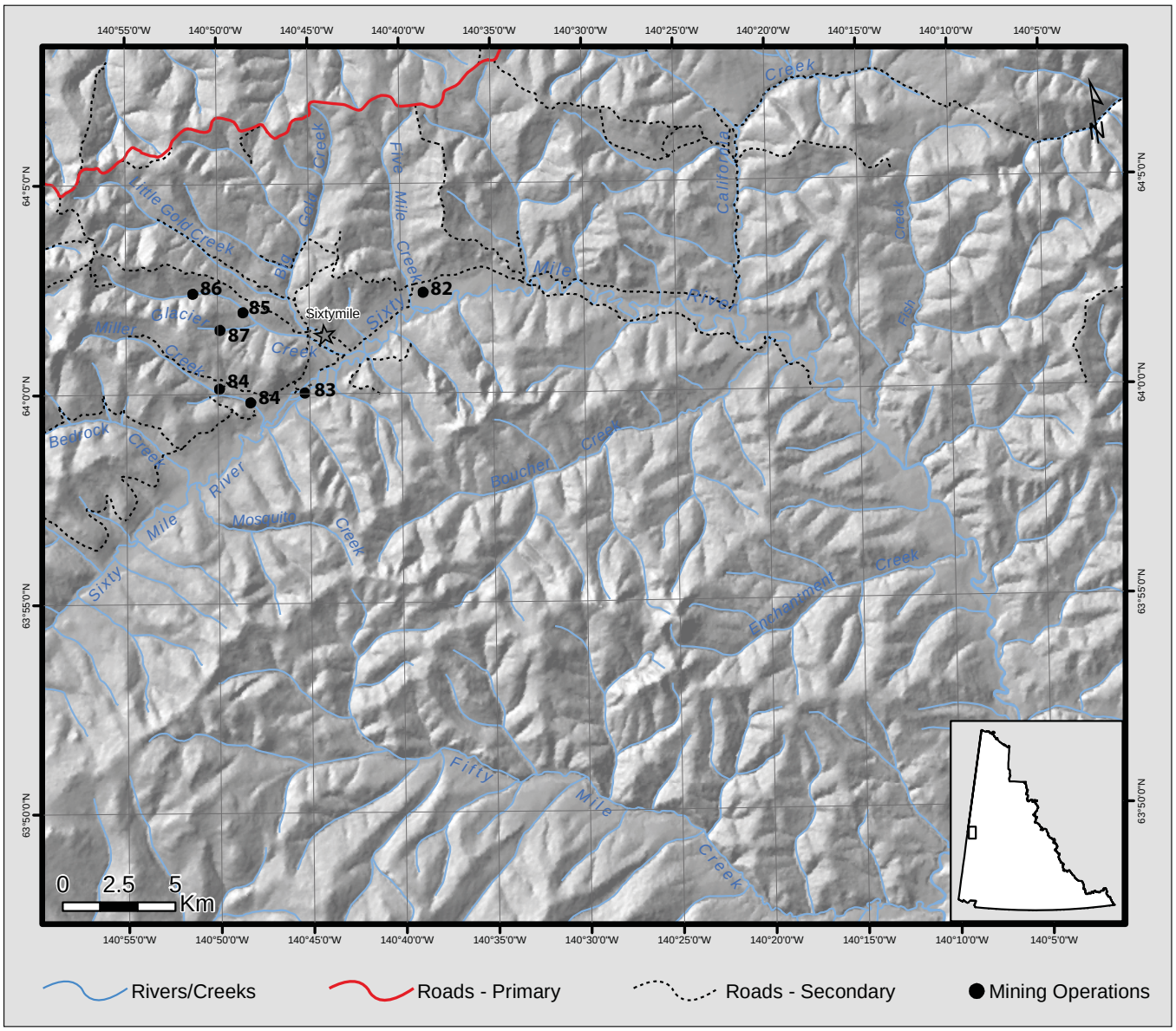
Bedrock Geology Bedrock is mapped as chlorite-biotite-schist.

Gold Characteristics From 2007 to 2009, the gold recovered was described as flat with a fineness of 850. A small number of nuggets were also recovered.

Daniel Jones' wash plant on Moose Creek was mounted on an excavator undercarriage for ease of portability.

SIXTYMILE
PLACER AREA

SITES 82 - 87



LEGEND

82 ..... Hawk Mining
83 ..... K-1 Mining & Services
84 ..... Miller Creek Mining
85 ..... Travis
86 ..... K-1 Mining & Services
87 ..... Hagen

Sixtymile, a tributary of Yukon

116C/2 2007: 64º02'25"N, 140º38'46"W

Hawk Mining, 1989-2009

Water License: PM03-342 (Active 2014)

Active Producer (2007-2009) **Operation no. 82**

Location In 1995 the operation was located on the left limit of Sixty Mile River near Five Mile Creek. In 1998 and 2000, the operation was located below Big Gold Creek on Sixtymile River. From 2003 to 2009, the operation was mining low-level gravel from the left limit floodplain of the Sixtymile River, near the mouth of Five Mile Creek.

Work History and Mining Cuts The operation mined at least four large cuts each year between 2007 and 2009.

Equipment and Water Treatment Equipment included two Caterpillar rock trucks, two Caterpillar loaders, three Caterpillar D9L bulldozers, a Hitachi excavator and a Caterpillar 245 excavator. The wash plant was a 5 by 18 foot double screen deck, which processed material at a rate of 225 to 340 loose cubic yards per hour. Water for the plant was supplied at 4000 to 5000 igpm by a Peerless 10 by 12 pump powered by a 3206 Cat engine. Water was obtained from out-of-stream ponds and effluent was settled out-of-stream. Recycling rate was up to 100%. Concentrates were removed from the wash plant every shift and final clean-ups were performed with jigs.

Surficial Geology and Stratigraphy The stratigraphic section consisted of 9 to 15 feet (3 to 5 m) of muck overlying 12 feet (4 m) of gravel. A total of 3 feet of gravel (1 m) and 3 feet (1 m) of bedrock were sluiced.

Bedrock Geology Bedrock at this site was fragmented and decomposed schist with localized clay and quartz boulders.

Gold Characteristics The gold was generally fine-grained with a fineness of 840.

The wash plant of Hawk Mining on Sixtymile River in 2009.

Hawk Mining on Sixtymile River in 2009.

Sixtymile, a tributary of Yukon

116C/2 2008: 64º00'03"N, 140º45'15"W

K-1 Mining & Services, 2008-2009

Water License: PM04-483A (Active 2013)

Active Producer (2007-2009) **Operation no. 83**

Location The 2008-2009 operation was located on Sixtymile River between Miller and Big Gold creeks.

Work History and Mining Cuts This operation started in 2008 after the acquisition of Colonial Gold Joint Venture's mining equipment. In 2008 and 2009, 4 miners and one cook/helper worked a daily 12 hour shift. In 2008, three different cuts were mined. These measured 375 by 75 feet (114 by 23 m), 750 by 150 feet (229 by 46 m), and 400 by 50 feet (122 by 15 m). In 2009, four more cuts were stripped and mined, measuring 450 by 150 feet (137 by 46 m), 500 by 110 feet (152 by 34 m), 125 by 180 feet (38 by 55 m), and 300 by 250 feet (91 by 76 m).

Equipment and Water Treatment From 2008 to 2009, equipment included a Hitachi ZX270LC-3 excavator to strip, move pay, dig drains, and reclamation; two Hitachi EX200-1 excavators for feeding the gold screen and for forwarding pay, removing tailings, digging drains and reclamation; a Caterpillar D8K bulldozer with a ripper to strip, build roads, reclamation, and moving smaller equipment, and a Moxy 5222B articulated rock truck to haul strippings, haul pay gravel, and reclamation work. The wash plant consisted of a 5 foot diameter New Zealand style land-based trommel over two sluice runs each with a run of hydraulic riffles followed by 12" by 48" of expanded metal over thick backless Nomad matting. Tailings were stacked with a 40 foot long conveyor. Water was supplied by an Isuzu 6BD1T diesel engine-powered, 6" by 6" Indeg pump at 800 IGPM, washing 75 loose cubic yards (57.3 m^3) of gravel per hour. Process water was acquired from Sixtymile River and effluent was settled in two out-of-stream ponds, each averaging 125 by 250 feet (38 by 76 m) before final discharge into Sixtymile River. Sluice concentrate was first processed with a 2 cell jig and long tom, and final clean-ups were done using a gold wheel.

K-1 Mining on Sixtymile River in 2008.

Surficial Geology and Stratigraphy The stratigraphic section was partially frozen with 8 to 12 feet (2.4 to 3.7 m) of silt and organics (black muck) and 6 to 10 feet (1.8 to 3 m) of gravel. Up to 4 feet (1.2 m) of gravel was sluiced along with up to 5 feet (1.5 m) of bedrock.

Bedrock Geology Bedrock in the area has been mapped as a rhyodacite and dacite and was described as blocky.

Gold Characteristics The gold recovered in 2008 and 2009 was rounded and fine-grained with less than 5% greater than 12 mesh. The fineness was 820.

Miller, a tributary of Sixtymile

116C/2 2007: 64º00'09"N, 140º49'55"W

115N/15 2008: 63º59'50"N, 140º48'14"W

Miller Creek Mining, 1991-2009

Water License: PM04-439 (Active 2015)

Active Producer (2007-2009) **Operation no. 84**

Location In 1991, the property was located in the narrow valley bottom of Miller Creek approximately 3,500 feet (1067 m) upstream from the confluence with the Sixtymile River. Later, some mining cuts were situated upstream of the Bedrock Creek access road crossing of Miller Creek, while the settling ponds were downstream of the crossing. In 2006, operations took place downstream from the old Miller creek townsite. From 2007 to 2009, mining took place on the left limit bench upstream of camp.

Work History and Mining Cuts Between 2007 and 2009, Mr. Murtagh and one helper mined several cuts on the left limit bench just upstream of the old underground workings.

Equipment and Water Treatment Equipment included two Hitachi excavators (EX700H and EX300LC), a Caterpillar D9L bulldozer, a Caterpillar 980B loader and a Terex Payhauler 350C rock truck. The wash plant was a skid-mounted trommel with a hopper, scrubber and a tailings stacker.

Surficial Geology and Stratigraphy The left limit section on the bench consisted of 25 feet (8 m) of Mn and Fe-stained pebby-cobbly gravel on bedrock, overlain by a sandy clay/organic layer 3 to 6 feet (0.9 to 1.8 m) thick, overlain by another 35 feet (10 m) of inversely-graded sandy pebbly gravel and sand. The sandy clay/organic layer was radiocarbon dated at 30,530 +/- 250 years B.P. The bottom 8 feet (2.4 m) of gravel and some bedrock was sluiced.

Bedrock Geology Bedrock was described as wavy decomposed schist.

Gold Characteristics The majority of gold was greater than 35 mesh in size, with occasional nuggets up to 1/4 ounce.

Miller Creek Mining's operation on Miller Creek in the fall of 2008.

Aerial view of Miller Creek Mining on the left limit bench of Miller Creek in 2009.

Glacier, a tributary of Big Gold

116C/2 2009: 64º01'59"N, 140º48'36"W

Travis, 2003-2009

Water License: PM02-305 (Closed 2008)
Water License: PM05-496 (Active 2015)
Active Producer (2007-2009) **Operation no. 85**

Location This property was located approximately 1.9 miles (3 km) upstream from the mouth of Glacier Creek.

Work History and Mining Cuts Mr. Travis mined a right-limit bench cut under K-1 Mining and Services Ltd.'s water license in 2009.

Equipment and Water Treatment Equipment included a P&H excavator and Komatsu P31 track loader to strip and move material. The wash plant was a 30- by 30-inch shaker screen deck attached to a single 25-foot sluice run lined with Nomad matting, one riffle and expanded metal. The processing rate was approximately 25 loose cubic yards per hour.

Surficial Geology and Stratigraphy The cut on the right limit bench had several metres of frozen muck overlying cobbly gravel on bedrock.

Bedrock Geology Bedrock is mapped as a Devonian Mississippian quartzite and schist.

Floyd Travis mined on Glacier Creek in 2009.

Glacier, a tributary of Big Gold

116C/2 2009: 64º02'26"N, 140º51'20"W

K-1 Mining & Services, 1998-1999, 2009

Water License: PM05-496 (Active 2015)
Active Producer (2007-2009) **Operation no. 86**

Location During 1998-1999, K-1 Mining & Services operated on Glacier Creek, 6 km upstream of the historic Glacier/Big Gold confluence on the left limit bench. In 2009, the operation was located along the left limit upper bench of Glacier Creek, approximately 6.5 kilometers upstream from the mouth.

Work History and Mining Cuts In 2009, the Glacier Creek operation employed 4 miners and 1 cook/helper, working a daily 12 hour shift. Three cuts were sluiced and mined on the upper left limit bench. These measured 375 by 60 feet (114 by 18 m), 100 by 85 feet (31 by 30 m), and 175 by 40 feet (53 by 12 m).

Equipment and Water Treatment In 2009, equipment included a Hitachi ZX270LC-3 excavator to strip, move pay, dig drains, and reclamation; two Hitachi EX200-1 excavators for feeding the gold screen and for forwarding pay, removing tailings, digging drains and reclamation; a Caterpillar D8K bulldozer with a ripper to strip, build roads, reclamation, and moving smaller equipment, and a Moxy 5222B articulated rock truck to forward pay into the old cut on the upper bench. The wash plant consisted of a 5 foot diameter New Zealand style land-based trommel over two sluice runs each with a run of hydraulic riffles followed by 12" by 48" of expanded metal over thick backless Nomad matting. Tailings were stacked with a 40 foot long conveyor. Water was supplied by an Isuzu 6BD1T diesel engine-powered, 6" by 6" Indeg pump at 800 IGPM, washing 75 loose cubic yards (57.3 m^3) of gravel per hour. Process water was acquired from Glacier Creek and effluent was settled out-of-stream in two ponds, each approximately 100 by 80 feet (30.5 by 24.4 m), and an instream settling pond, measuring 250 by 200 feet (76.2 by 61 m). There was no discharge to the creek as the water was contained in the 1999 mining cut. Sluice concentrate was first processed with a 2 cell jig and long tom, and final clean-ups were done using a gold wheel.

Surficial Geology and Stratigraphy The stratigraphic section seen in 2009 was frozen and consisted of up to 55 feet (17 m) of slide rock and silt overlying 25 feet (7.6 m) of gravel, up to 12 feet (3.7 m) of which was sluiced along with up to 6 feet (1.8 m) of bedrock.

Bedrock Geology Bedrock was slabby graphitic schist.

Gold Characteristics Gold recovered in 2009 was "shotty" and mostly coarse, with greater than 10% +10 mesh in size. The fineness was 860.

K-1 Mining's wash plant on Glacier Creek in 2009.

Aerial view of K-1 Mining's operation on upper Glacier Creek in 2009.

Glacier, a tributary of Big Gold

116C/2 2009: 64º02'16"N, 140º49'23"W

Hagen, 1983-1984, 1998-2001, 2007-2009

Water License: PM05-500 (Active 2016)
Water License: PM05-496 (Active 2015)
Active Producer (2007-2009) **Operation no. 87**

Location The property was located on Glacier Creek 7 km upstream from the confluence with Sixtymile River.

Work History and Mining Cuts In 2009, Mr. Hagen worked a daily 8 hour shift throughout the season, performing testing, stripping and sluicing. Much of the ground had been previously stripped. Plans to do further testing were made and will determine final mining cut sizes. Mr. Hagen was mining 0.9 miles (1.5 km) downstream of the 2009 location in 2007 and 2008, working under K-1 Mining's water license.

Equipment and Water Treatment In 2009, equipment included a Hein-Werner C12b excavator with a 3/4 cubic yard bucket and a Caterpillar D7 bulldozer. The excavator was used for transferring paydirt for the bulldozer or directly to the wash plant and constructing settling ponds. The bulldozer was used to transport paydirt up to the wash plant, road maintenance, and tailings removal. The wash plant consisted of a punch plate with 3/4" holes, a single screening deck 30" wide by 8' long and a sluice run 24" wide by 12' long, lined with expanded metal and angle-iron riffles. Water was provided at 400 IGPM by a 6" by 4" AC 226-01 gas powered pump, washing 25 loose cubic yards (19.1 m^3) per hour. Water for the wash plant was pumped from Glacier Creek and discharged out of stream into a single 50 ft (15.2 m) wide by 100 ft (30.5 m) long by 5 ft (1.5 m) deep settling pond before being released back into Glacier Creek. A long tom and gold wheel were both used in clean-ups.

Surficial Geology and Stratigraphy The section consisted of 6 feet (1.8 m) of partially frozen gravel on bedrock. All of the gravel was sluiced along with 2 feet (0.6 m) of bedrock.

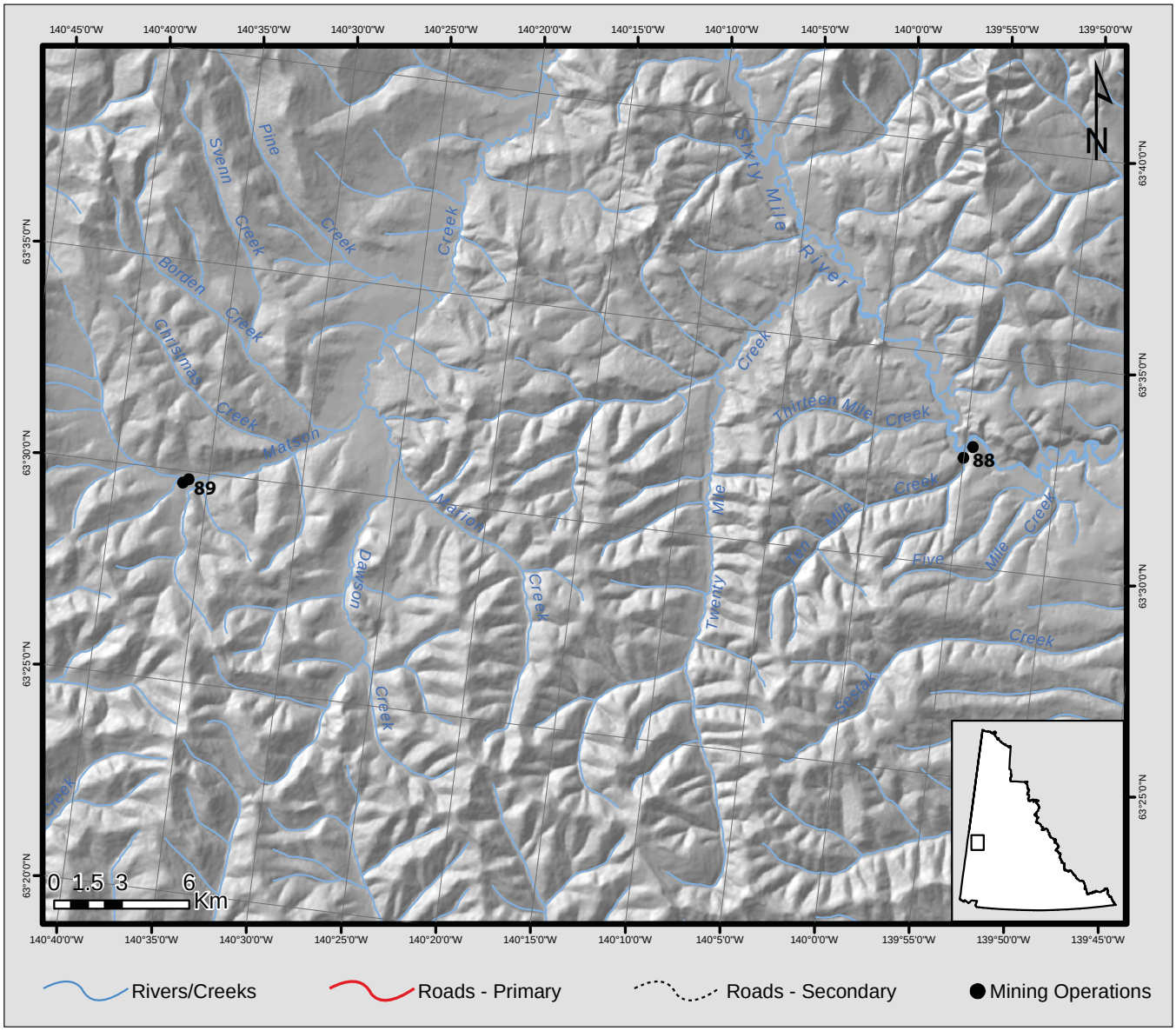
Bedrock Geology Schist bedrock was exposed in the section in 2009.

Gold Characteristics Gold recovered in 2009 had a fineness of 840.

Gordon Hagen mined on Glacier Creek in 2009.

MATSON CREEK
PLACER AREA

SITES 88 - 89



LEGEND

88 ..... Midas Rex Mining Inc.
89 ..... Magna North Gold Ltd.

Sixtymile, a tributary of Yukon

115O/12 2007: 63º32'36"N, 139º55'01"W
115O/12 2009: 63º32'53"N, 139º54'35"W

Midas Rex Mining Inc., 2006-2009

Water License: PM05-492 (Active 2015)
Active Producer (2007-2009) **Operation no. 88**

Location The operation was located on the lower Sixtymile River valley between the mouth of Ten Mile Creek and the confluence of Sixtymile River and Yukon River.

Work History and Mining Cuts The crew of eight miners and one camp person shared two daily 12-hour shifts. At the mouth of Ten Mile Creek on the right limit of Sixtymile River, a large cut was processed. Other cuts were located immediately downstream on the right limit of Sixtymile River.

Equipment and Water Treatment Equipment included two Caterpillar D10N bulldozers with U-blades and rippers for stripping, pushing pay to the sluice plant, stacking tailings and testing. A Hitachi EX700 Hydraulic excavator with a 3 1/2-cubic-yard bucket was used to feed the sluice plant, dig drains and test. A Nodwell-mounted Mobil Drill auger drill was used for exploration and testing. The wash plant consisted of an 8-foot-diameter Gray Brothers trommel plant with 8 foot wide, 1 by 1 inch riffles and a 24 foot wide section of expanded metal runs and a tailings stacker. The wash plant was driven by a Caterpillar 3306 diesel engine driving hydraulic pumps to power the trommel, stacker and hydraulic winches to position the sluice tables. The plant was mounted on a modified, non-powered Caterpillar 245 excavator track frame and was moved using a tow hitch to a Caterpillar D10N tractor. Water was supplied from either the Sixtymile River or groundwater. A Caterpillar 3408 diesel-powered 10 by 12 inch Gould's Model JC pump supplied 3000 igpm. The plant processed 250 loose cubic yards per hour. Effluent was settled out-of-stream. Clean-ups were done daily with a long tom, gold wheel and Deister table.

Surficial Geology and Stratigraphy At the mouth of Ten Mile Creek, the partially thawed section consisted of 0 to 8 ft (0 m to 2.4 m) of technogenic sand, silt and mud overlying 4 to 8 ft (1.2 m to 2. 4 m) of virgin gravel on bedrock. Three feet (0.9 m) of gravel and 2 to 4 feet (0.6 m to 1.2 m) of bedrock were sluiced. The section on Sixtymile River was frozen and consisted of 8 to 10 feet of river silt overlying 5 to 8 feet of cobbly white gravel on bedrock. Three feet (0.9 m) of gravel and 2 to 4 feet (0.6 m to 1.2 m) of bedrock were sluiced.

Bedrock Geology Bedrock was slabby quartz schist with bands of cross-cutting limestone.

Aerial view of Midas Rex Mining's operation at the mouth of Ten Mile Creek in 2007.

A view of Midas Rex Mining's wash plant and mining cut on Sixtymile River downstream of Ten Mile Creek in 2009.

Allen Radford of Magna North Gold Ltd. mined on the right limit bench of Matson Creek in 2008.

Gold Characteristics The gold was fine grained and bright yellow with a fineness of 820.

Matson, a tributary of Sixtymile

115N/7 2008: 63º29'50"N, 140º36'03"W

Magna North Gold Ltd. 2002-2009

Water License: PM04-425, AP04425 (Active 2015)

Water License: PM04-450 (Active 2015)

Active Producer (2007-2009) **Operation no. 89**

Location Between 2003 and 2009 this operation was located at various locations in the centre of the valley on the left and right limits of Matson creek, and on both the right and left-limit benches.

Work History and Mining Cuts The operation was active during the reporting period on several cuts including the right limit bench, in the valley centre and on the left limit.

Equipment and Water Treatment Equipment included a Komatsu 475A bulldozer, a Caterpillar D10N bulldozer, two Volvo EC360 excavators each with 3-cubic-yard buckets, one 35-cubic-yard capacity A35D Volvo rock truck and a Caterpillar 980C loader. The loader was used to push tailings and haul fuel barrels to equipment. A Caterpillar 12F grader was used to maintain roads. The wash plant consisted of a

John Matson, Klondike Kate's husband, was buried at Matson Creek in December 1946 by a team of Mounties who came out by dog team from Dawson. His grave has been carefully preserved by the placer miners of Matson Creek.

14- by 10-foot hopper attached to an El Russ 6- by 16-foot screen deck lined with the New Era riffle system and Nomad matting. The pump was a Berkley 12- by 10-inch powered by a Caterpillar 3306 three-phase diesel electric motor rated at 100 horsepower. It was capable of pumping 3300 igpm and allowed the processing of 300 loose cubic yards per hour. Water acquisition was from Matson Creek and effluent was settled out-of-stream in a previous mining cut. Clean-ups were done with a two-cell jig every day that sluicing occurred.

Surficial Geology and Stratigraphy The stratigraphic section in the valley consisted of up to 40 feet (12 m) of black muck overlying 3 to 10 feet (0.9 to 3 m) of gravel. On the bench, up to 8 feet (2 m) of black muck overlaid 12 to 20 feet (3.6 to 6 m) of gravel.

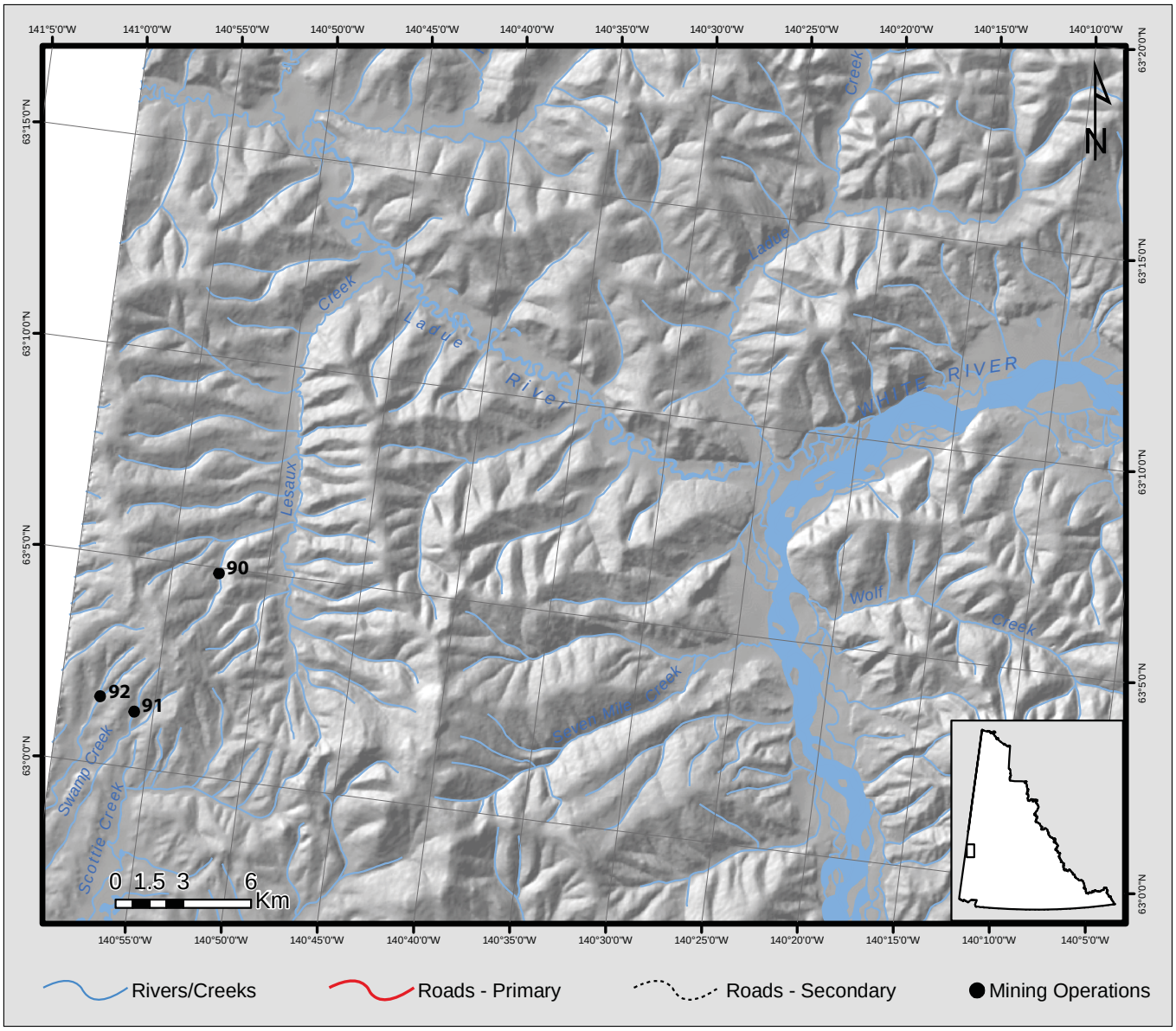
Bedrock Geology Bedrock was variably-decomposed schist.

Gold Characteristics Gold was flaky and two distinct colours, yellow-brassy and copper-coloured. The majority was greater than 35 mesh in size with some small nuggets recovered.

Magna North's wash plant on Matson Creek in 2009.

MOOSEHORN
PLACER AREA

SITES 90 - 92



LEGEND

90 ..... Moosehorn Exploration Ltd.
91 ..... Hartley
92 ..... Moosehorn Exploration Ltd.

KATE, A TRIBUTARY OF GREAT BEAR

115N/2 2009: 63º04'54"N, 140º52'33"W

Moosehorn Exploration Ltd., 1989-1992, 1999-2009

Water License: PM98-018 (Closed 2008)
Water License: PM99-044 (Closed 2007)
Water License: PM97-002 (Closed 2007)
Active Producer (2007-2009) **Operation no. 90**

LOCATION In 1989, the property was located on Kate Creek, a tributary of Great Bear Creek, which flows into Lesaux Creek. Between 1999 and 2009, mining took place on Kate Creek and Roo Pup, as well as Swamp, Soya and Diana creeks on the other side of the Moosehorn ridge.

WORK HISTORY AND MINING CUTS From 2007 to 2009, a crew of 4 miners and 1 to 2 cooks/helpers worked a daily 11 hour shift. The mine cut each year averaged 150 by 200 by 60 feet (46 by 61 by 18.3 m). Extended drought periods in 2007 and 2009 did not stop mining operations as ground water was collected and recycled.

EQUIPMENT AND WATER TREATMENT Equipment used on Kate Creek from 2007 to 2009 included three Caterpillar 225BL excavators used for stripping, moving the wash plant and dam construction, a Caterpillar D9H bulldozer to build dams, mine ore and reclamation, a Caterpillar D7F bulldozer for road maintenance and a Caterpillar 980C loader used to load the wash plant and remove coarse tailings. The wash plant was made up of a wet dump box and 3/4" grizzly feeding an upper sluice run with dimensions 4' by 10' and three lower sluice runs totalling 10.5' wide and 12' long. The sluice runs were lined with Nomad matting, 3/4" expanded metal, 2" hydraulic riffles, and 1- 1/4" angle iron riffles. Water was provided at 2000 IGPM by a 10" by 12" Morris pump, powered by a Caterpillar 3406 engine. Approximately 60 loose cubic yards (45.9 m^3) of gravel was washed per hour. Water was acquired from Kate Creek and 100% recycled through a 200 by 150 foot (61 by 45.7 m) settling pond before being released back into Kate Creek. Clean-ups were done after 30 hours of sluicing using a jig, gold wheel and screens, panning and magnets.

SURFICIAL GEOLOGY AND STRATIGRAPHY The stratigraphic section from 2007-2009 was frozen and consisted of 0-4 feet (0 - 1.2 m) silt and organic overburden and 20-60 feet (6.1 to 18.3 m) of gravel, all of which was sluiced. The mined area included an alluvial fan and a narrow creek gulch that drains it below. The miners note that there is some evidence of a local valley glaciation on the east side of the Moosehorn range, including the presence of a boulder till, and loess/muck layers near bedrock.

BEDROCK GEOLOGY Bedrock at this site is deeply weathered granodiorite.

Moosehorn Exploration's mine at Kate Creek in 2008.

Gold Characteristics Gold recovered from 2007 to 2009 had a fineness of 800. An average of 7% of the gold was +16 mesh, 35% was +30 mesh, 42% was +50 mesh and 14% was -50 mesh.

Swamp, a tributary of Scottie

115N/2 2009: 63º01'21"N, 140º56'01"W

Hartley, 1991-1992, 1998-2000, 2007-2009

Water License: PM04-434 (Active 2010)
Active Producer (2007-2009) **Operation no. 91**

Location This operation was located on the right fork of Swamp Creek.

Work History and Mining Cuts Glenn Hartley mined alone, working a daily 10 hour shift. Over the 2008 and 2009 seasons a 70 by 350 feet (21 by 107 m) cut was mined.

Equipment and Water Treatment In the 2008 and 2009 seasons, equipment included two Terex 8240 bulldozers, a Trojan 2500 wheel loader, and an Insley H1500C excavator. The wash plant consisted of a 4- by 10-foot, Telsmith single oscillating screen deck with 3/4 inch punch plate, powered by a 3 cylinder Lister engine. The sluice run was 4 feet wide and 20 feet long and lined with 2" expanded metal and 2" angle-iron riffles. Water was supplied to the wash plant at 1200 igpm by a 6- by 8-inch Gorman-Rupp pump, powered by a GM 453 engine, which was enough to process 100 loose cubic yards (77 m^3) of gravel per hour. Effluent was discharged to a 60 by 150 foot (18 by 46 m) pond and 100% recycled. Final clean-ups were done with a 12 inch by 10 foot vibrating shaker table.

Surficial Geology and Stratigraphy The stratigraphic section mined in the 2008 and 2009 seasons was frozen. It consisted of 12 feet (3.7 m) of organics and silt overlying 20 feet (6 m) of gravel. All of the gravel was sluiced.

Bedrock Geology Bedrock is mapped as granite and granodiorite.

Gold Characteristics Gold recovered from in the 2008 and 2009 seasons was rough and irregular in shape. Approximately 90 percent of the gold was minus 10 mesh in size, and the fineness was 800.

Swamp, a tributary of Scottie

115N/2 2008: 63º01'37"N, 140º57'54"W

Moosehorn Exploration Ltd., 1998-2009

Water License: PM98-018 (Expired 2008)
Water License: PM08-607 (Active 2018)
Active Producer (2007-2009) **Operation no. 92**

Location Moosehorn Exploration mined Swamp, Soya and Diana creeks on the west side of the Moosehorn range under this license.

Work History and Mining Cuts During the 2007 to 2009 mining seasons, a crew of 2 miners and a cook worked a single daily shift of 11 hours. A cut measuring 600 by 45 by 8 feet (182.9 by 13.7 by 2.4 m) was stripped and sluiced during that time.

Equipment and Water Treatment From 2007 to 2009, equipment included two Caterpillar 966C excavators for loading the sluice and removing coarse tailings, two

Glen Hartley's wash plant on Swamp Creek.

Aerial view of Moosehorn Exploration's mining operation on Swamp Creek in 2008.

Caterpillar 225BL excavators used for dam construction, fine tailings removal, and windrowing hydraulicked placer gravel, and a Caterpillar D8H bulldozer for building roads and dams as well as reclamation. The wash plant consisted of a wet dump box feeding a 3/4" grizzly which released gravel onto a 4' by 20' sluice run, lined with Nomad matting, 3/4" expanded metal, 2" hydraulic riffles and 1-1/4" angle-iron riffles. Water was delivered to the sluice box at 1000 IGPM by a 6" by 6" Monarch pump powered by an Isuzu engine, washing 35 loose cubic yards (27 m^3) of gravel an hour. A 4" by 4" Lister pump was used for hydraulic washing of the side pay bank to promote thawing of ore and wash away thawed muck. Water was acquired from Swamp Creek and 100% recycled through a 150 by 150 foot (46 by 46 m) settling pond before being released back into Swamp Creek. Clean-ups were done every 20 hours of sluicing using a jig, gold wheel and screens, before panning and separation of magnetic minerals with a magnet.

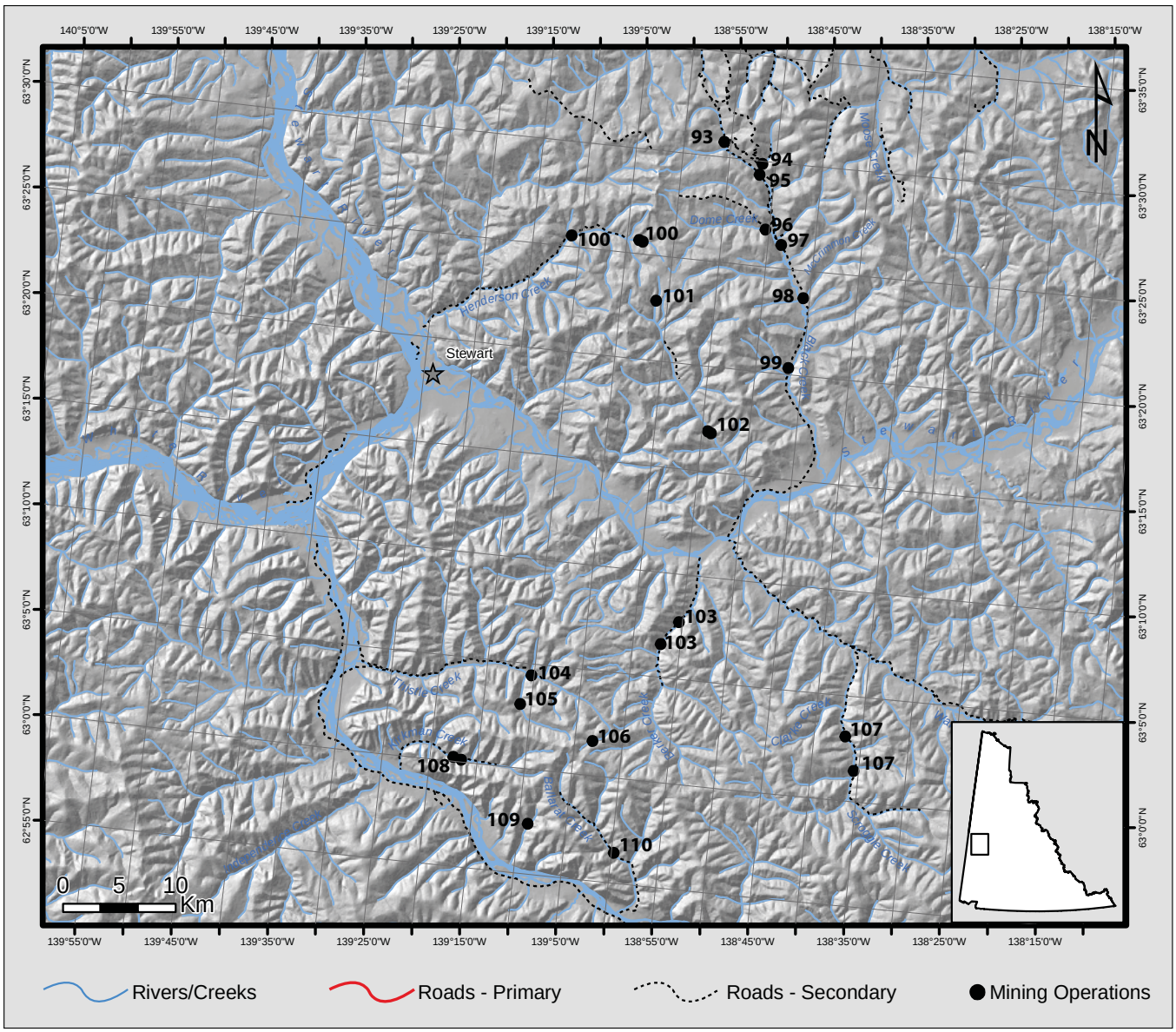
Surficial Geology and Stratigraphy The stratigraphic section of the mine cut included 6 to 20 feet (1.8 to 6 m) of gravel, all of which was sluiced along with the top foot (0.3 m) of bedrock. Overburden was up to 25 feet (7.6 m) thick and consisted of loess, silt and frozen muck mixed with volcanic (White River) ash.

Bedrock Geology The bedrock is mapped as mid-Cretaceous granodiorite.

Gold Characteristics Gold was frothy and hackly, with a fineness of 800. The grain size averaged 4% +16 mesh, 35% +30 mesh, 40% +50 mesh, and 21% less than 50 mesh.

SOUTH KLONDIKE
PLACER AREA

SITES 93 - 110



LEGEND

93 ..... R. Smith Placer Mining Ltd.
94 ..... Klippert, K.
95 ..... Paydirt Holdings Ltd.
96 ..... Armstrong
97 ..... Stuart Placers
98 ..... Hughes
99 ..... S & L General Contracting Ltd.
100 ..... H.C. Mining Ltd.
101 ..... VanEvery Inc./Christiansen
102 ..... Maisy Mae Mining Inc.
103 ..... Midas Rex Mining Inc.
104 ..... Midas Rex Mining Inc.
105 ..... Sager
106 ..... Sager
107 ..... Bidrman
108 ..... Fell Hawk Placers
109 ..... Fischer
110 ..... Weber

Black Hills, a tributary of Stewart

115O/10 2008: 63º30'45"N, 138º55'44"W

R. Smith Placer Mining, 1996-1998, 2007-2009

Water License: PM06-508(2016)
Active Producer (2007-2009) **Operation no. 93**

Location This operation was located near the headwaters of Black Hills Creek. The mining in 2009 was located near the mouth of an unnamed left limit tributary.

Work History and Mining Cuts Two miners and a cook/helper were on site for mining seasons 2007-2009, working a single shift per day.

Equipment and Water Treatment From 2007-2009, equipment included a Caterpillar D9 bulldozer, a Caterpillar D8 bulldozer, a Hitachi 330 excavator, and a Caterpillar 996 wheeled loader. The wash plant consisted of 4 foot diameter trommel feeding into three sluice runs, each 4 feet wide and 10 feet long. The sluice was lined with Nomad matting, 1-1/2 inch expanded metal, 2 inch hydraulic riffles, and 1-1/2 inch angle-iron riffles. Water was acquired from Black Hills Creek at 1000 igpm using a 6- by 6-inch pump, powered by a Ford industrial diesel engine. Discharge was to Black Hills Creek with no recirculation. The wash plant processed 60 loose cubic yards (45.9 m^3) of gravel per hour. The final stages of clean-up were done using a long tom, gold wheel, and gold panning.

Rod Smith's trommel at the mine on upper Black Hills Creek in 2008.

Surficial Geology and Stratigraphy The 2007-2009 seasons exposed a frozen stratigraphic section composed of 15 to 20 feet (4.5 to 6 m) of black muck overlying 3 to 5 feet (0.9 to 1.5 m) of gravel. All of the gravel and up to a foot (0.3 m) of bedrock was sluiced. A volcanic ash exposed in the section immediately above the pay gravel was identified by John Westgate of the University of Toronto as the 25,000 year old Dawson Tephra.

Bedrock Geology Bedrock is mapped as Devonian/Mississippian Nasina Group quartzite and upper Cretaceous Carmacks volcanics.

Gold Characteristics A wide variety of gold was recovered from this site although most of the gold was flat, round and usually 12 mesh in size. Occasional nuggets as large as 1/3 ounce and some wire gold were recovered. The fineness was 680.

Child's Gulch, a tributary of Black Hills

115O/7 2009: 63º29'53"N, 138º51'28"W

Klippert, K., 2008-2009

Water License: PM03-337 (Closed 2009)
Water License: PM08-617 (Active 2019)
Active Producer (2007-2009) **Operation no. 94**

Location The operation was located on Childs Gulch in two locations, near the mouth and approximately a kilometre upstream.

Work History and Mining Cuts Mr. Klippert mainly worked alone in 2009, testing several places on the right limit of Child's Gulch.

Equipment and Water Treatment Equipment included a Michigan 275B loader and Hitachi excavator, and a small screen plant for testing.

Surficial Geology and Stratigraphy The section consisted of a mixture of coarse tailings and remnant alluvium in the centre of the valley and angular pebble cobble gravel overlain by slide rock and colluvium on the right limit.

Bedrock Geology Bedrock consisted of a quartz-mica schist.

Kim Klippert's mining cut on Child's Gulch in 2009.

Black Hills, a tributary of Stewart

115O/7 2009: 63º29'21"N, 138º51'38"W

Paydirt Holdings Ltd., 1983-1984, 1989-2009

Water License: PM04-445 (Active 2015)

Active Producer (2007-2009) **Operation no. 95**

Location In 1983, the property was located directly across from the mouth of left limit tributary, Oil Gulch. In 1989, the property was located just downstream of Childs Gulch. Working their way upstream, the operation was located at the mouth of Childs Gulch by 1992. By 1997, mining had continued in an upstream direction on Black Hills Creek, with the main operation now located approximately one mile upstream from the mouth of Childs Gulch. A single cut was also mined downstream near the main camp in 1997. From 2003 to 2006 the operation continued working upstream and in 2006 the operation was on a left limit bench upstream of camp. From 2007 to 2009, the operation was on the left limit bench near the mouth of Child's Gulch.

Work History and Mining Cuts Between 2007 and 2009, a cut was mined on the left limit bench upstream of the camp.

Equipment and Water Treatment Three Caterpillar D9H Caterpillar bulldozers were used for stripping the cuts and stockpiling the pay gravel. A Caterpillar 235 excavator fed the sluice plant, and a Caterpillar 980C loader removed tailings. A 6 by 8 foot dump box fed into a 10 foot long Derocker over a 40-foot-long sluice run lined with expanded metal riffles and Nomad matting. A Cornell 10 inch water pump, powered by a Caterpillar 3208 diesel engine, supplied about 2500 igpm of water which was used to process about 100 cubic yards per hour. Water was acquired from an in-stream reservoir and effluent was settled in three out-of-stream ponds built from mined-out cuts. Clean-ups were done using a jig, gold wheel and by hand-panning.

Surficial Geology and Stratigraphy The stratigraphic section on the left limit was frozen and consisted of a 15 foot (4.5 m) thick cobble boulder gravel overlain by 25 feet (7.6 m) of black muck and silt. A bedrock reef 15 feet (4.5 m) high was located in the valley upstream and it had a 4 foot (1.2 m) thickness of gravel on it which was sluiced. All of the gravel in the left limit section was sluiced along with some bedrock.

Paydirt Holdings mine on Black Hills Creek in 2009.

Bedrock Geology Bedrock exposed was a blue and white clay-altered schist.

Gold Characteristics Gold was flat to chunky and orange-yellow in colour. Quartz was attached to some grains. Nuggets were recovered on the upstream end of the cut which may have been sourced from Child's Gulch.

Dome, a tributary of Black Hills

115O/7 2009: 63º26'49"N, 138º52'00"W

Armstrong, 2002-2009

Water License: PM06-512 (Active 2017)

Active Producer (2007-2009) **Operation no. 96**

Location This small-scale mining operation was located on Dome Creek, a right-limit tributary to Black Hills Creek.

Work History and Mining Cuts William Armstrong worked alone for the 2007-2009 mining seasons. In 2007 and 2009, Mr. Armstrong worked 8 hours daily and in 2008, 10 hours a day. In 2007 the mine cut dimensions were 164 by 262 feet (50 by 80 m), in 2008 the mine cut was 82 by 492 feet (25 by 150 m) and in 2009 the mine cut was 82 by 246 feet (25 by 75 m).

Equipment and Water Treatment From 2007 to 2009, a John Deere 790 excavator was used and in 2009 a Caterpillar D8 bulldozer was added to the operation. The wash plant consisted of a Derocker over a 5' oscillating sluice run, which was lined with Nomad matting and expanded metal. An 8" by 6" pump powered by a Caterpillar D315 engine supplied the wash plant with water at 1200 igpm. This was enough water to process 60 loose cubic yards (46 m^3) of gravel per hour. Water was acquired from Dome Creek. In 2007, water was recycled through a 130 by 100 foot (40 by 30 m) pond, but in 2008 and 2009, water was not recycled from the pond. Clean-ups were done daily on the boil box and on the rest of the runs after 30 hours of sluicing.

William Armstrong's wash plant and mining cut on Dome Creek in 2009.

William Armstrong's mining operation on Dome Creek, a right limit tributary of Black Hills Creek, in 2009.

Surficial Geology and Stratigraphy Mining seasons 2007 to 2009 exposed very similar frozen sections, consisting of 10 to 16 feet (3 to 5m) of moss and black muck and 3 to 16 feet (1 to 5m) of gravel. The gravel/bedrock contact and a thin amount of bedrock was sluiced, as the gold values didn't appear to go deep.

Bedrock Geology Bedrock is mapped as Devonian/ Mississippian quartzite and schist.

Gold Characteristics Gold recovered from 2007 to 2009 was rough in texture and had a fineness of 750.

Black Hills, a tributary of Stewart

115O/7 2009: 63º26'08"N, 138º48'37"W

Stuart Placers, 2009

Water License: PM99-043 (Valid 2010)
Active Producer (2007-2009) **Operation no. 97**

Location The operation in 2009 was located on Black Hills Creek on a left limit bench between Minton and Mills creeks.

Work History and Mining Cuts In 2009, Jim and Roger Stuart worked a daily 12 hour shift, stripping and sluicing material on the left limit bench. Some time was spent early in the season bringing their camp and equipment over from the operation at Caribou Creek.

Equipment and Water Treatment Equipment used in 2009 included a Hitachi EX300 excavator used to strip overburden and load pay, a 50 ton International Payhauler to haul pay gravel, a Caterpillar D9G bulldozer to build settling ponds and remove overburden and tailings, and a Caterpillar 966C loader used to feed the wash plant. The wash plant consisted of a 54" trommel with a 3/4" screen leading onto two sluice runs, each 5 feet wide and 10 feet long and lined with Nomad matting and 2" hydraulic riffles. Sluice water was supplied at 1500 IGPM by a 6" by 8" Monarch pump, powered by a 671 GM engine, processing 60-70 loose cubic yards (46-53 m^3) of gravel an hour. Water was acquired from Black Hills Creek and effluent settled out-of-stream in a pond measuring 800 by 50 feet (244 by 15 m), with no discharge back to the creek. The top mats were cleaned daily and final concentration was done twice in the season using a single cell jig.

Surficial Geology and Stratigraphy The stratigraphic section on the bench was partially frozen and consisted of 10 feet (3 m) of black muck overlying 12 to 14 feet (3.5 to 4 m) of cobbly gravel. From 8 to 9 feet (2.5 to 3 m) of gravel was sluiced along with 1 to 2 feet (0.3 to 0.6 m) of slabby bedrock.

Bedrock Geology Bedrock is mapped as Devonian/ Mississippian Nasina quartzite and was described as slabby at the cut.

Gold Characteristics Gold recovered in 2009 was very flat and mainly fine-grained but in various sizes, with some wires. The bulk fineness was 770.

McCrimmon, a tributary of Black Hills

115O/7 2009: 63º23'43"N, 138º45'43"W

Hughes, 2008-2009

Water License: PM08-624 (Active 2019)
Active Producer (2007-2009) **Operation no. 98**

Location The operation was located on McCrimmon Creek less than 0.5 kilometers from its' confluence with Black Hills Creek.

Work History and Mining Cuts Steve and Josh Hughes worked a daily 10 hour shift during the 2008 and 2009 mining seasons. A cut measuring 75 feet by 30 feet by 10 feet (23 by 9 by 3 m) was stripped and sluiced.

Steve and Josh Hughes mined on Black Hills left limit tributary McCrimmon Creek in 2008 and 2009.

Equipment and Water Treatment From 2007 to 2009, a Hitachi EX60 excavator was used to strip material, feed the wash plant and remove tailings. The wash plant consisted of a 32" diameter, land-based trommel and a 24 inch by 8 foot sluice run, lined with Coco matting and 1" angle iron riffles. Water was supplied by a 3" gasoline-powered Honda pump, enough for processing 15 to 20 loose cubic yards (12 to 15 m^3) of gravel per hour. The water was acquired from McCrimmon Creek and settled out-of-stream in two ponds measuring 30 by 15 by 6 feet (9 by 5 by 1.8 m) and 30 by 30 by 10 feet (9 by 9 by 3 m) before being discharged into either McCrimmon or Black Hills Creek. Clean-ups were done with a small high-banker and panning.

Surficial Geology and Stratigraphy The stratigraphic section exposed in 2008-2009 was frozen along the creek but thawed along the benches. It was composed of 6 to 8 feet (1.8 to 2.4 m) of black muck overlying a thin, cobbly gravel, all of which was sluiced along with 2 feet (0.3 m) of bedrock.

Bedrock Geology Bedrock exposed in 2009 was quartz-mica schist.

Gold Characteristics Gold recovered in 2008 and 2009 was fine-grained with a purity of 780.

Black Hills, a tributary of Stewart

115O/7 2009: 63º20'20"N, 138º46'32"W

S & L General Contracting Ltd., 2009

Water License: PM99-043 (Valid 2010)
Active Producer (2007-2009) **Operation no. 99**

Location The Hambrook's operation is located along Black Hills Creek approximately 9 Kilometers from the confluence with the Stewart River.

Work History and Mining Cuts The 2009 operation was run by 2 miners and 1 helper/cook, working a daily 14 hour shift. A single mine cut was made, measuring 1000 by 250 feet (305 by 76 m).

Equipment and Water Treatment Equipment used in 2009 included two Hitachi EX300LC-3 excavators and a Caterpillar D9N bulldozer. The wash plant consisted of a track-mounted, 6 by 20 foot trommel over two 8 by 8 foot sluice runs, which were lined with Nomad matting, expanded metal and hydraulic riffles. Tailings were stacked by a 50 foot long conveyor. Water was supplied at 1200 IGPM by a 6" by 8" pump powered by a John Deere 6068T engine, enough to process 90 to 120 loose cubic yards (70 to 90 m^3) per hour. Sluice water was acquired from Black Hills Creek and settled out-of-stream in a 300 by 250 foot (91.4 by 76.2 m) pond with final discharge into Black Hills Creek. Clean-ups were done daily using a long tom and gold wheel.

S & L General Contracting mined on lower Black Hills Creek in 2009.

Surficial Geology and Stratigraphy The stratigraphic section varied from frozen to thawed and consisted of 8 to 10 feet (2.4 to 3 m) of silt and organic overlying 8 feet (2.4 m) of gravel, of which 3 feet (0.9 m) was sluiced along with up to 3 feet (0.9 m) of bedrock.

Bedrock Geology Bedrock is mapped as amphibolite schist and gneiss and varied in character from blocky to decomposed.

Gold Characteristics Gold recovered in 2009 was described as flat and fine with a purity of 810.

Henderson, a tributary of Stewart

115O/6	2007: 63º25'35"N, 139º10'55"W
115O/6	2008: 63º25'41"N, 139º03'44"W
115O/6	2009: 63º25'38"N, 139º03'21"W

H.C. Mining Ltd., 2004-2009

Water License: PM03-310 (Active 2013)

Active Producer (2007-2009) **Operation no. 100**

Location In 2009, the operation was located on Henderson Creek upstream of the confluence with Moosehorn Creek.

Work History and Mining Cuts Between four and five miners and one camp person worked a daily 12-hour shift, five days a week. Several cuts were processed both upstream and downstream of the camp and airstrip.

Equipment and Water Treatment Equipment included a Hitachi UH143 excavator and a Hitachi EX300 excavator for stripping, a Caterpillar D9N bulldozer and a Caterpillar D9T bulldozer for stripping and pushing up pay, and a Hitachi Zaxis 350LC excavator for feeding the plant. The wash plant was fed at 120 to 160 loose cubic yards per hour, and it included a 10 by 10 foot hopper over a Terex Simplicity 5 by 14 foot double screen deck and an 11 by 7.5 foot primary sluice run followed by two 8 by 14 foot secondary sluice runs with angle iron riffles. Tailings were stacked with a 32 inch by 50 foot conveyor. Water was acquired from Henderson creek and 100% recycled. Clean-ups were done using a long tom and a gold wheel.

Surficial Geology and Stratigraphy The upstream cuts were comprised of poorly sorted angular gravel with a thin amount of overlying muck. Downstream cuts on both limits had 10 to 50 feet (3 to 15 m) of frozen black muck overlying 5 to 15 feet (1.5 to 4.5 m) of frozen gravel.

Bedrock Geology Bedrock was a mafic biotite schist and orthogneiss.

Gold Characteristics The gold in upstream cuts was unworn and occasionally dendritic with a fineness of 700. Downstream cuts had gold which was more travelled with a fineness of 760.

H.C. Mining acquired a new Caterpillar D9T for their mining operation on Henderson Creek in 2008. It turns on a dime and is very fuel-efficient.

H.C. Mining's operation on the left limit of Henderson Creek in 2009.

Maisy May, a tributary of Stewart

115O/6 2009: 63º22'53"N, 139º01'15"W

VanEvery Inc./Christiansen, 1993-2009

Water License: PM99-015(Closed 2009)
Water License: PM09-637 (Active 2020)
Active Producer (2007-2009) **Operation no. 101**

Location The property was located on Maisy May Creek near its headwaters.

Work History and Mining Cuts Art Christiansen and his sons Shane and James conducted a small-scale mining program in 2009.

Equipment and Water Treatment Equipment included a Caterpillar 225 excavator, Caterpillar loader and a small vibrating double screen deck with a single sluice run. The sluice run was lined with angle iron riffles, expanded metal and Nomad matting. A temporary diversion was constructed on the right limit to allow mining on the left limit, and effluent was settled out of stream and recycled.

Surficial Geology and Stratigraphy The stratigraphic section consisted of 15 to 20 feet (4.5 to 6 m) of mixed organic muck and slide rock and 8 to 10 feet (2.4 to 3 m) of angular muddy cobble boulder gravel on bedrock. All of the gravel was sluiced.

Bedrock Geology Bedrock is mapped as Nasina quartzite.

The mining cut and test plant of the Christiansen/Van Every mining operation on upper Maisy May Creek in 2009.

Maisy May, a tributary of Stewart

115O/7 2007: 63º16'52"N, 138º54'02"W
115O/7 2008: 63º16'56"N, 138º54'23"W

Maisy Mae Mining Inc., 2007-2008

Water License: PM99-151 (Active 2010)
Active Producer (2007-2009) **Operation no. 102**

Location This operation was bought from 35249 Yukon Ltd. in 2006 and was located approximately 7 km from the confluence with Stewart River.

Work History and Mining Cuts A continuous mine cut was processed in 2007 and 2008. The property was not active in 2009.

Equipment and Water Treatment Equipment on site included two Caterpillar D9N bulldozers, a Caterpillar 350 excavator, a Caterpillar 966C loader, and a Hitachi EX200 excavator. The wash plant consisted of a reverse-spiral trommel which concentrated pay gravel to minus 1 inch through a 3- by 20-foot tail sluice run and a feedback loop to an 18-inch by 16-foot side sluice run. An estimated 8 yards per hour of minus 1-inch concentrate were processed by the side run and 225 cubic yards per hour could be processed in the main sluice run. At the end of 2008 a screen deck with at hopper and conveyor feeder was brought in.

Surficial Geology and Stratigraphy The stratigraphic section consisted of 1 foot (0.3 m) of vegetation underlain by up to 20 feet (6 m) of frozen black muck and 5 to 6 feet (1.5 to 1.8 m) of frozen sandy cobble gravel. The bottom 4 feet (1.2 m) of gravel and 3 feet (0.9 m) of bedrock were sluiced.

Bedrock Geology Bedrock exposed was a blocky quartzite.

Gold Characteristics The gold was reported by previous operators to be flat, smooth and bright, with 60% fine and 40% coarse. Nuggets often had quartz attached. The fineness was approximately 780.

The trommel operated by Maisy Mae Mining on Maisy May Creek in 2008 was acquired from an operation on Anderson Creek in the Mayo Mining District. It featured a unique internal reverse-spiral which looped pay material back to a side sluice run.

Maisy Mae Mining operating on Maisy May Creek in 2007.

Barker, a tributary of Stewart

115O/2	2009: 63º06'36"N, 138º35'31"W
115O/2	2008: 63º07'45"N, 138º55'24"W

Midas Rex Mining Inc., 2004-2009

Water License: PM02-293 (Expired 2008)
Water License: PM06-523 (Active 2016)
Active Producer (2007-2009) **Operation no. 103**

Location The operation was located on Barker Creek, in the main valley downstream of Dixie Gulch.

Work History and Mining Cuts Equipment was mobilized by barge for one month at the end of each season starting in 2004, from Midas Rex Mining Ltd.'s operations on Thistle Creek. In 2008 full-scale mining operations began, and by the end of the 2009 season a large continuous cut in the valley had been mined downstream of Dixie Creek.

Equipment and Water Treatment Equipment included a Caterpillar D10N bulldozer and a Hitachi excavator. The wash plant was a 6- by 20-foot El Russ screen deck with a hopper, 'Z' style riffles and expanded metal runs with a total width of 22 feet. It was capable of processing 250 loose cubic yards per hour.

Surficial Geology and Stratigraphy The section in the valley consisted of 4 to 6 feet (1.2 m to 1.8 m) of black muck overlying 6 to 8 feet (1.8 m to 2.4 m) of angular coarse gravel.

Bedrock Geology Bedrock at this site was a slabby schist, occasionally cut by limestone stringers and reefs.

Gold Characteristics The gold was coarse, bright yellow and had a purity of 860.

Midas Rex Mining's operation on Barker Creek in 2008.

Thistle, a tributary of Yukon

115O/3 2007: 63º04'30"N, 139º10'18"W

Midas Rex Mining Inc., 1993-2008

Water License: PM97-070 (Expired 2007)
Water License: PM02-292 (Expired 2007)
Water License: PM06-513 (Active 2012)
Active Producer (2007-2009) **Operation no. 104**

Location Stuart Schmidt has been mining several areas on Thistle Creek downstream of the airstrip since 1993. In 1995-1997, mining took place in various locations and between 1998 and 2003 the operation mined the main valley bottom and stripped along Edas Bench. Both upper valley and lower valley cuts were mined from 2004 to 2008.

Work History and Mining Cuts An area on the right limit bench was stripped in 2007. Reclamation began at the end of that season. In 2008 reclamation continued and some new stripping was completed for possible mining downstream of the airstrip.

Equipment and Water Treatment Equipment included two Caterpillar D10N bulldozers with U-blades and rippers for stripping, pushing pay to the sluice plant and stacking tailings. A Hitachi EX700 excavator with a 3.5 cubic yards digging bucket was used to feed the sluice plant and dig drains. The wash plant was a 6- by 20-foot El Russ screen deck with 'Z' style riffles and expanded metal runs with a total width of 22 feet. The screen deck was powered by a small diesel motor. Water was supplied from Thistle Creek. The plant processed 250 loose cubic yards per hour. Effluent was treated out-of-stream pond and was recycled up to 100%. Clean-ups were done daily with a long tom to upgrade the sluice concentrates, followed by a gold wheel and Deister table.

Surficial Geology and Stratigraphy The upper valley sections consisted of 0 to 2 feet (0 to 0.6 m) of frozen mud overlying 8 to 10 feet (2.4 to 3 m) of gravel. Bench sections had 25 to 60 feet (7.6 to 18 m) of frozen mud overlying 10 to 12 feet (3 to 3.7 m) of gravel, and lower valley sections had 4 to 6 feet (1.2 to 1.8 m) of frozen mud overlying 18 to 25 feet (5.5 to 7.6 m) of gravel. From 2 to 4 feet (0.6 to 1.2 m) of gravel and up to 6 feet (1.8 m) of bedrock were sluiced.

Bedrock Geology Bedrock is mapped as Nasina Quartzite.

Gold Characteristics Gold was described as variable in character up to coarse jewelry-size grade in areas. The fineness varied from 800 to 860.

Lulu, a tributary of Thistle

115O/3 2008: 63º03'06"N, 139º11'09"W

Sager, 2000-2009

Water License: PM07-583 (Active 2018)
Active Producer (2007-2009) **Operation no. 105**

Location The operation was located on Lulu Gulch approximately 2.5 km from the mouth.

Work History and Mining Cuts Calvin Sager managed the operation at Lulu Gulch in 2008 while Merrit Sager was sluicing at the upper Thistle Creek location. The operation continued at this location in 2009.

Equipment and Water Treatment Equipment included two Caterpillar bulldozers for stripping and pushing up pay, and a Volvo excavator for feeding the wash plant. The wash plant was a trailer-mounted screen deck with a hopper and two sluice runs. A series of ponds and spillways were built to settle effluent and recirculate water.

Surficial Geology and Stratigraphy The section at Lulu Gulch consisted of 2 to 15 feet (0.6 to 4.5 m) of muck and silt overlying 5 to 10 feet (1.5 to 3 m) of poorly-sorted sandy angular cobble gravel on bedrock. The bottom 8 inches (0.2 m) of gravel plus 2 to 3 feet (0.6 to 0.9 m) of bedrock was sluiced.

Bedrock Geology Bedrock was chlorite schist with limestone stringers.

Gold Characteristics The gold was smooth and well-travelled with a fineness of 880. Previous mining downstream had recovered gold with lower fineness.

Merrit Sager's mining operation on Lulu Gulch in 2008.

Thistle, a tributary of Yukon

115O/3 2008: 63º01'42"N, 139º03'11"W

Sager, 2000-2008

Water License: PM99-016 (Expired 2009)
Active Producer (2007-2009) **Operation no. 106**

Location The operation was located on the right limit of Thistle Creek at the confluence with Lulu Gulch. In 2008, sluicing was done at the headwaters of Thistle Creek and on Lulu Gulch simultaneously.

Work History and Mining Cuts Sluicing took place at the headwaters of Thistle Creek in 2008 as water was plentiful. The operation was not active at this location in 2009.

Equipment and Water Treatment Equipment on site included a Caterpillar bulldozer and a Caterpillar excavator. The wash plant was a trailer-mounted screen deck with a hopper. Effluent was settled instream 1/2 mile downstream from the plant.

Surficial Geology and Stratigraphy The section at the headwaters of Thistle Creek consisted of 5 feet (1.5 m) of muddy, very poorly-sorted, angular, boulder cobble gravel overlain by 2 to 3 feet (0.6 to 0.9 m) of organic and silt. Occasional rounded boulders were found high in the section. All of the gravel and some bedrock were sluiced.

Bedrock Geology Bedrock at the headwaters consisted of a slabby quartzite.

Gold Characteristics At the upstream location the gold was hackly, not worn and had quartz attached.

A very wet summer in 2008 supplied adequate water for Merrit Sager's upper Thistle Creek mining operation.

Scroggie, a tributary of Stewart

115O/2 2007: 63º01'31"N, 138º35'31"W
115O/2 2008: 63º03'07"N, 138º36'44"W

Bidrman, 1989-2009

Water License: PM04-360, AP04360 (Active 2015)
Active Producer (2007-2009) **Operation no. 107**

Location In 1989, the operation was located approximately 7000 feet (2 km) downstream from the confluence with Walhalla Creek. In 1993, the operation was on a left limit bench of Scroggie Creek. In 1995, the operation began mining just below the confluence of Scroggie and Mariposa Creeks. Between 1998 and 2000, the operation worked selected reaches of the main stem of Scroggie Creek. During the 2001 and 2002 seasons mining took place at the confluence of Scroggie and Mariposa Creek. In 2005 and 2006, the operation was 3.2 miles (5 km) downstream of the confluence of Scroggie and Mariposa creeks. From 2007 to 2009, the operation was downstream of the confluence with Mariposa Creek.

Work History and Mining Cuts Three to four miners working a daily 12-hour shift mined several cuts every season from 2007 to 2009.

Equipment and Water Treatment Equipment included a Komatsu 375 bulldozer for stripping and two Komatsu WA500 loaders for feeding the plant and removing tailings. In 2008 a Caterpillar excavator was added for feeding pay to the plant. An Allis Chambers 10- by 10-inch pump powered by an 80 HP electric motor supplied 2500 igpm to the wash plant, enough to process 150 loose cubic yards (115 m^3) per hour. The wash plant consisted of a 5-cubic-yard capacity 22-foot-long by 4-foot-wide Vibrating Grizzly Feeder (VGF) over a screen deck which classified to 3/4-inch, and 24 feet of sluice runs lined with angle iron, hydraulic riffles and Nomad matting. Water was acquired from Scroggie Creek and settled out-of-stream. Clean-ups were done by jig and hand-panning.

Aerial view of Bidrman's mining operation on Scroggie Creek in 2008.

Zdenek Bidrman's mining cut on Scroggie Creek in 2007 included part of the airstrip, an area which had not been mined previously.

Surficial Geology and Stratigraphy The stratigraphic section was frozen and consisted of 2 to 8 feet (0.6 to 2 m) of black muck and 4 feet (1 m) of pebbly cobbly gravel. From 0 to 1 foot (0 to 0.3 m) of gravel and 3 to 6 feet (1 to 2 m) of bedrock were sluiced.

Bedrock Geology Underlying the creek is a Jurassic syenite which contains abundant garnet in places.

Gold Characteristics The gold was rich yellow in colour, 90% coarse grained and 10% fine grained. The fineness was 900.

Kirkman, a tributary of Yukon

115O/3 2008: 63º00'08"N, 139º16'43"W

115O/3 2009: 63º00'15"N, 139º17'34"W

Fell Hawk Placers, 1990-1992, 1998-1999, 2003-2009

Water License: PM99-134 (Expired 2009)

Water License: PM05-488 (Closed 2009)

Water License: PM09-630 (Active 2019)

Active Producer (2007-2009) **Operation no. 108**

Location This operation was located on Kirkman Creek approximately 6 miles (10 km) from the confluence with Yukon River. In the fall of the 2006 season, the operation was moved downstream of camp.

Work History and Mining Cuts A crew of 3 miners and 2 camp personnel worked a daily 11 hour shift. An average of five mining cuts were completed each year.

Equipment and Water Treatment Equipment included Caterpillar D8L and D9L bulldozers, two Caterpillar 235 excavators, a Caterpillar 966 loader, two Caterpillar 300E rock trucks, a Hitachi Zaxis 330 excavator and a grader. The Caterpillar D8L and D9L were used for stripping and pushing in the mining cut and the Caterpillar 235 excavators were used for stacking overburden on the hillsides and feeding the wash plant. The Hitachi Zaxis 330 excavator was

Fell-Hawk Placers mining operation on Kirkman Creek in 2008.

View of the wash plant and cut of Fell-Hawk Placers mining operation on Kirkman Creek in 2008.

used to load the Caterpillar D300E rock trucks which hauled pay to the wash plant. The wash plant consisted of a trailer-mounted screen deck with a hopper and a 30-foot tailings stacker. Water was supplied from Kirkman Creek plus mine cut seepage and effluent was settled out-of-stream.

Surficial Geology and Stratigraphy The centre of the valley had been mined by Lorne Ross and consisted of thawed tailings and mixed gravels. The right limit section was frozen and consisted of 6 to 12 feet (1.8 to 3.6 m) of gravel overlain by 10 to 15 feet (3 to 4.5 m) of silt and muck. A total of 2 feet (0.6 m) of gravel and 3 feet (0.9 m) of bedrock were sluiced. More bedrock was sluiced when slabby quartzite was encountered.

Bedrock Geology The bedrock consisted of a quartz mica schist and quartzite.

Gold Characteristics The gold was described as mostly coarse with the majority in the range of 10 to 16 mesh. It was rough and some pieces had quartz attached. The fineness ranged was 865.

Sparkling, a tributary of Yukon

115J/14 2008: 62º57'26"N, 139º09'02"W

Fischer, 2004-2009

Water License: PM05-493 (Active 2016)

Active Producer (2007-2009) **Operation no. 109**

Location This operation was located approximately two thirds of the way upstream on Sparkling Creek from the confluence with the Yukon River.

Work History and Mining Cuts The property was active from 2004 to 2009, with Mr. Fischer and one helper mining the property each season.

Equipment and Water Treatment Equipment included two Caterpillar excavators, a Komatsu WA450 loader and two Caterpillar bulldozers. The wash plant was a small shaking screen deck with a single sluice run and angle iron riffles. A series of instream settling ponds were used with partial recirculation of the water.

Surficial Geology and Stratigraphy The stratigraphic section was frozen and consisted of up to 45 feet (13 m) of alternating organic silt and angular cobbly gravel layers on bedrock. All of the gravel layers had gold values and were sluiced.

Aerial view of Wayne Fischer's mining operation on Sparkling Creek in 2008.

Bedrock Geology The bedrock exposed was a blocky to decomposed schist.

Gold Characteristics The gold recovered was angular, fine to coarse-grained and granular, with some nuggets having attached quartz weighing up to 3/4 ounce. The fineness varied from 880 to 920.

Ballarat, a tributary of Yukon

115J/15 2008: 62º56'27"N, 138º59'42"W

Weber, 2008-2009

Water License: PM06-514 (Active 2011)

Active Producer (2007-2009) **Operation no. 110**

Location The operation was located on the left fork of Ballarat Creek.

Work History and Mining Cuts Mr. Weber worked alone for 12 hours a day for the seasons 2008 and 2009. Three mining cuts were made during this time; the first cut measured 139 by 120 feet (42 by 36 m), the second cut was 140 by 92 feet (43 by 28 m), and the third cut measured 110 by 140 feet (34 by 43 m).

Equipment and Water Treatment Equipment used in 2008 and 2009 included a Caterpillar D8K bulldozer to strip overburden, move pay toward the wash plant and to remove tailings, and a Hitachi EX200 excavator which was used to feed the wash plant and dig the drainage system. The wash plant consisted of a 5 foot by 11 foot 6 inch oscillating single screen deck over two sluice runs. The first run, 4 feet wide and 8 feet long, was lined with Nomad matting and 1-1/2" angle iron riffles, the second, 6 feet wide and 7 feet long, was lined with Nomad matting and 3-1/2" expand metal riffles. The processing rate was 70 to 80 loose cubic yards (54 to 61 m^3) per hour. Water was collected from Ballarat Creek and supplied to the wash plant by a 6" Ingersoll Rand pump, powered by a Lister HR3 engine. Effluent was settled out-of-stream in a pond measuring 150 by 200 feet (46 by 61 m) with final discharge into Ballarat Creek. Clean-ups were done every 15-20 hours of sluicing, using a pulsating jig.

Surficial Geology and Stratigraphy The stratigraphic section in 2008 and 2009 was thawed and had been previously stripped. The exposed gravel was 2 to 3 feet (0.6 m to 0.9 m) thick and all of it was sluiced along with 1 foot (0.3 m) of decomposed bedrock.

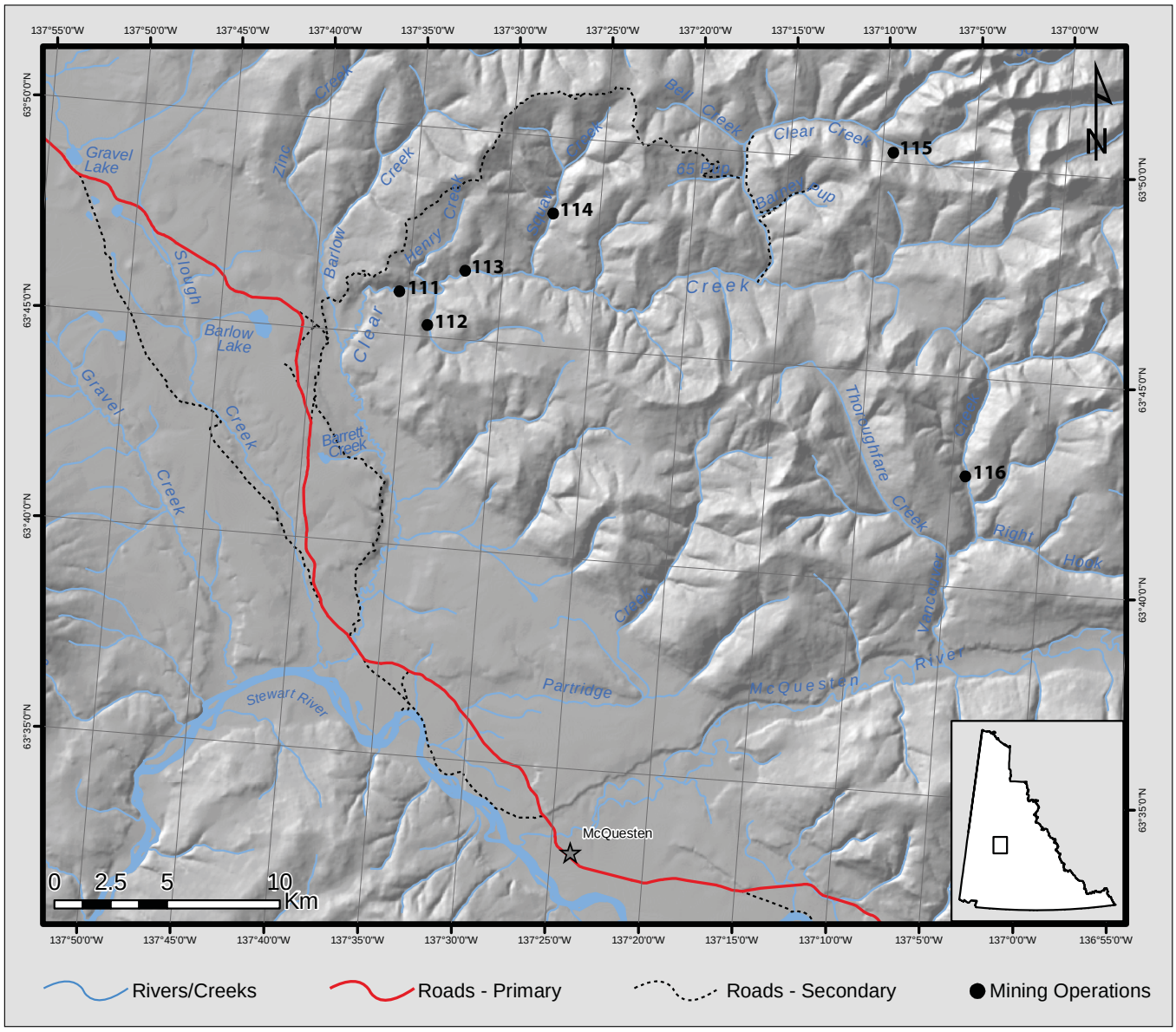
Bedrock Geology Bedrock in the area is mapped as a late Devonian to Mississippian orthogneiss.

Gold Characteristics The gold recovered in 2008 and 2009 had a purity of 855.

Wayne Fischer's mining cut and plant on Sparkling Creek in 2008.

SOUTH MCQUESTEN
PLACER AREA

SITES 111 - 116



LEGEND

111 ..... Wasylenko
112 ..... Wilson, K.
113 ..... Kosuta
114 ..... Scott
115 ..... Blackstone Placer Mining Ltd.
116 ..... Pratt

Clear, a tributary of Stewart

115P/13 2008: 63º46'03"N, 137º35'28"W

Wasylenko, 1993-2008

Water License: PM02-302 (Active 2013)
Active Producer (2007-2009) **Operation no. 111**

Location The property was located in the valley bottom, on both the left and right limits of Clear Creek upstream from its confluence with Barlow Creek.

Work History and Mining Cuts The operation was active on the left limit during the 2007 and 2008 mining seasons.

Equipment and Water Treatment Equipment on site included two loaders, two bulldozers and a straight run sluice box.

Bedrock Geology Bedrock at this site is mostly decomposed schist with patches of yellow clay.

Wasylenko's mining operation on Clear Creek in 2008.

Wally, a tributary of Clear

115P/13 2008: 63º45'18"N, 137º33'50"W

Wilson, K., 2008-2009

Water License: PM07-586 (Active 2018)
Active Producer (2007-2009) **Operation no. 112**

Location This operation was located on an unnamed left limit tributary of Clear Creek, locally known as Wally Creek.

Work History and Mining Cuts Ken Wilson conducted test-mining in 2008 and 2009.

Equipment and Water Treatment Not reported.

Surficial Geology and Stratigraphy Not reported.

Bedrock Geology Bedrock is mapped as late Cretaceous granite and quartz monzonite.

Clear, a tributary of Stewart

115P/13 2009: 63º46'40"N, 137º32'02"W

Kosuta, 1995-1996, 2003, 2006, 2008-2009

Water License: PM05-467 (Active 2015)
Active Producer (2007-2009) **Operation no. 113**

Location This operation was located on the main branch of Clear Creek, about 3 miles (5 km) below Squaw Creek. In 2008, the operation was located on the left limit upstream of the lower canyon.

Work History and Mining Cuts An area on the left limit was mined in 2008 and 2009.

Equipment and Water Treatment A Caterpillar D5 bulldozer was used for stripping and pushing gravel while a Caterpillar 920 front-end loader was used to remove tailings. A Koehring excavator was used to feed the wash plant, which was an 8- by 14-foot dump box with double sluice runs lined with expanded metal riffles over Nomad matting. Water was pumped from Clear Creek and was settled in out-of-stream ponds.

Surficial Geology and Stratigraphy From 4 to 8 feet (1.2 to 2.4 m) of frozen black muck lay on top of gravels up to 8 feet (2.4 m) deep with mixed sand, gravel and boulders up to 4 feet (1.2 m) in diameter. All gravels plus about 1 feet (0.3 m) of bedrock were sluiced.

Bedrock Geology Bedrock is mapped as a granite and quartz monzonite.

Gold Characteristics Flat, fine gold was recovered with a fineness of approximately 855.

Dave Kosuta's mining operation on Clear Creek in 2008.

Squaw, a tributary of Clear

115P/14 2009: 63º48'11"N, 137º27'31"W

Scott, 1998-2009

Water License: PM99-112(Expired 2009)
Water License: PM08-608 (Active 2019)
Active Producer (2007-2009) **Operation no. 114**

Location The operation was located on Squaw Creek, a right-limit tributary to Clear Creek.

Work History and Mining Cuts The operators were active in an area downstream of their camp in the period between 2007 and 2009.

Equipment and Water Treatment Equipment on site included a John Deere 690 excavator and a Kobelco wheel-mounted excavator.

Surficial Geology and Stratigraphy Not reported.

Bedrock Geology Bedrock is mapped as Hyland Group phyllite and marble.

Clear, a tributary of Stewart

115P/14 2009: 63º50'15"N, 137º09'25"W

Blackstone Placer Mining Ltd., 1978-1997, 2004-2009

Water License: PM98-034 (2009)
Water License: PM08-604 (Active 2019)
Active Producer (2007-2009) **Operation no. 115**

Location The property was situated along the upper portion of Left Clear Creek, approximately 1.2 miles (2 km) upstream from the mouth of Lewis Gulch.

Work History and Mining Cuts The operation was active on the left limit across from camp each season between 2007 and 2009.

Equipment and Water Treatment Equipment consisted of two Caterpillar D8 bulldozers with U-blades and one with a ripper, which were used for stripping overburden and excavating pay gravel. One Hough 90E front-end loader was used to feed the wash plant and remove tailings. A five cubic yard wet hopper fed pay gravels into a trommel, 5 feet in diameter by 30 feet long, followed by a double screen deck with a 1 ½ inch screen over a ½ inch screen. The oversize from the ½ inch screen went into a sluice run which was 2 feet wide by 20 feet long and lined with 2 inch angle iron riffles for the first 2 feet, followed by a nugget trap and than expanded metal riffles on Nomad matting; the undersize from the ½ inch screen went into a sluice run which was 4 feet wide by 20 feet long with expanded metal riffles. A 6 inch by 8 inch Allis Chalmer pump, powered by a Perkins diesel engine, delivered approximately 900 igpm of water which was used to process from 35 to 40 cubic yards (26.8 to 30.6 m) per hour. Water was pumped from and instream reservoir and wastewater was settled in a series of out of stream dredge ponds.

Surficial Geology and Stratigraphy The section consisted of a poorly sorted mixture of coarse boulders, sand, clay and angular bedrock. The depth to bedrock was 20 to 30 feet (6 to 10 m), and the bottom 8 feet (2 m) of coarse boulder gravel and a foot of bedrock were sluiced.

Bedrock Geology Bedrock at this site consists of decomposed schist.

Gold Characteristics Gold recovered was a mixture of fine-grained and coarse gold with some nuggets. The fineness was approximately 820.

Blackstone Placer's mining operation on the Left Fork of Clear Creek in 2008.

Vancouver, a tributary of McQuesten

115P/11 2007: 63º42'40"N, 137º04'16"W

Pratt, 2000-2009

Water License: PM05-463 (Active 2010)
Water License: PM07-580 (Active 2010)
Active Producer (2007-2009) **Operation no. 116**

Location This operation was located on the upper reaches of Vancouver Creek.

Work History and Mining Cuts Mr. Pratt sluiced approximately 50 cubic yards (37 cubic metres) along the right limit in 2007. In 2009 he continued mining on the right limit in an upstream direction.

Equipment and Water Treatment Equipment included a Hitachi 077 excavator and a John Deere 450B bulldozer. The wash plant consisted of a 3 by 8 foot double screen deck leading to a single 4 by 15 foot oscillating sluice run. Coarse tailings were removed and stacked by a 50 foot long conveyor. Water was supplied by a Honda 4-inch sludge pump. Mr. Pratt was using a closed cell, full recycle, sluicing operation in 2009.

Surficial Geology and Stratigraphy A false bedrock of blue clay has been reported in this mining operation with 6 feet (1.8 m) of boulders and 2 feet (0.6 m) of gravel reaching to a marginal topsoil layer at the surface. The blue clay layer was located 2 to 3 feet (0.6 to 0.9 m) above the bedrock. Pay values were found only in the vicinity of the clay layer.

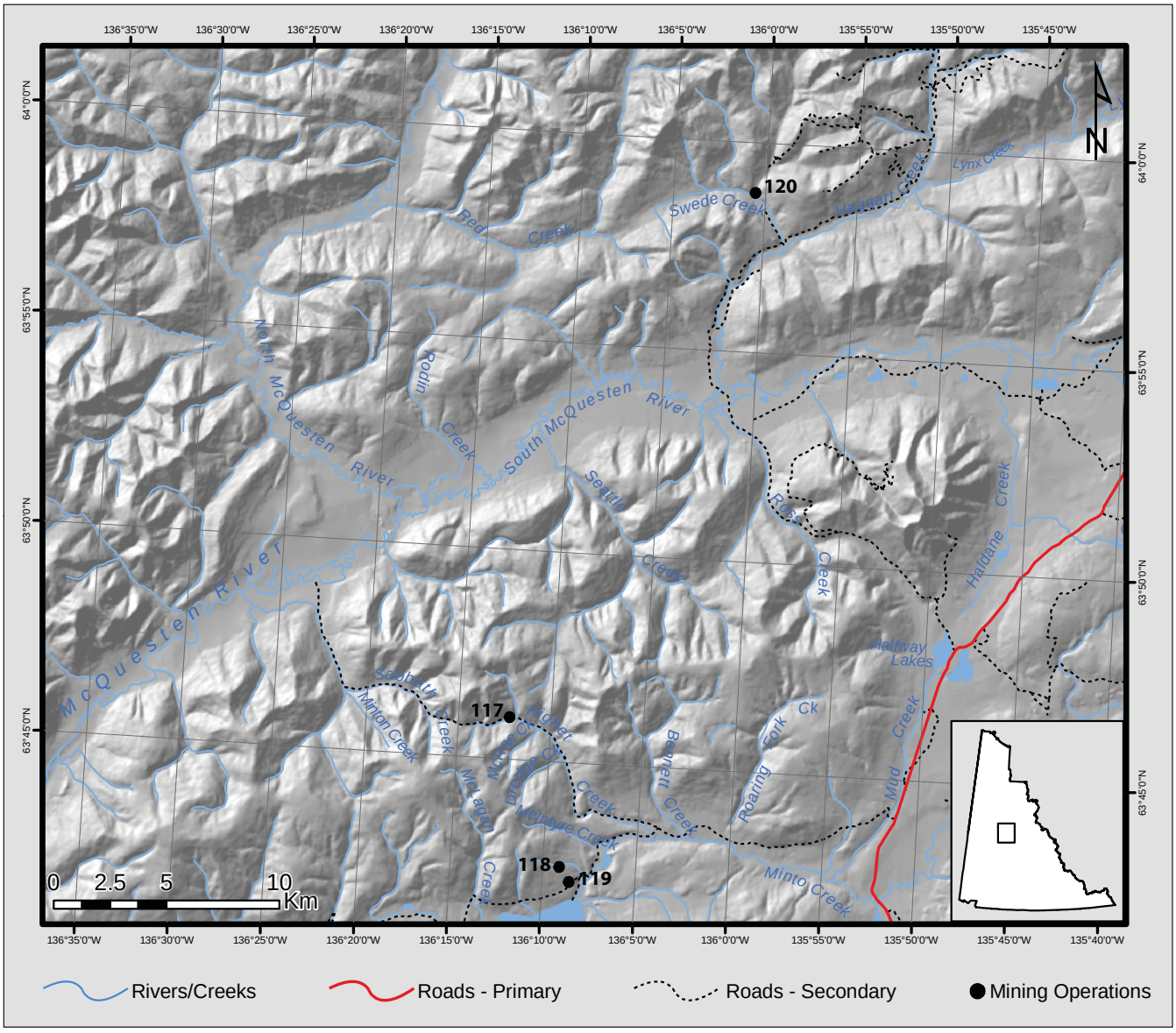
Bedrock Geology Bedrock exposed consisted of schist, quartzite and phyllite.

Gold Characteristics The gold was reported as granular to fine.

Ken Pratt's mining operation on Vancouver Creek in 2008.

MAYO
PLACER AREA

SITES 117 - 120



LEGEND

117 ..... Erl Enterprises
118 ..... Norex Mining Inc.
119 ..... Jardine
120 ..... Malicky and Evans

Highet, a tributary of Minto

115P/16 2009: 63º46'01"N, 136º12'15"W

Erl Enterprises, 1961-2009

Water License: PM04-389 (Active 2014)

Active Producer (2007-2009) **Operation no. 117**

Location In 1983, the property was located along the upper reaches of Highet Creek, just upstream from the mouth of left limit tributary Rudolph Pup. From 1998-2009 mining occurred in successive cuts following the creek channel upstream, at the mouth of Harvey Gulch, and on a right limit bench.

Work History and Mining Cuts Between 2007 and 2009, Mr. Erl mined several areas both upstream and downstream of his camp. The downstream mining took place mainly on the right limit bench.

Equipment and Water Treatment Equipment used by Frank Erl included a Caterpillar 951 loader, a Caterpillar D8K bulldozer, a 1946 Caterpillar D8 bulldozer and a Caterpillar 955 loader, which he used to explore and mine the property. Mr. Erl's wash plant was a grizzly for classification after a dump box with a single 20-foot sluice run with Hungarian riffles; water was gravity-fed via pipeline. He processed 15 loose cubic yards per hour.

Surficial Geology and Stratigraphy The section on the cut behind camp consisted of oldtimers' workings and a virgin unworked bench deposit with natural bedrock riffles. The gold values were pursued by ripping 2 to 3 feet (0.6 to 0.9 m) into the fractured bedrock. Overburden thickened towards the rim rock on the edge of the valley. The gold was associated with large boulders.

Bedrock Geology Bedrock at this site was biotite schist and quartzite.

Gold Characteristics The gold recovered was described as coarse grained. Magnetite, scheelite, wolframite, and minor amounts of stibnite were recovered along with gold. Sapphire corundum was also positively identified in concentrates by the Yukon Geological Survey in 2006.

Frank Erl's gravity fed sluice box on Highet Creek in 2009.

Jarvis, a tributary of Minto

115P/9 2009: 63º42'31"N, 136º09'07"W

Norex Mining Inc., 1998-2003, 2007-2008

Water License: PM03-324 (Active 2013)

Active Producer (2007-2009) **Operation no. 118**

Location This operation was located on a bench overlooking Jarvis Creek.

Work History and Mining Cuts In 2007, Roy Mueller stripped an area on the right limit of Jarvis Creek. Test mining of a 30 by 50 foot (9 by 15 m) area was conducted in 2008.

Equipment and Water Treatment Equipment included a bulldozer and an excavator.

Surficial Geology and Stratigraphy The area is overlain by glacial till, glaciolacustrine silt and glaciofluvial gravel.

Bedrock Geology Bedrock is mapped as mid-Cretaceous granite and quartz monzonite.

Jarvis, a tributary of Minto

115P/9 2009: 63º42'10"N, 136º08'33"W

Jardine, 1998-2009

Water License: PM04-381 (Expired 2009)

Active Producer (2007-2009) **Operation no. 119**

Location This operation was located on a bench above Minto Lake.

Work History and Mining Cuts Between 2007 and 2009, Mr. Jardine tested several areas on the property with an excavator.

Equipment and Water Treatment A P&H excavator with a 3/4-cubic-yard bucket was used for all material processing and a Caterpillar D8 bulldozer was contracted for stripping and reclamation work. A 4 by 10 foot vibrating screen deck classified materials for the sluice run with slick plates and hydraulic riffles. Spring runoff was captured and was supplemented by a surface spring located uphill from the mining operation. No water discharge occurred during mining and the settling ponds were allowed to dewater every fall to ensure site stability.

Surficial Geology and Stratigraphy The section consisted of glacial gravel, boulders and clay layers.

Bedrock Geology Bedrock consisted of quartz schist, mica schist and minor sheared conglomerate intruded by reddish granite-porphyry.

Gold Characteristics The gold recovered was fine-grained, with two distinct colours.

William Jardine's mining operation on Jarvis Creek in 2008.

Swede, a tributary of Haggart

115P/16 2007: 63º58'49"N, 136º00'34"W

Malicky and Evans, 2005-2009

Water License: PM04-448 (Active 2015)
Water License: PM04-447 (Active 2015)
Active Producer (2007-2009) **Operation no. 120**

Location This property was located on Swede Creek at the mouth of Secret Creek.

Work History and Mining Cuts In 2007, Mr. Malicky and Mr. Evans and two helpers test-mined an area on the right limit of Secret Creek near its confluence with Swede Creek. The property was active in 2008 and 2009 with more test-mining and the construction of a diversion channel.

Equipment and Water Treatment Equipment on-site included a Hy-Hoe excavator and a Caterpillar D7 bulldozer. The wash plant was a dump box with punch plate over plywood sluice runs lined with expanded metal and Nomad matting. Water was acquired from a reservoir fed by Secret Creek and effluent settled out-of-stream and partially recycled before discharge into Secret Creek.

Surficial Geology and Stratigraphy The section consisted of 6 to 10 feet (1.8 to 3 m) of muddy gravel overlain by 4 to 8 feet (1.2 to 2.4 m) of silt and organics. Permafrost was encountered 4 feet (1.2 m) below the water level and bedrock was not reached.

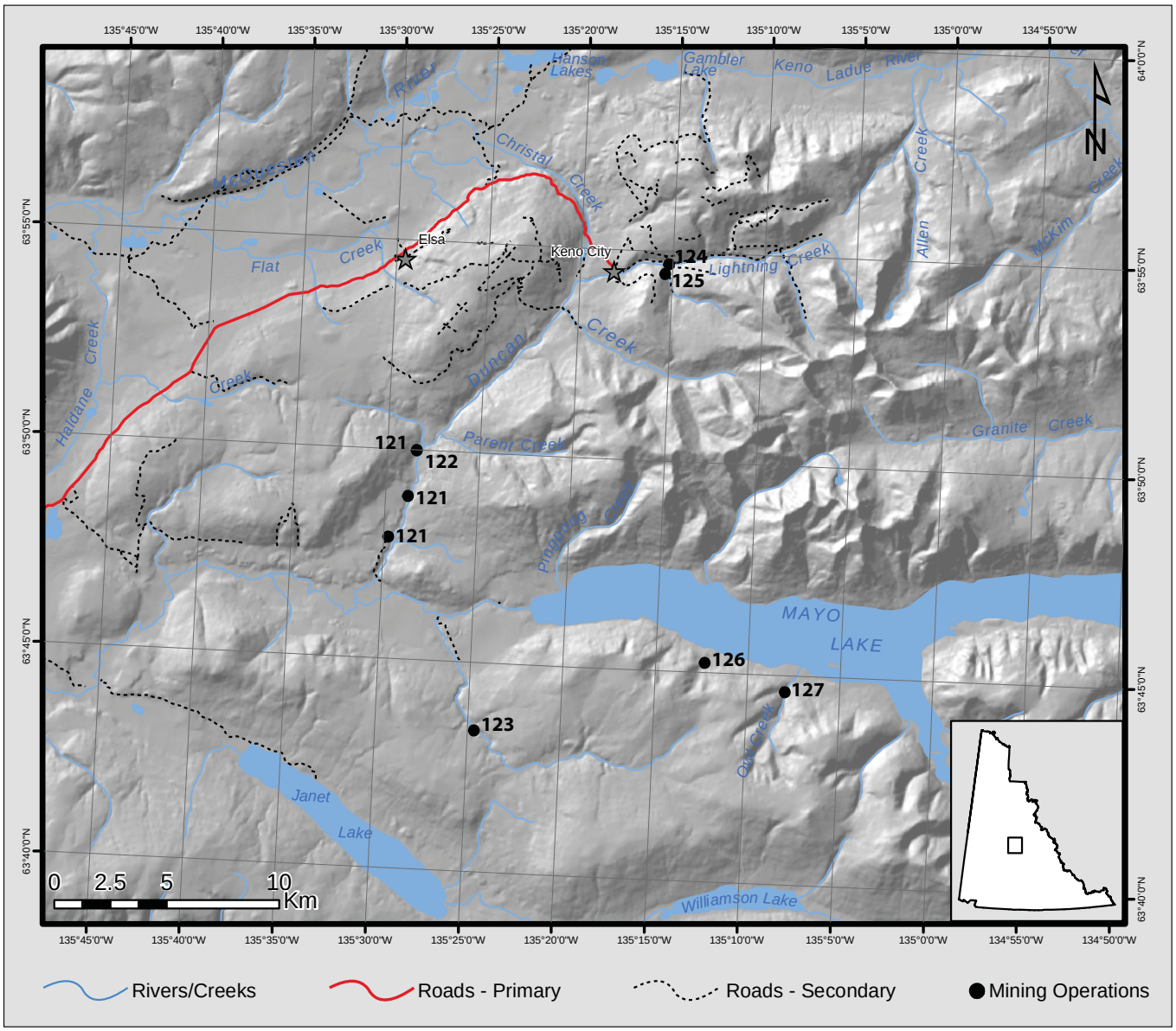
Bedrock Geology Bedrock is mapped as phyllite and marble.

The wood and metal sluice plant of Malicky and Evan's mining operation on Secret Creek in 2007.

Aerial view of Walter Malicky and Vern Evans mining operation on Secret Creek, a tributary of Swede Creek, in 2007.

DUNCAN
PLACER AREA

SITES 121 - 127



LEGEND

121 ..... Duncan Creek Golddusters Ltd.
122 ..... Zeiler
123 ..... Stephron Resources
124 ..... Bardusan Placers Ltd.
125 ..... Bardusan Placers Ltd.
126 ..... Wozniak
127 ..... Barchen

Duncan, a tributary of Mayo River

105M/14	2007: 63º48’54”N, 135º28’46”W
105M/14	2008: 63º47’55”N, 135º29’44”W
105M/14	2009: 63º50’01”N, 135º28’24”W

Duncan Creek Golddusters Ltd., 1975-2009

Water License: PM03-312 (Active 2015)

Active Producer (2007-2009) **Operation no. 121**

Location This property is located on Duncan Creek, between 1.2 miles (2 km) and 4.3 miles (7 km) from the confluence of Duncan Creek and Mayo River.

Work History and Mining Cuts In 2007, Frank and Troy Taylor mined approximately one km upstream from their camp, on both the left limit bench and the left limit valley. In 2008, the operation was shifted to a location one km downstream of camp on the right limit. Activity continued at this location for part of 2009, and later in the season the operation moved upstream where they mined under an agreement with adjacent claim owner Mel Zeiler.

Equipment and Water Treatment From 2007 to 2009, heavy equipment consisted of a Hitachi UH30 excavator with a 5-cubic-yard bucket for stripping and relaying pay; a Komatsu D355 bulldozer for stripping and pushing pay; a Caterpillar 330BL excavator with a 2-cubic-yard bucket for feeding the wash plant; and a Caterpillar 988B loader for removing tailings. The wash plant included a modified, wet vibrating grizzly feeder (VGF), two 3 foot wide by 9 foot long sluice runs with 1 inch angle iron riffles, and four 3 foot wide by 9 foot long sluice runs lined with expanded metal riffles. A 6 inch Gorman Rupp trash pump supplied water to the wash plant. The processing rate varied from 95 to 125 loose cubic yards (73 to 96 m^3) per hour. Previously mined cuts were used for settling out-of-stream with no recycling. Clean-ups were conducted using a jig.

Duncan Creek Golddusters mined on upstream neighbor Mel Zeiler’s ground in 2009 under an option agreement.

Surficial Geology and Stratigraphy In 2007, the section consisted of 6 to 20 feet (1.8 to 6 m) of waste overlying 3 to 6 feet (0.9 m to 1.8 m) of boulder pay gravel

Duncan Creek Golddusters’ mining cut on Duncan Creek in 2007.

on schist bedrock. In 2008, the section consisted of 50 to 60 feet (15 to 18 m) of overburden overlying 15 feet (4.6 m) of boulder pay gravel on decomposed schist bedrock. In 2009, the section on Zeiler's ground consisted of 15 feet (4.6 m) of compact boulder cobble pay gravel overlain by 15 to 20 feet (4.6 to 6 m) of silty muck overburden. Bedrock was not encountered.

Bedrock Geology Bedrock is decomposed schist and siliceous schist.

Gold Characteristics The gold was similar to past years with a fineness of 770 to 800, but a little coarser in 2009 at the upstream location.

Duncan, a tributary of Mayo River

105M/14 2009: 63º50'00"N, 135º28'25"W

Zeiler, 2003-2009

Water License: PM03-318 (Active 2014)
Water License: PM05-473 (Active 2014)
Active Producer (2007-2009) **Operation no. 122**

Location Operations were located on Duncan Creek near tributaries Parent and Williams creeks.

Work History and Mining Cuts Mr. Zeiler continued stripping and testing in 2007 and 2008, and in 2009 the property was mined on the right limit by Duncan Creek Golddusters under an option agreement.

Equipment and Water Treatment In 2009, Duncan Creek Golddusters used their equipment on the property, which included a Hitachi UH30 excavator with a 5 cubic yard bucket for stripping and relaying pay; a Komatsu D355 bulldozer for stripping and pushing pay; a Caterpillar 330BL excavator with a 2 cubic yard bucket for feeding the wash plant; and a Caterpillar 988B loader for removing tailings. The wash plant included a modified, wet vibrating grizzly feeder (VGF), two 3 foot wide by 9 foot long sluice runs with 1 inch angle iron riffles, and four 3 foot wide by 9 foot long sluice runs lined with expanded metal riffles. A 6-inch Gorman Rupp trash pump supplied water to the wash plant. The processing rate varied from 95 to 125 loose cubic yards (72.6 to 95.6 m^3) per hour. Previously mined cuts were used for settling out-of-stream with no recycling. Clean-ups were conducted using a jig.

Surficial Geology and Stratigraphy In 2009, the section on Zeiler's ground mined by Duncan Creek Golddusters consisted of 15 feet (4.6 m) of compact boulder cobble pay gravel overlain by 15 to 20 feet (4.6 to 6 m) of silty muck overburden. Bedrock was not encountered.

Bedrock Geology Bedrock in the area is mapped as Proterozoic phyllite.

Gold Characteristics The gold encountered in 2009 was coarser than that previously mined including some nuggets.

Davidson, a tributary of Mayo River

105M/11 2007: 63º43'23"N, 135º24'39"W

Stephron Resources, 2003-2009

Water License: PM03-341 (Active 2014)
Active Producer (2007-2009) **Operation no. 123**

Location From 2007-2009, Kim Klippert's operation was located approximately 5.5 kilometers upstream on Davidson Creek, a tributary of the Mayo River.

Work History and Mining Cuts From 2007-2009, two miners worked a daily 8 to 10 hour shift. Mine cuts varied in size from 50 feet by 150 feet (15 by 46 m) up to 75 by 200 feet (23 by 61 m).

Equipment and Water Treatment In 2007-2009 equipment included a Caterpillar D8H bulldozer with a U-blade and ripper, a Hitachi 330 excavator with a 1 3/4 cubic yard bucket, a Hitachi UH143 excavator with a 1 1/2 cubic yard bucket, and a Michigan 275B wheel loader with 7 1/2 cubic yard capacity. The wash plant consisted of a 5 by 12 foot double screen (2" and 5/8") over an 8 by 16 foot sluice run lined with Nomad matting, 1" expanded metal, and 1" angle-iron riffles. Tailings were stacked by a 40 foot long conveyor. Approximately 75 loose cubic yards (57 m^3) of gravel were processed per hour. Water was supplied from Davidson Creek at 600-800 IGPM by a 6" by 6" pump powered by a Detroit diesel engine. After the canyon of Davidson was used as a conduit to the downstream widening of the valley, effluent was settled out-of-stream in ponds measuring 100 by 150 feet (31 by 46 m) and 150 by 200 feet (46 by 61 m). Clean-ups were done after each 50 hours of sluicing, using a long tom and gold wheel.

Surficial Geology and Stratigraphy The stratigraphic section in 2007-2009 was partially frozen with 3 to 12 feet (0.9 to 4 m) of organic muck and silt overlying 3 to 6 feet (0.9 to 1.8 m) of gravel and large boulders. All of the gravel was sluiced along with the upper 2 to 3 feet (0.6 to 0.9 m) of bedrock.

Kim Klippert of Stephron Resources on Davidson Creek in 2007.

Bedrock Geology Bedrock has been mapped as a phyllite, shale, and sandstone.

Gold Characteristics Gold recovered from 2007-2009 was mostly fine-grained with a small amount of flat smooth, rounded nuggets. The fineness was 820-840.

Lightning, a tributary of Duncan

105M/14 2007: 63º54'43" N, 135º15'13"W

Bardusan Placers Ltd., 1991-1992, 1998-2009

Water License: PM02-297 (Active 2013)
Water License: PM04-408 (Active 2013)
Active Producer (2007-2009) **Operation no. 124**

Location This property is located on Lightning Creek approximately 1 mile (1.6 km) downstream from the mouth of Thunder Gulch. In 2006 the property was approximately one-half mile (0.8 km) upstream of the mouth of Thunder Gulch. In 2009 the property was located at the mouth of Thunder Gulch.

Work History and Mining Cuts From 2007-2009, Bardusan Placers Ltd. had 3 miners working a daily 10-12 hour shift. Approximately three 125 by 65 by 65 feet (38 by 20 by 20 m) cuts were stripped and mined each year processing approximately 90,000-100,000 cubic yards (70 000 - 80 000 m^3) of gravel per year.

Equipment and Water Treatment In the 2007 to 2009 mining seasons, equipment included a Hitachi Zaxis 450 excavator, a Hitachi UH20 excavator, a Caterpillar 988B front-end loader, a Caterpillar 980C front-end loader, and a Caterpillar D7E bulldozer. The excavators were used for stripping, mining, and road and stream channel building, the loaders for stripping, feeding the sluice plant, and tailings transport, with the bulldozer for support work. The wash plant consisted of a 10' by 20' Derocker screening deck which feed three stacked sluice runs, each measuring 36" wide and 20' long. The sluice runs are lined with Coco matting, Nomad matting, 3/4" expanded metal, and 1-1/2" angle iron riffles. Water was either gravity fed to the wash plant from Lighting Creek or provided at 1100 igpm by a 6" Flyght 480V pump, powered by a Caterpillar generator. With this, the wash plant processed 70-80 loose cubic yards of gravel per hour. Effluent was settled out-of-stream in a 300 by 125 by 20 foot (91 by 38 by 6 m) pond before discharge into Lightning Creek, and no recycling was done. Clean-ups were accomplished using a long tom. Due to the narrow valley and deep pit, the bedrock drain was covered and comprised of 18 inch diameter culverts which were continuous for up to 1 mile (1.6 km).

Surficial Geology and Stratigraphy The stratigraphic section from 2007 to 2009 consisted of organic material measuring 1-12 feet (0.3 - 3.7 m) thick, overlying 65-70 feet (19.8 - 21.3 m) of bouldery gravel. The lowest 20 feet (6.1 m) of gravel on bedrock was sluiced.

Bardusan Placers mining operation on Lightning Creek in 2007.

Bedrock Geology Bedrock is Keno Hill quartzite and quartz-sericite schist.

Gold Characteristics Gold recovered from 2007-2009 was predominantly minus 10 mesh in size and 800-830 fine. Nuggets were angular, semi-smooth or rough in texture.

Thunder Gulch, a tributary of Lightning

105M/14 2009: 63º54'39"N, 135º15'23"W

Bardusan Placers Ltd., 1967-1995, 2009

Water License: PM04-408 (Active 2013)
Active Producer (2007-2009) **Operation no. 125**

Location The property was situated approximately 3 miles (4.8 km) east of Keno City on Thunder Gulch, a left limit tributary of Lightning Creek. In 1989, mining took place upstream of the junction with Tundra Pup. The operators mined at the mouth of Thunder Gulch in 2009.

Work History and Mining Cuts In the fall of 2009 three miners working a daily shift of 10-12 hours made two small cuts at the mouth of Thunder Gulch. Plans were to continue mining on the right limit of the fan of Thunder Gulch in future mining seasons.

Equipment and Water Treatment In the fall of 2009 equipment was brought from the Lightning Creek operation and included a Hitachi Zaxis 450 excavator, a Hitachi UH20 excavator, a Caterpillar 988B front-end loader, a Caterpillar 980C front-end loader, and a Caterpillar D7E bulldozer.

Surficial Geology and Stratigraphy During exploration and stripping in 2009, it was noted that values seem to be in a 6 to 8 feet (1.8 to 2.4 m) thick diamicton lying directly over bedrock and in the glacial outwash gravels directly above the diamicton. Plans are to strip 20 to 25 feet (6.1 to 7.6 m) and approximately 15 to 20 feet (4.6 to 6.1 m) of that will be mined. Gravels are bouldery with 55-60% greater than 2 inch (5 cm) in diameter.

Bedrock Geology Bedrock consists of Keno Hill quartzite.

Gold Characteristics Gold recovered in 2009 was coarse and rounded to semi-rounded with a few angular pieces.

Unnamed, a tributary of Mayo Lake

105M/14 2009: 63º45'15"N, 135º12'21"W

Wozniak, 2005-2009

Water License: PM04-366 (Active 2014)
Active Producer (2007-2009) **Operation no. 126**

Location This property was located on an unnamed tributary of Mayo Lake between Dawn Gulch and Owl Creek.

Work History and Mining Cuts In the seasons 2007 to 2009, Mr. Wozniak dug several test holes and constructed settling ponds and a creek diversion on the right limit. The area on the left limit below the rock canyon was test-mined.

Equipment and Water Treatment Equipment on site included two bulldozers, a loader, an excavator and a wash plant.

Surficial Geology and Stratigraphy The creek forms an alluvial fan delta into Mayo Lake, and the fan is comprised of reworked glacial deposits with boulders, sand, silt and clay.

Bedrock Geology Bedrock has been mapped as Hyland Group rocks including sandstone and conglomerate, minor limestone and phyllite.

Manfred Wozniak's mining operation on an unnamed tributary of Mayo Lake in 2007.

Manfred Wozniak's mining operation on an unnamed tributary of Mayo Lake in 2008.

Gold Characteristics Gold from this creek has been reported to be angular and show little wear.

Owl, a tributary of Mayo Lake

105M/11 2007: 63º44'38"N, 135º07'57"W

Barchen, 2001-2009

Water License: PM03-351 (Active 2014)
Active Producer (2007-2009) **Operation no. 127**

Location This operation was located on Owl Creek, a tributary of Mayo Lake.

Work History and Mining Cuts During the 2007 to 2009 mining seasons, Mr. Barchen worked a daily 12 hour shift. Mining was done in the first two years but in 2009 a large landslide prevented mining and the operation moved 500 feet (150 m) upstream. A 1000 foot (305 m) cut was stripped that season.

Equipment and Water Treatment Equipment used between 2007 and 2009 included a John Deere 922 loader, a Caterpillar 992 wheel loader, a Caterpillar 988 wheel loader, and a Komatsu 355 bulldozer. The wash plant consisted of a Derocker over two 3 foot by 16 foot sluice runs lined with carpet, expanded metal, and angle-iron riffles. Water was supplied to the wash plant by an 8 inch by 8 inch pump, powered by a Changfa diesel engine capable of 1000 IGPM. On average, 120 loose cubic yards (91.7 m^3) of gravel was

Ralph Barchen's mining operation on Mayo Lake tributary Owl Creek in 2007.

processed per hour. Water was acquired from Owl Creek and discharged out-of-stream into a 500 by 200 by 30 foot (152.4 by 61 by 9.1 m) settling pond before being released back into Owl Creek. Mr. Barchen did a clean-up of the top riffles daily and cleaned the whole sluice once at the end of each season.

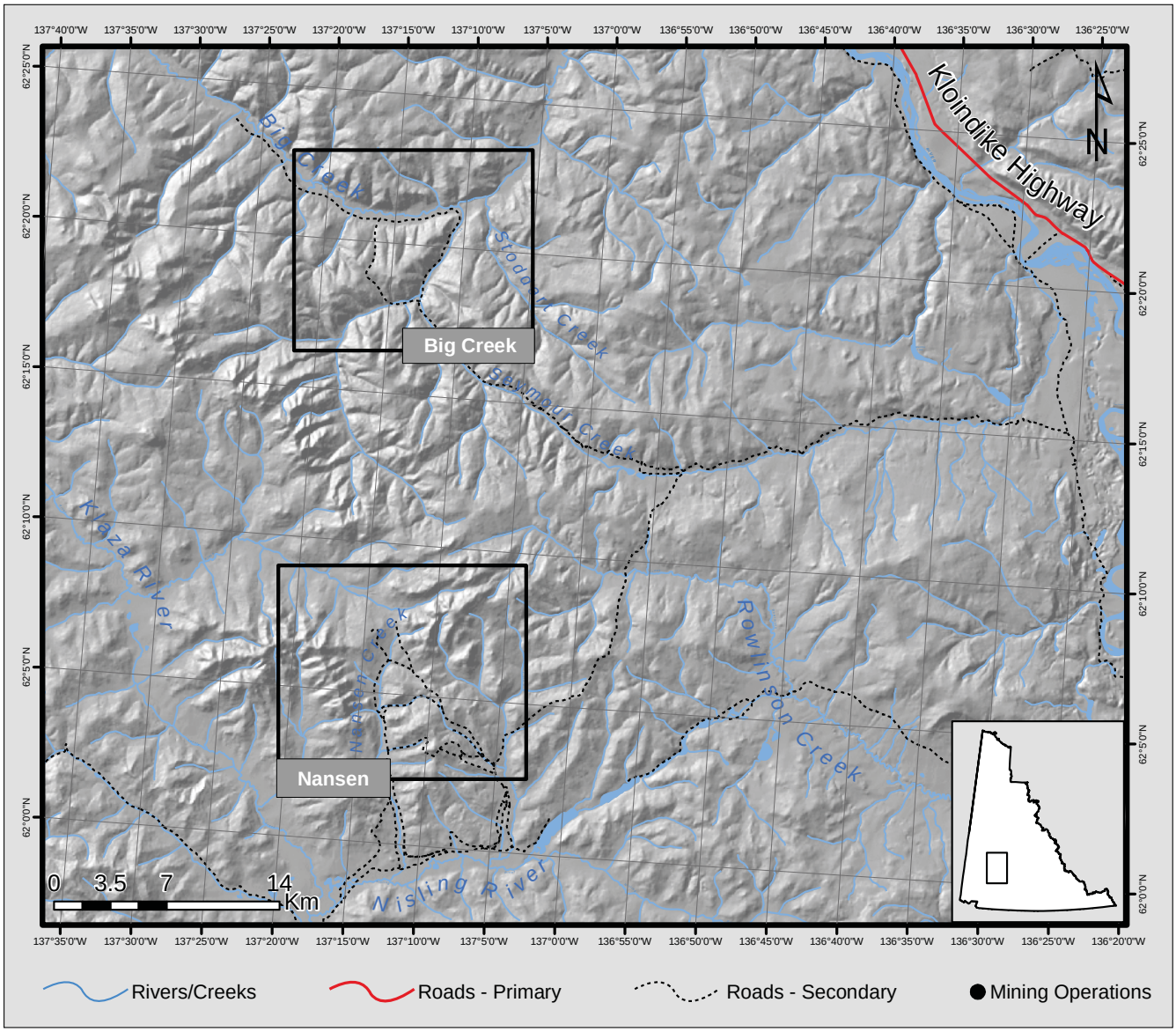
Surficial Geology and Stratigraphy The stratigraphic section consisted of 40-70 feet (12.2-21.4 m) of blue-clay mud (glacial lacustrine sediments) overlying 10 feet (3 m) of interglacial gravel. All of the gravel was sluiced.

Bedrock Geology Bedrock was described as decomposed schist.

Gold Characteristics Gold recovered from 2007-2009 was well-rounded with a fineness of 870.

DAWSON RANGE DRAINAGES

SITES 128 - 141



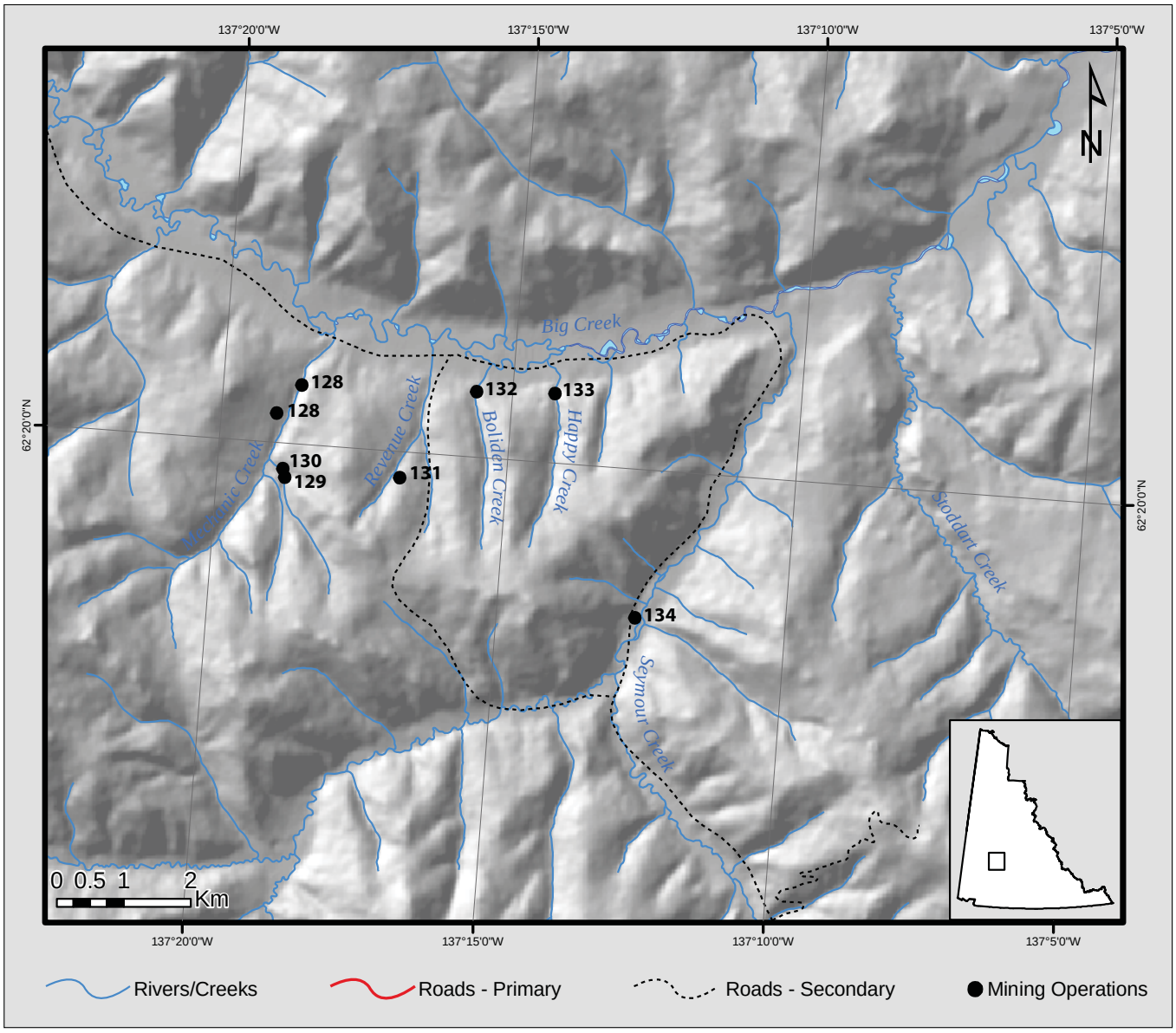
Inset maps are shown on pages following.

DAWSON RANGE DRAINAGES:

BIG CREEK

PLACER AREA

SITES 128 - 134



LEGEND

128 ..... Right Fork Mining
129 ..... Darling
130 ..... Fehr
131 ..... Right Fork Mining
132 ..... Ward
133 ..... Acker
134 ..... Fehr

Mechanic, a tributary of Big

115I/6 2008: 62º20'29"N, 137º18'39"W
115I/6 2009: 62º20'14"N, 137º19'03"W

Right Fork Mining, 2000-2009

Water License: PM03-347, AP03347 (Active 2014)
Active Producer (2007-2009) **Operation no. 128**

Location This operation was located at the mouth of Mechanic Creek and upstream.

Work History and Mining Cuts John, Buddy, Diane Gow and one employee worked single shifts from 2007-2009. The 2007 cut on Mechanic creek was approximately 130 by 500 ft (40 x 155 m). The depth of the ground worked on Mechanic creek ranged from 12 to 18 ft (3.5 to 5.5 m). Work continued on the 2007 cut in 2008. Materials remained consistent throughout the cut. The 2009 season completed the 2007/2008 cut and started a new 130 by 250 foot (40 x 76 m) cut with depths similar to the previous cut.

Equipment and Water Treatment Equipment used in 2007-2009 included a John Deere 890 excavator with a 1 ¾ cubic yard digging bucket for feeding the sluice plant, a Hitachi UH172 excavator with a 1 3/4 cubic yard digging bucket for stripping, digging out pay gravels and cleaning out settling ponds, a Caterpillar 980B loader to haul tailings, and three Caterpillar bulldozers; D9L, D7G and D7E. Caterpillar bulldozers were used to strip and prepare gravels for sluicing, pushing pay material to the sluice plant and reclamation work. A hydraulic monitor mounted on a Bombardier Muskeg carrier was used to monitor pay gravels. The wash plant consisted of a 4 cubic yard hopper attached to a vibrating screen deck measuring 4 feet wide by 10 feet long. Materials passed through a 4 inch screen, a 2 inch screen, and a 5/8 inch screen before entering a triple run sluice, 10 feet wide by 20 feet long. The first 10 feet was lined with 6 pound expanded metal with a 1 3/4 inch per foot slope, and the bottom 8 feet held Hungarian riffles sloped at 3 inches to the foot. Nomad matting lined the entire sluice run. A 30 KW generator powered by a Dorman engine runs the screening plant which processed 35-60 loose cubic yards gravel per hour. On Mechanic creek water was acquired from out of stream settlinG/recirculation ponds at a rate of 1000 igpm using a 12 x 10 Gorman Rupp trash pump powered by a 5 cylinder Dorman diesel engine. The effluent was treated in these same ponds with no discharge to Mechanic creek in 2007 and 2008. There was a discharge to Mechanic Creek in 2009. Clean-ups were done with a "Green Machine"; concentrates were fed into a 1 cubic foot hopper which fed onto a 10" x 30" vibrating 1/8 inch screen into a 1'x 4' sluice run with live bottom riffles. Tailings off the 1/8th screen dumped into a "boil box" which retained any gold that did not go through the 1/8th screen. The concentrates from the "Green Machine" were wheeled, dried and smelted.

Right Fork Mining's Mechanic Creek operation in 2009.

Surficial Geology and Stratigraphy The section consisted of 5 feet (1.5 m) of moss, volcanic ash and silt overlying 15 feet (5 m) of gravel interlayered with black muck and silt. The gravel ranged in texture from fine grained to very coarse grained with large boulders sometimes comprising 50% of the material. Large rocks ranging from 1.6 to 4 feet (0.5 to 1.2 m) in diameter were found scattered on bedrock. A clay layer lined the bedrock. Gold was found in all gravel layers, and a thickness of 15 feet (4.5 m) of gravel was sluiced down to the clay layer. Layering of the materials mined during the 2007-2009 seasons ranged in placement and depths throughout the cuts.

Bedrock Geology Bedrock was a fractured to partially decomposed quartz-feldspar porphyry with abundant quartz veinlets.

Gold Characteristics In 2007-2009, the majority of gold recovered was a mixture of wire gold, beady round balls and nuggets of varying sizes. Purity ranged from 870 – 900.

Right Fork Mining's Mechanic Creek operation in 2008.

Mechanic, a tributary of Big

115I/6 2008: 62º22'08"N, 137º18'52"W

Darling, 2001-2009

Water License: PM00-195 (Expired 2010)

Active Producer (2007-2009) **Operation no. 129**

Location This operation was located on an unnamed tributary of Mechanic Creek.

Work History and Mining Cuts In 2007 Mr. Darling brought in some new equipment and conducted small-scale mining in the following two seasons.

Equipment and Water Treatment Equipment included a Caterpillar bulldozer and a Caterpillar 235 excavator. The wash plant was a trommel with a hopper feeder, which was capable of processing 60 to 80 loose cubic yards per hour.

Surficial Geology and Stratigraphy The section consisted of 8 to 10 feet (2.4 to 3 m) of angular cobbly gravels overlain by a thin organic layer. A volcanic ash layer was 8 feet (2.4 m) from the surface. The surficial unit is a paleo-alluvial fan. Some rounded boulders were found at the bedrock contact.

Bedrock Geology Bedrock exposed consisted of a granodiorite with disseminations and stringers of pyrite

Gold Characteristics The gold was fine grained and angular in character with occasional wires and attached quartz.

Wes Darling's mining operation on a right limit tributary of Mechanic Creek in 2008.

Mechanic, a tributary of Big

115P/6 2008: 63º19'44"N, 137º18'49"W

Fehr, 1998-2003, 2006-2009

Water License: PM04-400 (Active 2015)
Active Producer (2007-2009) **Operation no. 130**

Location This operation was located on Mechanic Creek in the vicinity of an unnamed right-limit tributary.

Work History and Mining Cuts In 2008 Mr. Fehr constructed a reservoir, settling ponds and dams in preparation for mining an area on the right limit which had been previously stripped. After a small amount of sluicing the wash plant was moved downstream to the Gow's operation. In 2009, Mr. Fehr was moving equipment to a new site on Seymour Creek.

Equipment and Water Treatment Equipment consisted of a bulldozer utilized for stripping, and an excavator and a front-end loader for feeding pay material to the sluice plant and for general site maintenance. The wash plant was a trommel with a single sluice run.

Surficial Geology and Stratigraphy The section consisted of angular, poorly-sorted sandy gravel within an alluvial fan, overlying more rounded creek gravel on bedrock.

Bedrock Geology Bedrock is a fractured to partially decomposed quartz-feldspar porphyry with abundant quartz veinlets.

Revenue, a tributary of Big

115I/6 2007: 62º19'48"N, 137º16'50"W

Right Fork Mining, 1993-2004, 2007

Water License: PM03-346 (Active 2014)
Active Producer (2007-2009) **Operation no. 131**

Location The operation was located in the valley of Revenue Creek, on Whirlwind Pup, and at the mouth of Revenue where it enters Big Creek.

Work History and Mining Cuts John, Buddy, Diane Gow and one employee worked single shifts on the property conducting the stripping program.

Equipment and Water Treatment Equipment used at various times included a John Deere 890 excavator, a UH172 Hitachi excavator, a Caterpillar 980B loader, and three Caterpillar bulldozers, D9L, D7G & D7E. A hydraulic monitor mounted on a Bombardier Muskeg Carrier was used to monitor the frozen section.

Surficial Geology and Stratigraphy An area on Whirlwind Pup, tributary to Revenue Creek, was stripped. This area had large seams of silt & some black muck. The majority of stripping was done early in the year while the ground and air temperatures were below freezing. The ripped chunks were pushed to the stockpile area, where left undisturbed, they thawed slowly with water seeping away and materials staying in place. The depth to bedrock has not been established.

Bedrock Geology Bedrock at this site is fractured to partially decomposed quartz-feldspar porphyry with abundant quartz veinlets.

Hank Fehr's operation on Mechanic Creek in 2007.

Boliden, a tributary of Big

115I/6 2009: 62º20'32"N, 137º15'37"W

Ward, 1999-2009

Water License: PM04-391 (Active 2015)

Active Producer (2007-2009) **Operation no. 132**

Location The operation was located at the confluence of Boliden Creek with Big Creek and farther upstream on Boliden Creek.

Work History and Mining Cuts In 2009, Mike Ward and Ella Baker worked a daily 8 to 12 hour shift, stripping and mining a 30 by 300 foot (9 by 91 m) cut.

Equipment and Water Treatment Equipment used in 2009 included a Caterpillar D8 to bring material to the wash plant and remove tailings, and two Caterpillar 235 excavators, each with 1-1/2 cubic yard buckets, to feed the sluice plant, clean out settling ponds, and for stripping. The wash plant consisted of a 4 foot by 8 foot double screen deck with 1-1/2" and 5/8" screens over a 4 foot by 10 foot sluice run lined with Nomad matting and expanded metal and a 4 by 5 foot "live bottom" sluice run with 1" angle iron riffles. The processing rate was 34 loose cubic yards (26 m^3) per hour. Water was supplied by a 4 by 4 inch Deming pump, powered by a 4 cylinder diesel engine, with a 4 by 6 inch Vancouver back-up pump. Water was acquired from Boliden Creek and recycled through two 25 by 100 foot (8 by 31 m) ponds before settling into four 100 by 100 foot (31 by 31 m) ponds with final discharge into Big Creek. Clean-ups were done using a long tom.

Surficial Geology and Stratigraphy The stratigraphic section in 2009 was frozen and consisted of 2 to 10 feet (0.6 to 3 m) of muck and slide rock and 2 to 10 feet (0.6 to 3 m) of mixed angular and rounded gravels. All of the gravels and 1 foot (0.3 m) of the bedrock were stripped and mined. Some monitoring was done to thaw materials for processing.

Bedrock Geology Bedrock exposed was a blocky, fractured and decomposed red- and green-stained granite. Bedrock was faulted in the lower and top end of the creek.

Gold Characteristics Gold recovered in 2007-2009 was variable according to location. In the lower alluvial fan, gold recovered was 4 to 400 mesh in size with no nuggets. In the gulch upstream, nuggets up to 3/4 oz in size were found. Overall, the bulk fineness ranged from 870 to 900.

Aerial view of Mike Ward's mining operation on Boliden Creek in 2007.

Hydraulic monitoring at Mike Ward's mining operation on Boliden Creek in 2007.

Happy, a tributary of Big

115I/6 2009: 62º20'34"N, 137º14'16"W

Acker, 1998-2003, 2005-2006, 2008-2009

Water License: PM03-343 (Active 2013)

Active Producer (2007-2009) **Operation no. 133**

Location The operation was located on Happy Creek, a tributary of Big Creek.

Work History and Mining Cuts Mr. Acker worked the left-limit bench at the mouth as well stripping and sluicing gravel on the both the right and left limits working upstream.

Equipment and Water Treatment Several types and sizes of equipment have been utilized at this operation. A bulldozer was used to strip overburden and to push pay gravel, and a loader was used to feed the trommel. Water was obtained primarily by recirculation from the final settling pond.

Surficial Geology and Stratigraphy The section in the gulch was frozen and a mixture of black muck and gravel layers.

Bedrock Geology Bedrock consists of granite and decomposed schist.

Seymour, a tributary of Big

115I/6 2009: 62º18'49"N, 137º12'36"W

Fehr, 2009

Water License: PM08-627 (Active 2019)

Active Producer (2007-2009) **Operation no. 134**

Location The operation was located on Seymour Creek just downstream of the bridge.

Work History and Mining Cuts Mr. Fehr moved equipment here from his Mechanic Creek operation in 2009. The road was relocated to allow mining to take place and a small amount of sluicing was done by the end of 2009, with more planned for 2010.

Equipment and Water Treatment Equipment included a Terex bulldozer, an excavator and a screen deck sluice plant.

Surficial Geology and Stratigraphy Seymour Creek valley has various surficial materials including Reid age glaciofluvial terraces and modern alluvium. The creek cuts bedrock as it enters Big Creek.

Bedrock Geology Bedrock is mapped as mid-Cretaceous granodiorite.

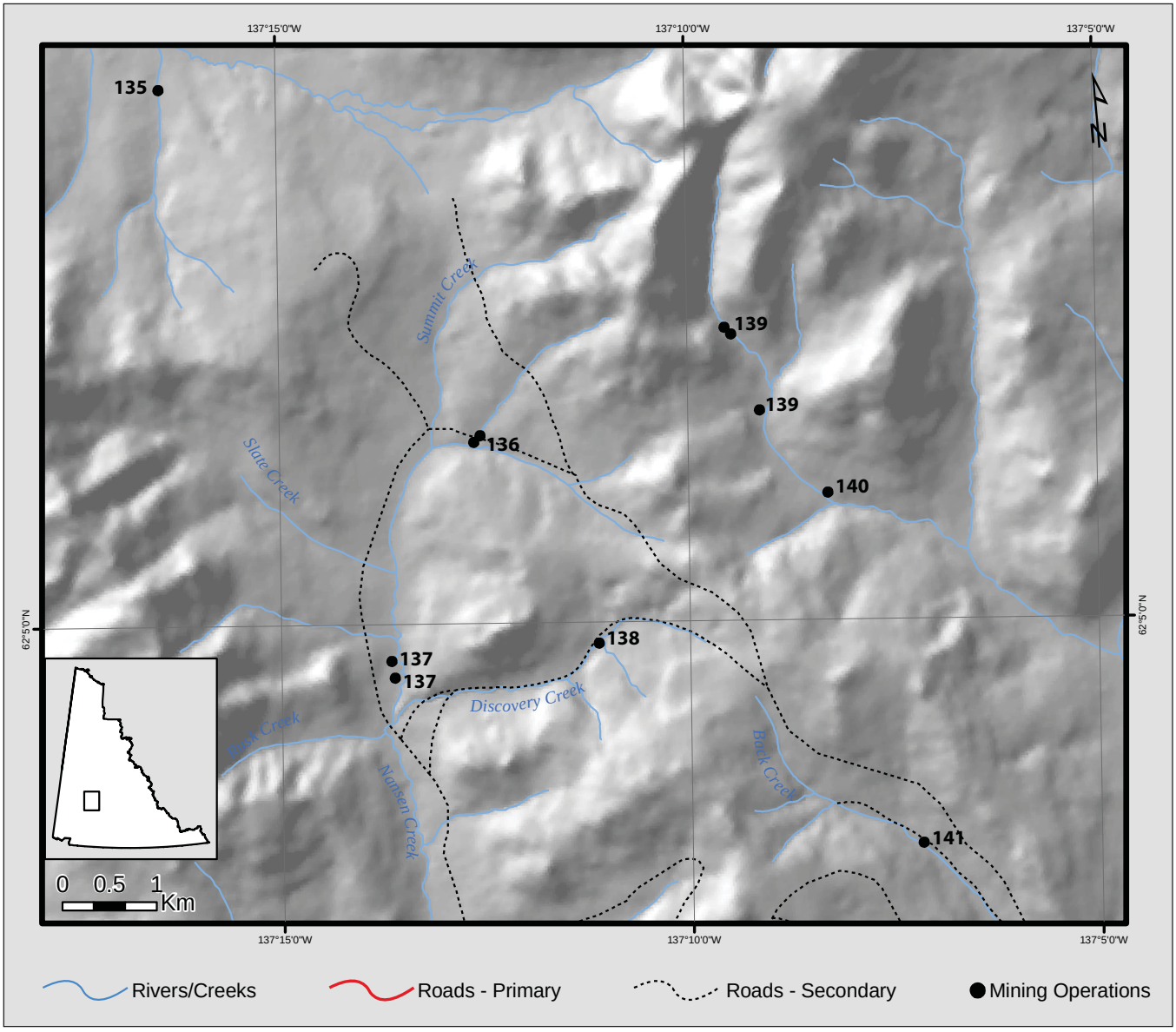
Gold Characteristics The gold found on this creek has been reported to have a fineness of 840-870. It is characteristically well-worn and mostly fine-grained.

DAWSON RANGE DRAINAGES:

NANSEN

PLACER AREA

SITES 135 - 141



LEGEND

135 ..... Canaan Gold Resources Inc.
136 ..... Nansen Gold Resources Inc.
137 ..... Johnson Exploration
138 ..... Frizzell
139 ..... La Tierra Resources Ltd.
140 ..... Spring Cove Enterprises Ltd.
141 ..... 38857 Yukon Inc.

Unnamed Left Limit, a tributary of Klaza

115I/3 2009: 62º08'05"N, 137º16'26"W

Canaan Gold Resources Inc., 2009

Water License: PM03-325 (Closed 2009)
Water License: PM09-665 (Active 2019)
Active Producer (2007-2009) **Operation no. 135**

Location The operation was located on a left limit tributary of Klaza River. It was purchased from Bill Trerice and the new owners began mining in the same location.

Work History and Mining Cuts Work was done by two miners during a daily 10 hour shift. A total of 17,000 loose cubic yards (13 000 m^3) of gravel were sluiced in 2009 from a 600 by 80 foot (180 by 25 m) mine cut.

Equipment and Water Treatment Equipment used in the 2009 mining season included a Hitachi EX270 excavator for ground preparation and to feed the plant, a Case 125B excavator, and a Hough 100 loader used to strip, haul pay, and remove tailings. The wash plant consisted of a 7 by 4 foot single screen deck and a sluice run 20 feet long and 4 feet wide, lined with Nomad matting, expanded metal and hydraulic riffles. Water was supplied at 1200 IGPM by an electric powered, 6" submersible pump, for processing 35 to 40 loose cubic yards (27 to 31 m^3) of gravel per hour. Water was acquired from the creek and 90% recycled from three settling ponds with dimensions of 3000 square feet (278 m^2), 5000 square feet (464 m^2) and 5000 square feet (464 m^2). Clean-ups were done daily, when practical, using a live bottom recovery system.

Surficial Geology and Stratigraphy The stratigraphic section was thawed and consisted of 20 feet (6.1 m) of mixed angular gravel which once had 4 feet (1.2 m) of black muck, removed by previous mining. Much of the upper gravels were replaced by previous mine tailings. The lowest 2 feet (0.6 m) of virgin muddy clay gravel on bedrock was sluiced.

Bedrock Geology Bedrock exposed was decomposed granite.

Gold Characteristics Gold recovered in 2009 was very fine-grained with a purity of 750.

Canaan Gold Resources sluicing at their Klaza River mining operation in 2009.

East Fork of Nansen, a tributary of Nansen

115I/3 2008: 62º06'03"N, 137º12'38"W
115I/3 2007: 62º06'05"N, 137º12'33"W

Nansen Gold Resources Inc., 2005-2009

Water License: PM97-051 (2008)
Water License: PM98-069 (2009)
Water License: PM06-529 (Active 2017)
Active Producer (2007-2009) **Operation no. 136**

Location This operation was located on the East Fork of Nansen Creek, and was bought from Jack Coghlin in 2004.

Work History and Mining Cuts A crew of two to four miners worked a daily 10-hour shift during each season from 2007 to 2009. Several areas on the right limit were mined.

Nansen Gold Resources trommel at their mine on the East Fork of Nansen Creek in 2007.

Nansen Gold Resources mining operation on the East Fork of Nansen Creek in 2009.

Equipment and Water Treatment Equipment consisted of a Caterpillar D8H bulldozer, an International Hough-100 loader and two Hitachi EX200LC excavators. The wash plant was a 6- by 24-foot trommel with a hopper and two 2- by 24-foot sluice runs with expanded metal, active water riffles and Nomad matting. Water was acquired from the East Fork of Nansen and supplied by a 16-inch Flyte electric

pump with a throughput of 400 igpm. Effluent was settled in four out-of-stream ponds. Clean-ups were done with a long tom and gold wheel.

Surficial Geology and Stratigraphy The section consisted of 4 to 6 feet (1.2 to 1.8 m) of frozen orange and brown pebble cobble pay gravel overlain by 4 feet (1.2 m) of muddy gravel, 2 feet (0.6 m) of organic mud and 15 feet of tailings and overburden. The organic mud was radiocarbon dated as 28,600 +/- 210 years B.P.

Bedrock Geology Bedrock is mapped as mid-Cretaceous granodiorite and it is deeply weathered and clay-altered.

Gold Characteristics The gold was described as rough, and mainly 35 to 60 mesh in size but ranging down to 100 mesh. It was dull in colour and the fineness was 800.

Nansen, a tributary of Nisling

115I/3	2007: 62º04'42"N, 137º13'37"W
115I/3	2009: 62º04'48"N, 137º13'39"W

Johnson Exploration, 1994-2009

Water License: PM04-449 (Active 2015)

Active Producer (2007-2009) **Operation no. 137**

Location The property was located on the left limit of Nansen Creek, between just downstream of the mouth of Dolly Creek and just upstream of the mouth of Discovery Creek.

Work History and Mining Cuts Between 2007 and 2009, two miners worked a single 12-hour shift. They mined on average 2 cuts per season, each with dimensions 300 by 250 feet (91.4 by 76.2 m).

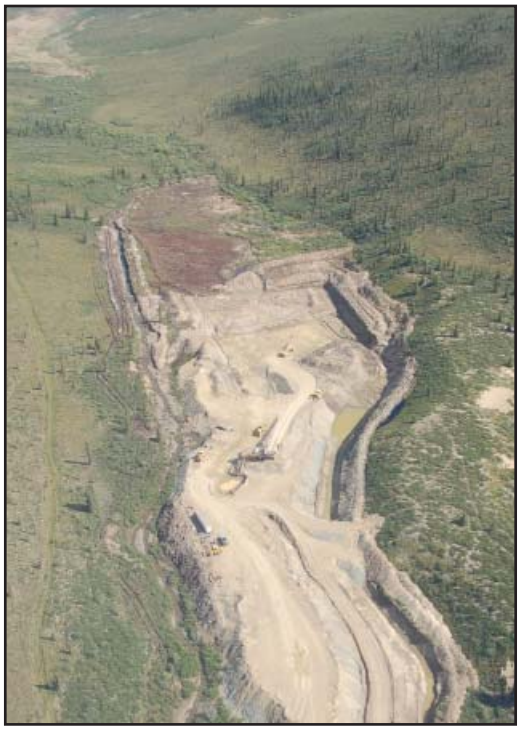
Equipment and Water Treatment From 2007 to 2009, equipment included a Caterpillar D9H bulldozer with U-blade and Ripper for stripping and two Caterpillar excavators (a Cat 245 with a 4.0 cu yd bucket and a Cat 235B with 3.0 cu yd bucket) for stripping and stacking pay. Three loaders were on site; a Caterpillar 966D with a 4.5 cu yd bucket for cleanups and as a backup machine, a Caterpillar 980C with a 6.0 cu yd bucket for stripping and removing tailings, and a Caterpillar 988B with a 9.0 yd^3 bucket for stripping and feeding pay to the plant. The wash plant consisted of a 16 foot by 3 foot belt feeder which fed pay to a 7 foot diameter by 40 foot long trommel with 6 feet of one inch square screen. Two 36 inch by 36 foot sluice runs included 2-10 foot "live bottom" boxes. The sluice runs were lined with 2 inch expanded metal and Nomad matting. A 4 inch Trash pump powered by a Cummins diesel at 800 IGPM supplied enough water to process an average of 100 loose cubic yards (76.5 m^3) per hour, and an average of 225 to 250 hours of sluicing was done each season. Water for sluicing was acquired from Nansen Creek, settled out-of-stream and discharged to Nansen creek without recycling. Clean-ups were done after every 20 hours of sluicing, with an IRD Duplex clean-up jig with two 12 by 12 inch cells.

Johnson Exploration's trommel at their mining operation on Nansen Creek in 2007.

Surficial Geology and Stratigraphy From 2007 to 2009, the partially-frozen mining cuts averaged 2 feet (0.6 m) of organic overlying 10 feet (3.0m) of sandy gravel overburden, which overlay 3 to 5 feet (0.6 to 1.5 m) of cobbly, sandy clay gravel, all of which was sluiced.

Bedrock Geology Bedrock is not reached during mining but is mapped as Cretaceous andesite volcanics.

Gold Characteristics From 2007 to 2009, the gold was mostly flat and fine, with only 5% coarser than 12 mesh. The gold was screened to 12, 16, 20, 30, 40, 50, 60 and minus 80 mesh screens, and most recovered was coarser than the 40 and 50 mesh screens. A few nuggets were found with the largest less than 10 grams and the gold was becoming coarser with distance mined upstream. Some of the coarser gold was unworn with attached quartz. The fineness averaged 800 to 810.



Aerial view looking north at Johnson Exploration's mining operation on Nansen Creek in 2007.

Discovery, a tributary of Nansen

115I/3 2009: 62º04'53"N, 137º11'07"W

Frizzell, 2002-2009

Water License: PM98-058 (Expired 2008)
Water License: PM07-569 (Active 2018)
Active Producer (2007-2009) **Operation no. 138**

Location This operation was located on Discovery Creek, a left-limit tributary to Nansen Creek.

Work History and Mining Cuts Mr. Frizzell was active on the property in 2009, sluicing for several hours on summer weekends.

Equipment and Water Treatment Equipment included a Caterpillar D7E bulldozer, a Caterpillar 966 loader, and a Caterpillar 235 excavator. The wash plant consisted of a grizzly feeding into a 4 by 19 foot trommel which screened to minus 3/4 inch and fed two 2 by 12 foot oscillating sluice runs. Tailings were stacked with a 32 foot conveyor. Water was pumped at 1000 igpm by a GM671-powered 8 by 6 inch pump and material was processed at 40 to 50 loose cubic yards per hour. Water was acquired from Discovery Creek, groundwater and permafrost melt and effluent was settled into an in-stream pond with some recirculation. Clean-ups were done with a two-cell jig.

Surficial Geology and Stratigraphy The area of mining activity was in a steep, narrow valley with 2 to 6 feet (0.6 to 2 m) of partly frozen overburden which contained boulders to a depth of up to 3 feet (1 m).

Bedrock Geology Bedrock along the main stream varies from fractured to decomposed quartz feldspar porphyry and granodiorite.

Gold Characteristics The gold was very fine grained with some small flat nuggets 1/2 inch to 3/4 inch (1 to 2 cm). Black sand was abundant and some mercury was noted. The fineness was 850.

Don Frizzell's mining operation on Discovery Creek in September 2007.

Victoria, a tributary of Nisling

115I/3 2007: 62º06'12"N, 137º09'07"W
115I/3 2008: 62º06'39"N, 137º09'28"W
115I/3 2009: 62º06'41"N, 137º09'33"W

La Tierra Resources Ltd., 2008-2009

Water License: PM06-530 (Active 2017)
Active Producer (2007-2009) **Operation no. 139**

Location The operation was located at the head waters of a left limit tributary on the upper reaches of Victoria Creek.

Work History and Mining Cuts In the mining seasons 2008 and 2009, two miners worked a 10-12 hour daily shift, doing mainly exploration and bulk sampling.

Equipment and Water Treatment In 2008, equipment included a Caterpillar D7E bulldozer for stripping and maneuvering pay gravel along with an Insley 875 excavator to feed the wash plant. The wash plant consisted of a 30 inch by 8 foot shaker deck with a hopper over a 20 inch wide by 7 foot long sluice run, lined with Nomad matting, 3/8" expanded metal, 1" hydraulic riffles, and 1" angle iron riffles. Water was supplied by a 3" pump enabling the wash plant to process 12 loose cubic yards (9 m^3) of gravel per hour. Clean-ups were done using a vibrating table. In 2009, equipment included a Caterpillar D8H bulldozer and a Caterpillar D8K bulldozer for stripping, a Caterpillar 320 excavator and Caterpillar 235 excavator to feed the plant and dig test holes, a Caterpillar 966 loader to remove tailings and a Kenworth 10 ton dump truck for hauling gravel. The wash plant consisted of a 48 inch by 8 foot shaker deck with a hopper, leading to a sluice run measuring 4 feet wide and 15 feet long, lined with Nomad matting, 3/8" expanded metal, 1" hydraulic riffles, and 1" angle iron riffles. Water was supplied by a 6" pump, washing 20 loose cubic yards (15 m^3) of gravel an hour. Clean-ups were done using a vibrating table. Water was acquired from Victoria Creek and 90% recycled through an out-of-stream effluent treatment system before being released back into Victoria Creek.

Bud Davis, President of La Tierra Resources Ltd., sluices pay gravel on his upper West Victoria Creek mining operation in 2007.

Surficial Geology and Stratigraphy The stratigraphic section in 2008-2009 was composed of 2 feet (0.6 m) of overlying organic muck followed by 38 feet (12 m) of gravel on bedrock.

Bedrock Geology Bedrock is mapped as mid-Cretaceous intrusive and volcanic rocks.

Gold Characteristics Gold recovered in 2008-2009 was flat and fine-grained (less than 40 mesh) with a purity of 780.

Victoria, a tributary of Nisling

115I/3 2007: 62º05'44"N, 137º08'18"W

Spring Cove Enterprises Ltd., 2007-2009

Water License: PM06-524 (Closed 2017)
Water License: PM07-565 (Valid 2017)
Active Producer (2007-2009) **Operation no. 140**

Location The operation was located on Upper Victoria Creek, at the former Trout mine.

Work History and Mining Cuts Lloyd and Geoff Wade purchased the operation from the Trout estate in 2006. In 2007 and 2008, a cut was processed on the left limit in an old channel. Some testing was conducted on downstream claims and at the mouth of Eva Creek. In 2009, the operation moved upstream to conduct testing on La Tierra Resources Ltd. claims.

Equipment and Water Treatment Equipment included a Caterpillar 320C excavator a Caterpillar 235 excavator, Caterpillar D8H and D8K bulldozers, a Caterpillar 966 loader and a Kenworth 10 ton dump truck. The wash plant consisted of a trailer-mounted 48 inch by 8 foot shaker deck with a hopper, leading to a sluice run measuring 4 feet wide and 15 feet long, lined with Nomad matting, 3/8" expanded metal, 1" hydraulic riffles, and 1" angle iron riffles. Water

Spring Cove Enterprises wash plant at their upper West Victoria Creek operation in 2007.

was acquired from Victoria Creek and settled out-of-stream. Clean-ups were done with a pulsating jig, followed by classifying screens and pans.

Surficial Geology and Stratigraphy The section on the left limit consisted of 3 to 5 feet (0.9 to 1.5 m) of organics and cobbly silt overlying a rusty, highly-weathered, sandy boulder cobble gravel 15 to 30 feet (4.5 to 9 m) thick, increasing with distance into the hill. There were localized frozen lenses. The largest rocks were boulders 3 feet (0.9 m) across with the average size less than 1 foot (0.3 m) in diameter. The lowest 10 feet (3 m) of gravel plus 1 to 2 feet (0.3 to 0.6 m) of bedrock were sluiced.

Bedrock Geology Bedrock is mapped as a mid-Cretaceous granite in fault contact with a volcanic unit. The fault runs roughly parallel to the creek.

Gold Characteristics Gold from this location has been reported as flat and fine-grained, with some angular and wire pieces.

Aerial view of Spring Cove Enterprises mining operation on a left limit bench of upper West Victoria Creek in 2007.

Back, a tributary of Victoria

115I/3 2007: 62º03'43"N, 137º07'11"W

38857 Yukon Inc., 2006-2009

Water License: PM99-047(2009)

Active Producer (2007-2009) **Operation no. 141**

Location The area of mining activity was in the valley and on the left limit of Back Creek approximately 2 miles (3 km) upstream of the confluence with Victoria Creek.

Work History and Mining Cuts The operators were active during each mining season from 2007 to 2009.

Equipment and Water Treatment Equipment on site included a Komatsu excavator, a wheel loader, Caterpillar D8H bulldozer and trommel.

Surficial Geology and Stratigraphy The section consisted of 30 to 45 feet (10 to 15 m) of frozen glacial till overlying 10 to 15 feet (3 to 5 m) of pay gravel on bedrock. All of the material below the glacial till was sluiced.

Bedrock Geology Bedrock at this site was described as decomposed schist.

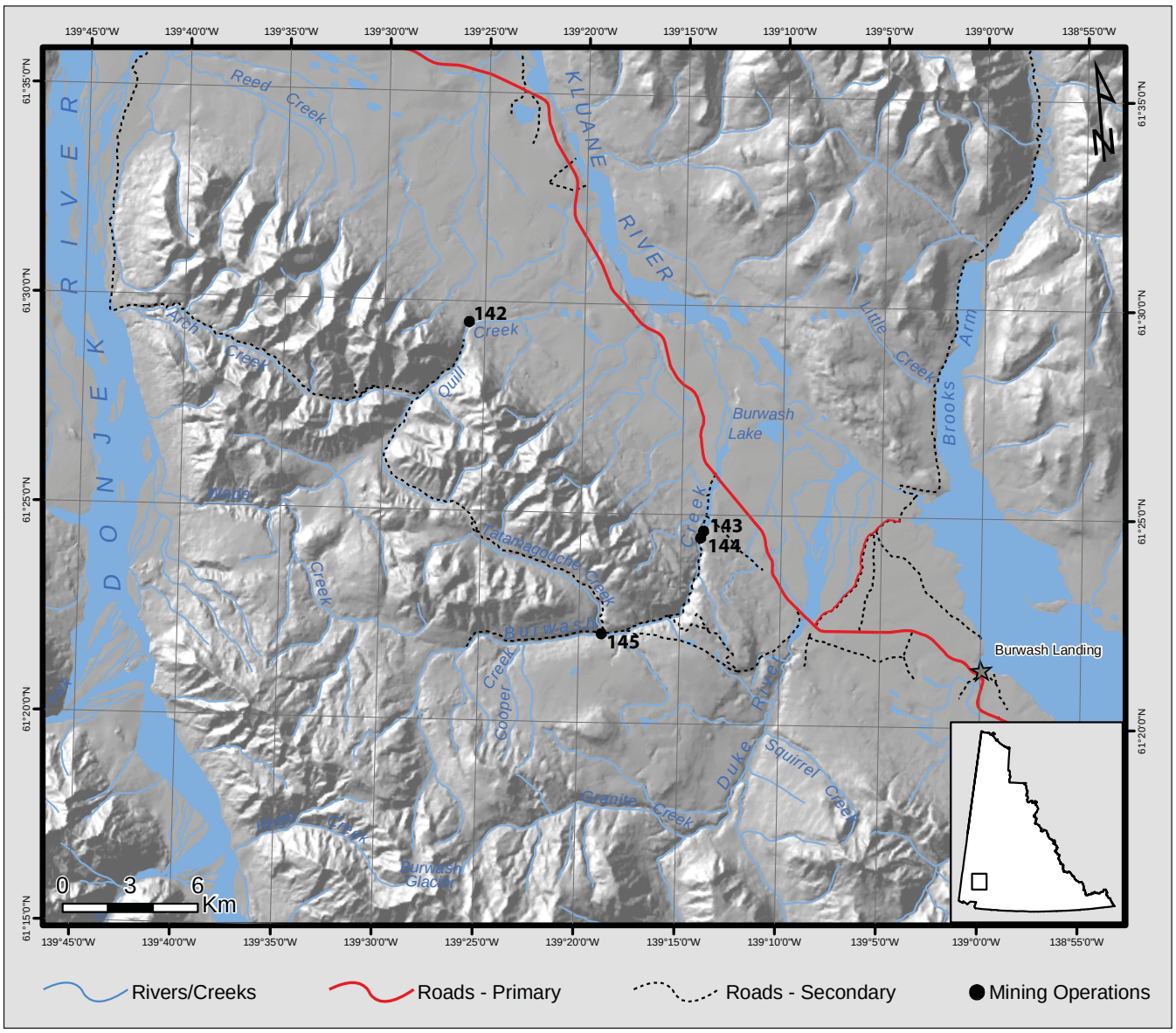
Gold Characteristics Gold was described as a mixture of fine and coarse grains. The fineness was 815 to 820.

38857 Yukon's trommel at their operation on Back Creek in 2007.

Aerial view of 38857 Yukon Inc.'s mining operation on Back Creek in 2007.

KLUANE
PLACER AREA

SITES 142 - 145



LEGEND

142 ..... Pfisterer/Nichols
143 ..... Aurem Alliance
144 ..... Johnson, S. Jr.
145 ..... Johnson

Quill, a tributary of Kluane River

115G/6 2008: 61º29'32"N, 139º25'46"W

Pfisterer/Nichols, 1988-2009

Water License: PM06-511 (Active 2016)
Active Producer (2007-2009) **Operation no. 142**

Location The operation was located just downstream of the canyon at Quill Creek, where the valley widens.

Work History and Mining Cuts In 2008 Mr. Nichols recontoured an area on the left limit, as well as sluicing 22 hours with Willy Pfisterer's old sluice box. Several more claims were acquired lower on Quill Creek from another miner.

Equipment and Water Treatment Equipment included a Case 850 loader and a P&H excavator. The wash plant was a 4-foot by 8-foot grizzly with a spray bar over a 12 foot long single sluice run.

Surficial Geology and Stratigraphy The stratigraphic section generally consisted of 12 feet (3.7 m) of thawed, mixed layers of sand, silt and boulder-cobble gravel. Most coarse gravel layers contained gold values, but the highest grades were with the biggest boulders and at the bedrock contact.

Bedrock Geology Bedrock is mapped as Upper Triassic Mush Lake Group basalt and andesite, Permian and/or Triassic peridotite and gabbro, and Permian and earlier Cache Creek group argillite, sandstone, grit, limestone, conglomerate, lava, tuff and volcanic breccia. The Denali fault intersects Quill Creek in the vicinity of the placer workings.

Gold Characteristics Gold averaged 90% fine-grained and 10% coarse, with a purity of approximately 870.

Burwash, a tributary of Kluane River

115G/6 2008: 61º24'38"N, 139º13'53"W

Aurem Alliance, 2006-2009

Water License: PM03-331 (Active 2015)
Active Producer (2007-2009) **Operation no. 143**

Location The operation was located at the mouth of Burwash Creek in the same location as the Northern Mineral Development Inc. property.

Work History and Mining Cuts In 2006, Mr. Clarke Ashley and Northern Mineral Development Inc. bought the property from Dale Hall. The new owners tested a new wash plant in 2007. Mining was done on the bedrock terrace in 2008 and 2009 with new partners Aurem Alliance.

Equipment and Water Treatment Equipment included a Hitachi EX700 excavator, two Caterpillar loaders, a Caterpillar excavator, a Caterpillar bulldozer and two

Aurem Alliance's wash plant on Burwash Creek in 2008.

Caterpillar D550B rock trucks. The wash plant was a Derocker over angle-iron riffles, which fed to a 3/16 inch screen deck. Oversize was sent to tailings by a conveyor while the minus 3/16 material was collected in a sump, and pumped as a slurry to two 9 foot diameter centrifugal concentrators and two smaller cyclones. In 2009, the plant was changed to a Derocker over a traditional screen deck and the cyclones were not used. Water was acquired from Burwash Creek using a 10 inch, 150hp pump and effluent settled out of stream in a series of ponds.

Surficial Geology and Stratigraphy The section consisted of 3 feet (0.9 m) of organic material and silt, overlying 3 to 8 feet (0.9 to 2.4 m) of gravel with small boulders on a bedrock terrace. The area worked was not frozen and was relatively flat. The entire gravel section was sluiced.

Bedrock Geology Bedrock on the terrace consisted of a silicified argillite which was decomposed in places.

Gold Characteristics The gold was fine and flat and quite bright in colour.

Burwash, a tributary of Kluane River

115G/6 2008: 61º24'28"N, 139º14'01"W

Johnson, S. Jr., 2004-2009

Water License: PM04-435 (Active 2010)

Active Producer (2007-2009) **Operation no. 144**

Location The operation was located on Burwash Creek on Kluane First Nation (KFN) Category A settlement land (R1A). Mr. Johnson had written permission from KFN. The operation was not on claims, but was between the downstream post of P03598 and the upstream post of P03915.

Work History and Mining Cuts Mr. Johnson stripped and mined a small bench on the right limit below the lowermost canyon between 2007 and 2009.

Equipment and Water Treatment Heavy equipment included a Caterpillar 966 loader. The wash plant consisted of a grizzly-screened hopper over a boil box with 3 inch riffles and a small trommel leading to a sluice run lined with angle iron riffles, expanded metal and Nomad matting. Clean-ups were done with a gold wheel.

View of Sam Johnson Jr.'s operation on a right limit bench at the mouth of the lowermost canyon on Burwash Creek in 2008.

Surficial Geology and Stratigraphy The frozen stratigraphic section consisted of 3 feet (0.9 m) of silt and organics overlying 8 feet (2.4 m) of compact rounded imbricate boulder gravel on a bedrock bench.

Bedrock Geology Bedrock was a quartz-rich argillite.

Gold Characteristics Gold was flat and flakey with an average size of approximately 10 mesh. A 15 gram nugget was recovered in 2008.

Sam Johnson Jr.'s mining operation on Burwash Creek in 2008.

Burwash, a tributary of Kluane River

115G/6 2009: 61º22'08"N, 139º18'50"W

115G/6 2008: 61º22'08"N, 139º18'52"W

Johnson, 1993-2002, 2005-2009

Water License: PM04-453 (Active 2010)

Active Producer (2007-2009) **Operation no. 145**

Location The operation was located along Burwash Creek, immediately upstream of the mouth of Tatamagouche Creek.

Work History and Mining Cuts Two miners worked a daily 12 hour shift during the 2008 and 2009 mining seasons, stripping and sluicing a mining cut which was 100 feet (30 m) wide and 150 feet (45 m) long.

Equipment and Water Treatment Equipment in the 2008-2009 seasons included a Caterpillar D8H bulldozer used for stripping and tailings removal, a Caterpillar 977L track loader to maneuver tailings, a Hitachi 200 excavator used for stripping, building ditches, and feeding the sluice box, and a Drott-40 wheel excavator for building ditches and feeding the sluice box. The wash plant consisted of a 5 yard hydraulic dump box feeding a single oscillating 5' by 10' screen deck which led to the sluice run, measuring 3' wide and 16' long and lined with Nomad matting, 4lb expanded metal, 2" hydraulic riffles and 1" angle iron riffles. Water was acquired from Burwash Creek and settled in various

ponds before eventual discharge back into the creek. It was provided at 1000 igpm by a 6" Valley pump powered by a Lister engine, processing 75-100 loose cubic yards (57.3 - 76.4 m) of gravel per hour. Clean-ups were done daily using a large gold wheel and jigs.

Surficial Geology and Stratigraphy The stratigraphic section exposed in the 2008 and 2009 mining seasons was thawed and consisted of various silt and organics overlying 6 to 12 feet (1.8 to 3.7 m) of gravel. All of the gravel and 3 feet (0.9 m) of bedrock were sluiced.

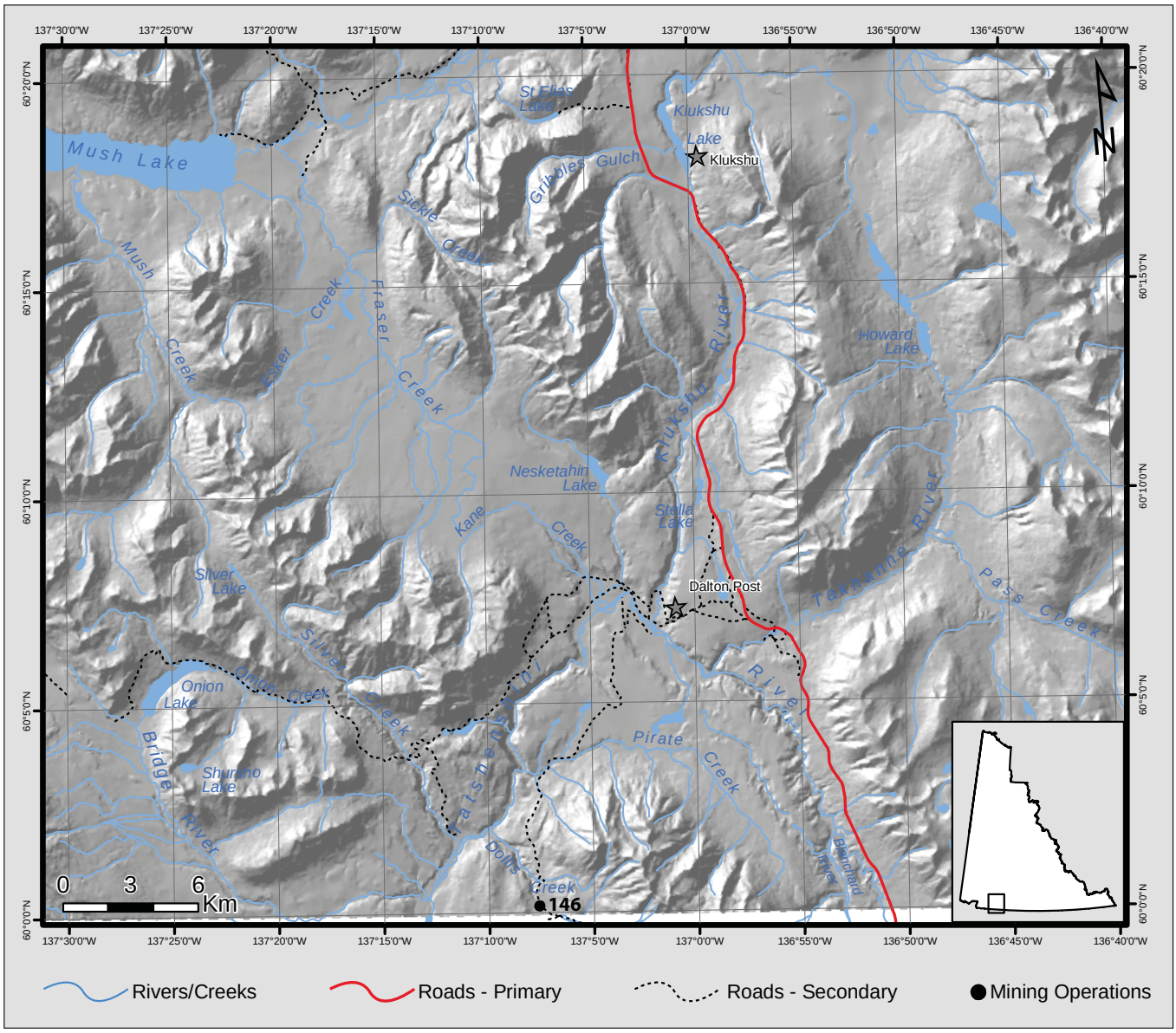
Bedrock Geology Bedrock exposed in 2008 and 2009 was a porphyritic intrusive.

Gold Characteristics In 2008-2009, the fineness of gold was 860. Many nuggets were found and the gold was worn and flat suggesting it was well-travelled.

View looking east at Steve Johnson's mining operation on Burwash Creek in 2008

DOLLIS
PLACER AREA

SITE 146



LEGEND

146 ..... Gemmer

Dollis, a tributary of Tatshenshini

115A/3 2008: 60º00'13"N, 137º07'36"W

Gemmer, 2008-2009

Water License: PM04-374 (Active 2010)

Active Producer (2007-2009) **Operation no. 146**

Location Mr. Gemmer purchased this operation from Jerry Reid. The property was located just above the head of the canyon on Dollis Creek.

Work History and Mining Cuts Most of 2008 was spent setting up camp and infrastructure. Test-mining was to begin near the end of the 2008 season.

Equipment and Water Treatment Equipment on site included a Komatsu PC300LC excavator, a Mustang skid-steer, two dump trucks, a Caterpillar 988 loader, a Yutani excavator and an SMI Firemaster airport fire truck. The wash plant which came with the purchase was a 7 1/2 foot diameter by 60 foot long trommel.

Surficial Geology and Stratigraphy The previous operator described the section on the terrace as glacial till with 3 to 10 ft (0.9 to 3.0 m) diameter boulders overlying 3 to 6 ft (0.9 to 1.8 m) on a clay "false bedrock". The section observed adjacent to the creek in 2008 was a low alluvial terrace with 5 to 8 feet (1.5 to 2.4 m) of bouldery sandy gravel on bedrock.

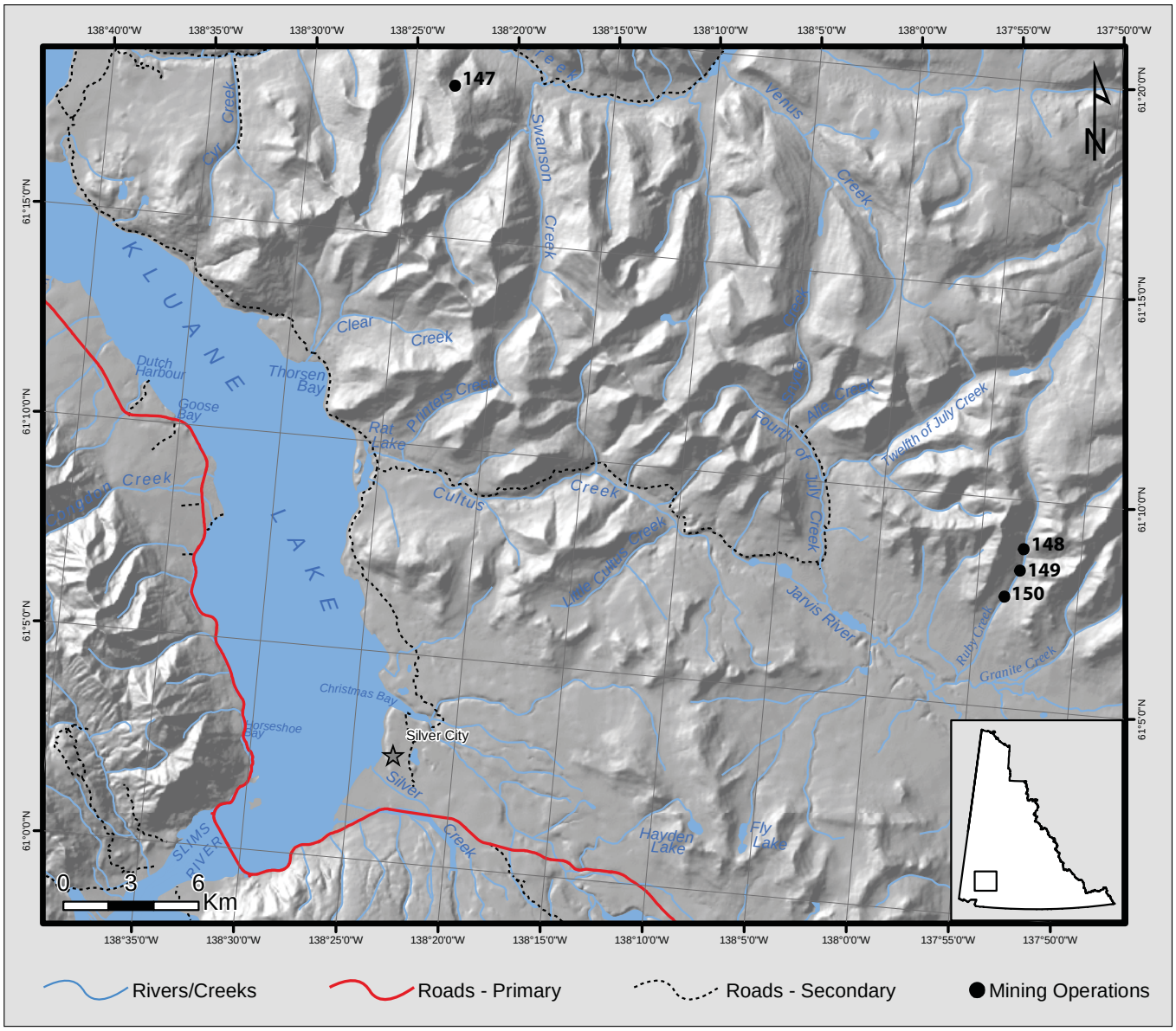
Bedrock Geology The bedrock exposed was graphitic schist.

Gold Characteristics The gold is characteristically coarse and nuggets up to 47 ounces have been found in the past on this creek.

Bradley Gemmer's property on Dollis Creek in 2008.

GLADSTONE
PLACER AREA

SITES 147 - 150



LEGEND

147 ..... Tic Exploration Ltd.
148 ..... Mazur
149 ..... MacKinnon
150 ..... Brewster

Gladstone, a tributary of Kluane Lake

115G/7 2008: 61º18'42"N, 138º38'16"W

Tic Exploration Ltd., 1992-2009

Water License: PM06-510 (Active 2015)

Active Producer (2007-2009) **Operation no. 147**

Location Alan Dendys has mined on Gladstone Creek at various locations from approximately 1.6 km upstream from its confluence with Kluane Lake to a kilometre upstream of the lower canyon.

Work History and Mining Cuts Between 2007 and 2009, two daily 12 hour shifts were worked by four miners and a cook. In 2007, an area on the right limit upstream of the canyon was mined, as well as an area on the right limit just upstream of camp. In 2008, an area downstream on the left limit was mined by both plants. Most of the mining in 2009 was concentrated on taking out berms that were mined 15 years ago - in addition, a cut was made that measured 200 by 2000 feet (61 by 610 m).

Equipment and Water Treatment Between 2007 and 2009, equipment included three Caterpillar 330 excavators, a Caterpillar 325 excavator, a Caterpillar 350 excavator, two Caterpillar D9H bulldozers, and a Caterpillar D10N bulldozer. The excavators were used for testing and processing gravel as well as reclamation, whereas the bulldozers were used for stripping and reclamation. All feed excavators had 1-1/2 to 2 cubic yard buckets. Two wash plants were located on site, a 5' diameter floating trommel with a 6' by 6' sluice run and a 30" wide tailings conveyor; and a 6' diameter floating trommel with a 9' by 6' sluice run and a 36" wide tailings conveyor. Each wash plant had a pump supplying water at 1500 igpm, one 6" pump powered by a Lister engine and the second 6" pump by a Cummins engine. The smaller wash plant washed 50 loose cubic yards (38.2 m^3) of gravel an hour and the larger one, 75 loose cubic yards (57 m^3) per hour . Water was acquired from ground water and 100% recycled through a 200 by 50 foot (61 by 15.2 m) settling pond. Clean-ups were done using a gold bowl for sluice concentrate and then put through a gold wheel.

Surficial Geology and Stratigraphy The stratigraphic sections averaged 10 feet (3 m) muck and silt overlying 15 to 25 feet (5 to 8 m) of gravel, overlying a clay "false bedrock" bottom. All the gravel was sluiced.

Bedrock Geology Unconsolidated, wavy clay forms a false bedrock layer in the valley floor.

Gold Characteristics Gold recovered from 2007 to 2009 varied in character from rough to smooth to flat, and in size from 4 mesh to 200 mesh. There were not many 4 mesh-sized nuggets and the majority of gold was finer than 35 mesh. The gold had a bulk fineness averaging 830.

Tic Exploration's wash plant on Gladstone Creek above the canyon in 2007.

Ruby, a tributary of Jarvis

115H/4 2008: 61º08'52"N, 137º52'52"W

Mazur, 2008

Water License: PM07-568 (Active 2018)

Active Producer (2007-2009) **Operation no. 148**

Location The operation was located on the left fork of Ruby Creek near the headwaters.

Work History and Mining Cuts Mr. Mazur and one partner conducted a test mining program on the left limit of the left fork of Ruby Creek in 2008. Several pits were excavated along the access road and adjacent to the creek.

Richard Mazur's test mining operation on upper Ruby Creek in 2008.

Equipment and Water Treatment Equipment included a Kubota excavator and a small trailer-mounted test trommel with a hopper.

Surficial Geology and Stratigraphy The section was a mixture of angular gulch gravel, slide rock and silt.

Bedrock Geology Bedrock is mapped as schist and quartzite.

Gold Characteristics Gold was reportedly very fine grained.

Ruby, a tributary of Jarvis

115H/4 2008: 61º08'21"N, 137º52'57"W

115H/4 2009: 61º08'17"N, 137º53'04"W

MacKinnon, 1998-2009

Water License: PM97-018 (Active 2010)

Water License: PM10-002 (Active 2020)

Active Producer (2007-2009) **Operation no. 149**

Location This operation was located on Ruby Creek, 6.2 kilometers upstream of the Jarvis River.

Work History and Mining Cuts In the 2007 to 2009 seasons, two miners worked a daily 4-12 hour shift, sluicing an average of 5000 cubic yards (4000 m^3) of gravel per year. Late in 2009 Mr. MacKinnon moved to a new location downstream.

An old timers adit found on Brad MacKinnon's mining property on Ruby Creek in 2009.

Equipment and Water Treatment Equipment used in 2007-2009 included a John Deere 790 excavator for stripping and restoration, a Bucyrus Erie 15H excavator to feed the wash plant and remove tailings, a John Deere 750 bulldozer for road building, site preparation, and restoration, and a John Deere 544 loader to remove tailings, feeding the wash plant and general site work. The wash plant consisted of a 5 foot diameter trommel with a 4 by 6 foot sluice run lined with expanded metal and hydraulic riffles. Water was acquired from Ruby Creek and supplied at 500 IGPM by a 4" Gorman Rupp pump, powered by a 4 cylinder Kubota engine. The wash plant processed 30 loose cubic yards (23 m^3) gravel per hour. Clean-ups were done after every 1000 cubic yards (765 m^3) of sluicing, using a long tom and gold wheel.

Surficial Geology and Stratigraphy The stratigraphic section in 2007-2009 was thawed and consisted of a thickness of 8 feet (2.4 m) of gravel, all of which was sluiced along with 2 feet (0.6 m) of bedrock. The gold was observed to be randomly dispersed throughout the gravel with no noticeable enrichment at bedrock.

Bedrock Geology Bedrock exposed was described as decomposed schist.

Gold Characteristics Gold recovered in 2007-2009 was very coarse with 80% greater than 20 mesh in size. It was crystalline and skeletal with a purity of 845.

Ruby, a tributary of Jarvis

115H/4 2007: 61º07'45"N, 137º53'37"W

Brewster, 1998-2009

Water License: PM06-544 (Active 2011)

Active Producer (2007-2009) **Operation 150**

Location This operation was located on the right limit of Ruby Creek.

Work History and Mining Cuts In 2007 the operator sluiced on the left limit. Little activity was done in 2008, but in 2009 Mr. Brewster was actively mining again.

Equipment and Water Treatment A P&H excavator with a ¾ yard bucket was used for stripping and stockpiling, while a JCB wheeled backhoe with a ¼ yard bucket was used for feeding the sluice plant. The wash plant consisted of a 5 by 4 by 6 foot dump hopper over a 6 by 4 foot deck with ¾ inch screen, a 10 foot run of punch plate and a 16 inch by 3 foot riffle run. Water was obtained from Ruby Creek through a pump pond, fed by a five horsepower 2 inch Honda pump or a 16 horsepower 4 inch pump which produced 400 igpm. Effluent was settled out of stream with no discharge into Ruby Creek.

Surficial Geology and Stratigraphy The average overall depth of the mining section was 16 to 18 feet (5 to 5.5 m), and was composed mostly of fine pebble-cobble gravel. Clay layers were exposed below the stream channel.

Bedrock Geology The bedrock exposed at this site was wavy schist and quartzite.

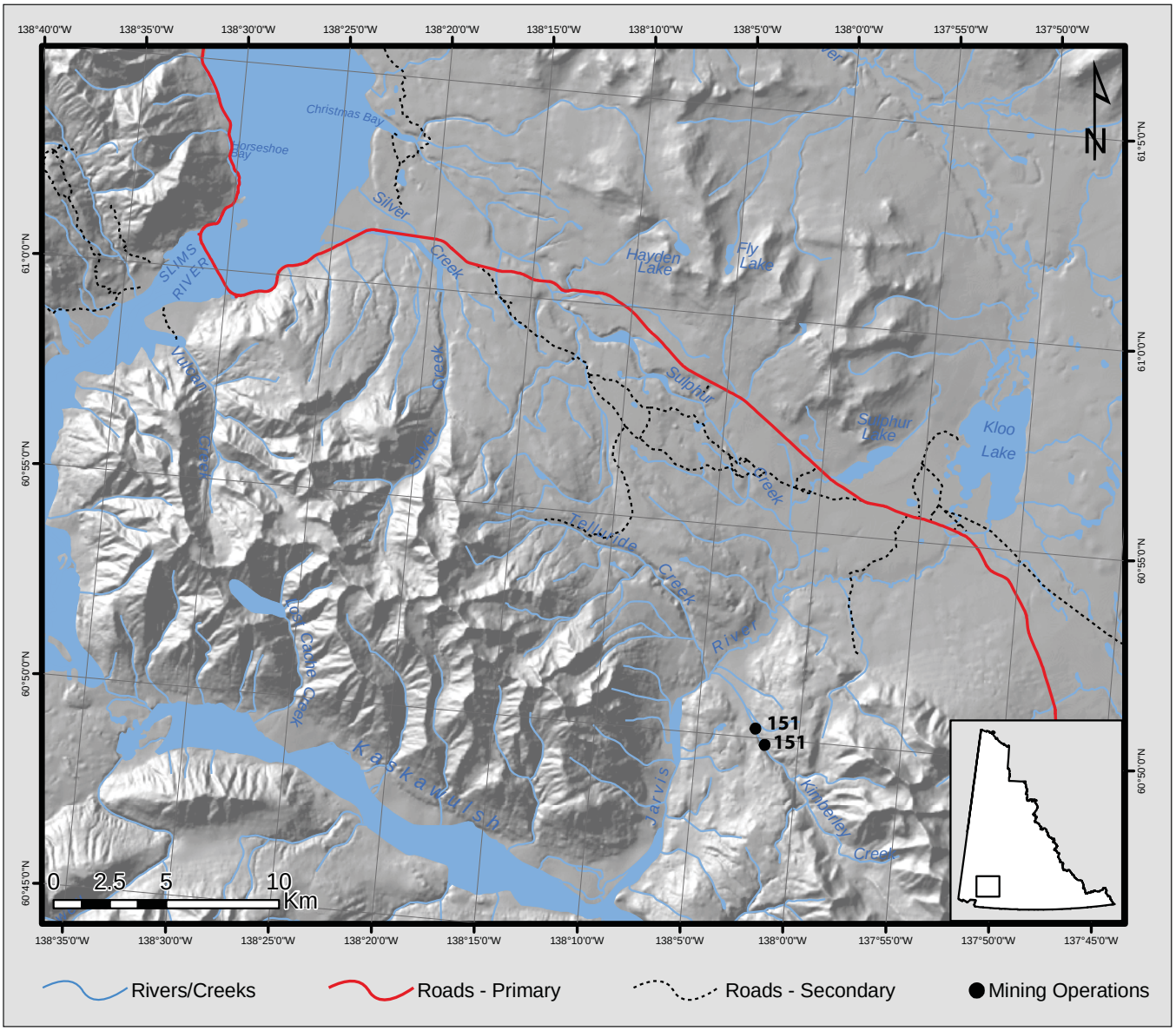
Gold Characteristics Gold was reported to be bright in appearance with a mixture of flat, smooth and chunky textures. The average size was 60 mesh although some 2 gram nuggets were found.

Dale Brewster's Ruby Creek property in 2008.

KIMBERLEY

PLACER AREA

SITE 151



LEGEND

151 ..... Sawyer

KIMBERLEY, A TRIBUTARY OF JARVIS

115B/16 2008: 60º50'16"N, 138º02'09"W
115B/16 2009: 60º49'54"N, 138º01'38"W

Sawyer, 1980-2009

Water License: PM96-063 (Expired 2007)
Water License: PM04-457 (Active 2010)
Water License: PM06-518 (Active 2010)
Active Producer (2007-2009) **Operation 151**

LOCATION Between 2007 and 2009, the property was located on Kimberley Creek, approximately 2 miles (3 km) above its confluence with the Jarvis River.

WORK HISTORY AND MINING CUTS A daily shift of 3-8 hours was worked by Clair and Pat Sawyer from 2007 to 2009. A single mine cut measuring 60 by 150 feet (18.3 by 45.7 m) was stripped and sluiced each year.

EQUIPMENT AND WATER TREATMENT Equipment used in 2007-2009 included a Link-Belt 4700 excavator with a 2 1/2 cubic yard bucket which was used to stockpile and feed the wash plant, and a Caterpillar D6C bulldozer which was used to maneuver tailings and for road building. The wash plant consisted of a 4' by 14' trommel with 4 feet of 1 inch screen and a 24' by 36" tailings stacker. Minus 1 inch material was processed through a Pan-American jig. Water for the plant was supplied at 200 IGPM by a 5" by 4" Allis Chambers B125 pump. The trommel and water pump were powered by a Hatz diesel engine, processing approximately 30 loose cubic yards (23 m^3) of gravel an hour. Water was acquired from groundwater and released into previous mine cuts over a length of 1500 feet (139 m). Clean-ups were done weekly using a clean-up jig which reduced the concentrate from the plant jig.

SURFICIAL GEOLOGY AND STRATIGRAPHY In 2007-2009 the stratigraphic section was thawed and consisted of 0 to 2 feet (0 to 0.6 m) of overburden and 6 to 20 feet (2 to 6 m) of gravel, the bottom 4 feet (1.2 m) of which were sluiced.

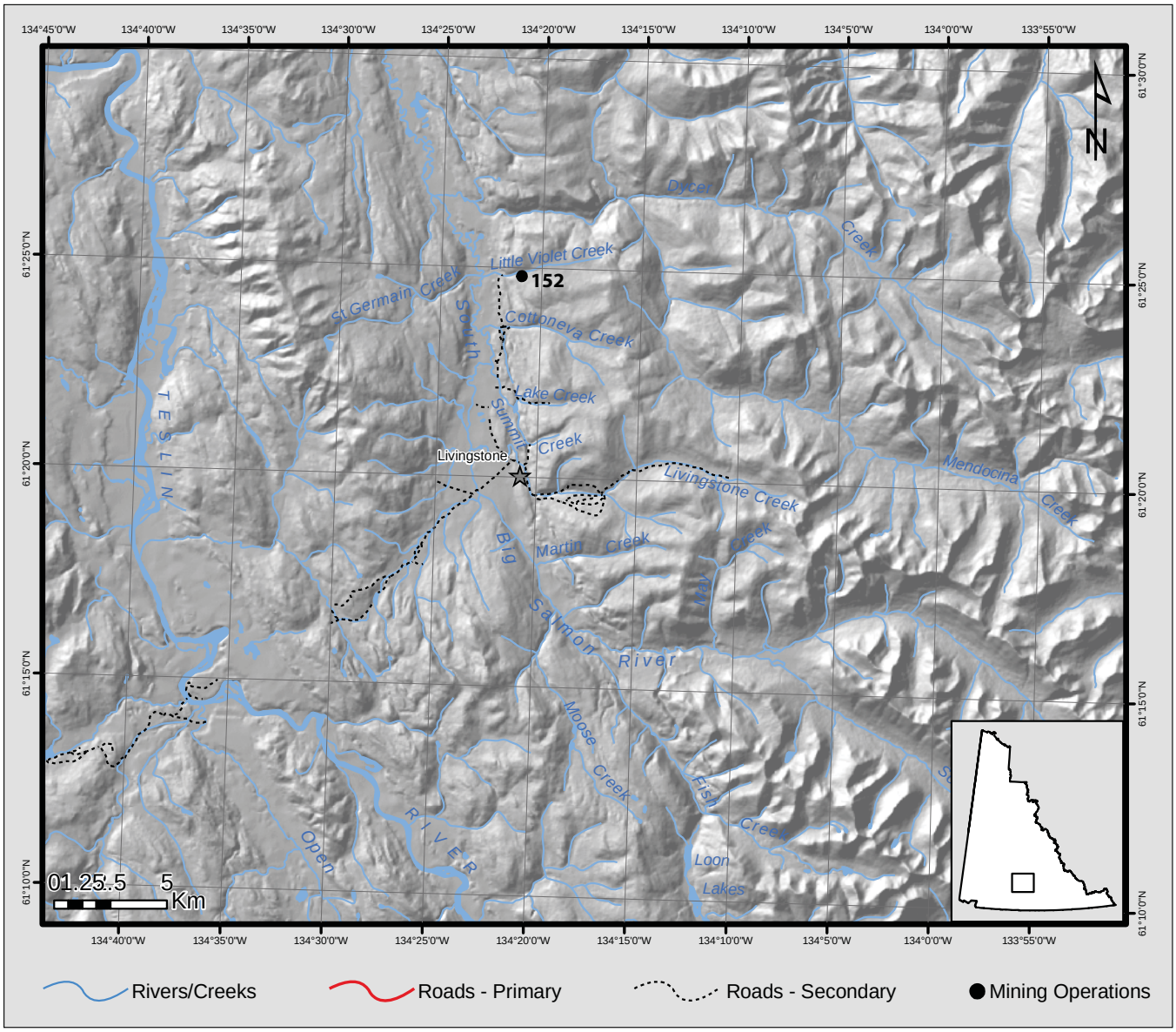
BEDROCK GEOLOGY Bedrock exposed was decomposed schist.

GOLD CHARACTERISTICS Gold recovered between 2007 and 2009 had a fineness of 860 and was chunky with 60% larger than 10 mesh in size.

Clair and Pat Sawyer's mining operation on Kimberley Creek in 2008.

LIVINGSTON
PLACER AREA

SITE 152



LEGEND

152 ..... Agamemnon Fishing Co. Ltd.

Little Violet, a tributary of South Big Salmon

105E/8 2008: 61º24'51"N, 134º21'00"W

Agamemnon Fishing Co. Ltd., 1998-2009

Water License: PM98-021 (Closed 2009)
Water License: PM08-609 (Active 2019)
Active Producer (2007-2009) **Operation no. 152**

Location This operation was located almost 1.9 miles (3 km) upstream on Little Violet Creek.

Work History and Mining Cuts In 2007-2009, three miners and two camp personnel worked a daily 10 hour shift. Work has been on one continuous mine cut, approximately 100 feet (31 m) wide, moving upstream along bedrock. Digging seasons have been kept short due to equipment repairs.

Equipment and Water Treatment In 2007-2009, a Pollain 400 shovel and Hitachi UH16 excavator dug waste and fed pay into two Volvo 861 articulated dump trucks which hauled waste to the dump, pay to the yard and tailings to the camp site. A Caterpillar 966 loader fed the wash plant while a Caterpillar 950 loader removed the tailings and a Caterpillar D8K bulldozer and John Deere 540A skidder worked on site maintenance, while a JCB 7C excavator worked on ditch maintenance. A Caterpillar D9H bulldozer was back-up equipment. The wash plant consisted of a Torgeson vibrating deck which classified material to less than 3", which is then sorted into greater and less than 1/4" in size by a 30" by 8 foot screen. The material smaller than 1/4" is diverted a run through a Knelson bowl concentrator and returned to the head of the sluice runs, where as material greater than 1/4" flows directly onto the sluice runs. The runs were lined with Nomad matting and 2" angle-iron riffles. Water was gravity-fed to the wash plant by 6" hoses at 50 psi. The water was acquired from an out-of-stream reservoir, returned to settling ponds measuring 300 by 500 feet (91 by 152 m), and discharged through seepage into the ground. Clean-ups of the top 4 feet of the sluice were done every day with a gold pan.

Surficial Geology and Stratigraphy The 2007-2009 section was thawed and consisted of 15 feet (4.6 m) of boulder glacial till followed by 30 feet (9.1 m) of stratified sand, all overlying at least 40 feet (12.2 m) of boulder gravel on bedrock. The bottom 15 feet (4.6 m) of gravel was sluiced along with 2 to 3 feet (0.6 to 0.9 m) of bedrock.

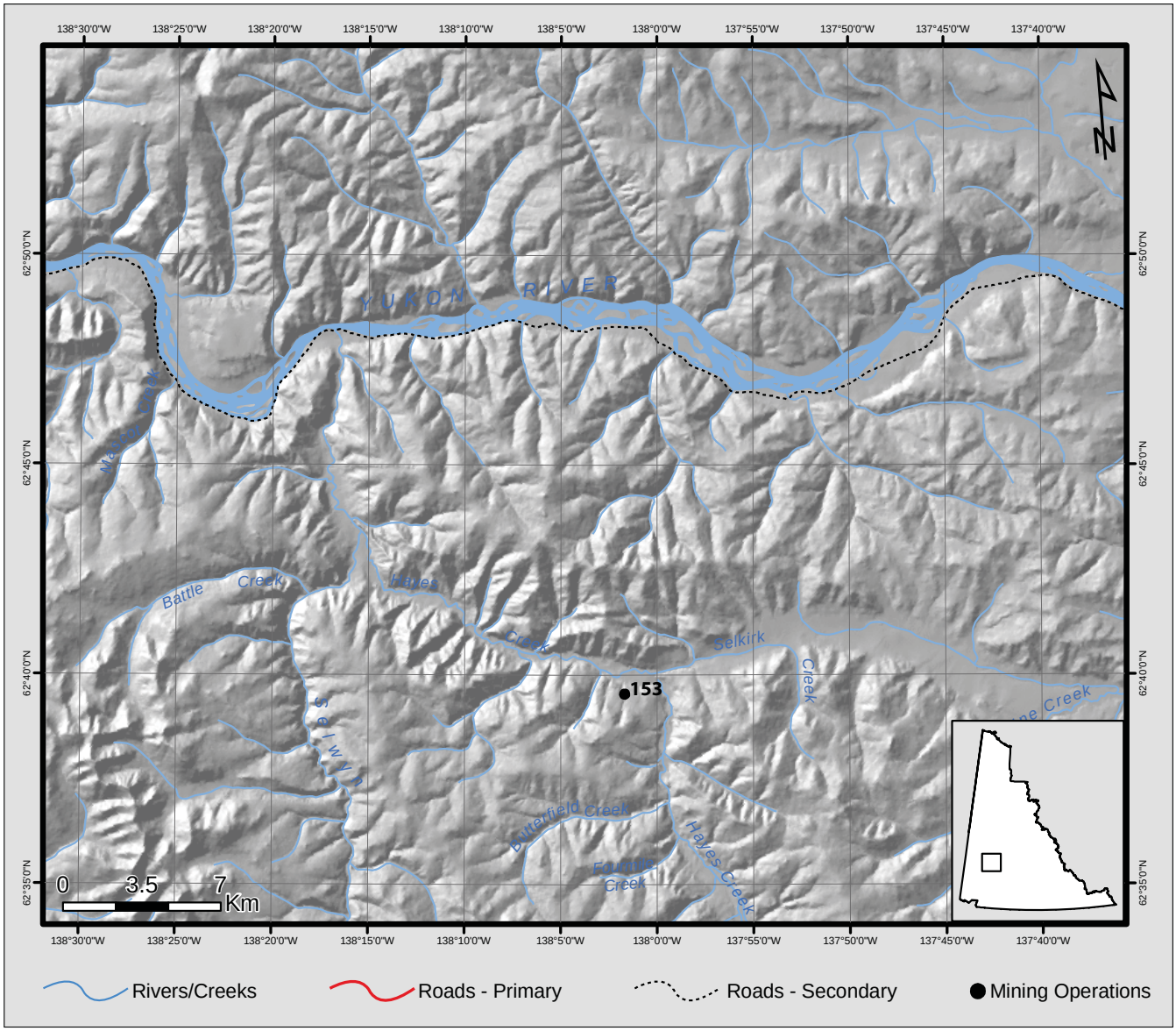
Bedrock Geology The upper reaches of Little Violet are underlain by dioritic to quartz dioritic augen amphibole gneiss. The lower reaches are underlain by fine-grained amphibolite and amphibolitic greenstone.

Gold Characteristics Gold recovered in 2007-2009 was coarse-grained, with 50% being larger than 1/4" and the rest between 1/4" and 20 mesh in size. The gold was reported as 879 fine.

Aerial view of Agamemnon Fishing Company Ltd. on Little Violet in 2008.

HAYES
PLACER AREA

SITE 153



LEGEND

153 ..... Wilson

Sonora, a tributary of Hayes

115J/9 2007: 62º39'34"N, 138º01'41"W

Wilson, 2000-2001, 2007-2009

Water License: PM03-345 (Closed 2009)

Active Producer (2007-2009) **Operation no. 153**

Location This operation was located at various locations along Sonora Gulch upstream of the confluence with Hayes Creek.

Work History and Mining Cuts George Wilson has mined here intermittently since 2000. The operation was active from 2007 to 2009.

Equipment and Water Treatment Equipment on site included a Caterpillar EL300 excavator and a Caterpillar loader. The wash plant included a dump box with a grizzly screen over a single sluice run.

Surficial Geology and Stratigraphy The section consisted of a muddy, cobbly gulch gravel incised into a sandy, stratified glaciofluvial outwash gravel. Bedrock was not seen and the gold values were found interspersed within the gulch gravel.

Bedrock Geology Bedrock is mapped as granitic Pelly Gneiss suite rocks.

Gold Characteristics The gold is unworn and nuggets often have tetradymite (a bismuth tellurium sulphide) attached.

George Wilson's mining operation on Hayes Creek tributary Sonora Gulch in 2007.

FINENESS OF YUKON PLACER GOLD

DAWSON MINING DISTRICT	FINENESS (HISTORIC)	FINENESS (RECENT)
5 Above Pup		680-832
7 Pup		790-860
8 Above Pup		680-700
15 Pup	700	675-700
24 Pup		827-850
27 Pup	845	
27 Gulch	750	
49 Pup		780
65 Pup	960	
Adams Gulch	615-750	750
Allgold Creek	858-860	870, 820-870, 890
American Hill (Bonanza)	864	800
Anderson Creek (Fortymile area)	720-728	
Australia Creek		850-860
Australian Hill (Hunker)	850-860	860
Ballarat Creek	852-860	850
Barker Creek	793-900	
Barlow Creek	853	
Barney Pup		820-860
Bear Creek	644-746	
Bedrock Creek	820	830
Big Gold Creek	847-854	720-870
Black Hills Creek	730-855	660-855
Blueberry Creek	880	880
Bonanza Creek (upper)	809-827	750-780, 830-850
Bonanza Creek (middle)	781	
Bonanza Creek (lower)	739-798	
Bow Pup Creek		889-900
Brewer Creek	830-890	
Brimstone Gulch	830	
Browns Creek	800	800
Bruin Creek	800	
Canyon Creek		750
Caribou Creek	816-840	820-850, 805
Carmack Fork		670-692
Cheechako Hill	750-785	
Childs Gulch	750	740-750, 734
Clear Creek	820-860	784-860, 889
Clear Creek (left fork)	730	
Clear Creek (right fork)	720-740	
Dago Gulch		780-920, 700-790
Dago Hill (Hunker)	798-859	760
Dawson Hill (Klondike)	790-825	
Discovery Pup	700	690-700
Dome Creek		750
Dominion Creek (upper)	805-832	770-790
Dominion Creek (middle)	817-849	825-860
Dominion Creek (lower)	790-840	865
Eighty Pup	797	
Eldorado Creek	733	703-803
Eureka Creek	677-745	620-690, 670
Fiftymile Creek		890-910
Fortymile River	814-845	
French Gulch	631-750	625-760
Friday Gulch	790-804	790-810
Gauvin Gulch	664	663, 660-675
Gay Gulch	780-790	
Glacier Creek	830-860	820-860
Gold Bottom Creek	780-800	820
Gold Hill	768	
Gold Run Creek	830-878	840-850
Goring Creek	738	730
Green Gulch		750-830
Groetschier Bench	790-825	
Hattie Gulch		710-770
Henderson Creek	720-760	700-750, 800
Henry Gulch	605-650	650-700
Hester Creek	850	650-720, 820
Homestake Gulch	660-750	
Hunker Creek (upper)	798-859	790
Hunker Creek (middle)	725-820	800-870
Hunker Creek (lower)	701-726	699-770, 780, 800
Independence Creek	780-794	708-817, 820
Indian River	780-843	850
Irish Gulch	624-742	650, 750
Jackson Gulch	829-842	
Jackson Hill (Klondike)	835	790
Kentucky Creek		800-825
King Solomon Hill (Bonanza)	785-800	
Kirkman Creek		860-896, 840, 900
Klondike City	780-790	
Klondike River		790-825, 780, 850
Lake Creek		895
Last Chance Creek	683-832	680
Lindow Creek		650-658, 640
Little Blanche Creek	650-710	640, 700-720
Little Gold Creek	860	780
Lombarde Pup	860	800, 850
Lousetown Bench (Klondike)		800-830, 842
Lovett Gulch	860	795-860

DAWSON MINING DISTRICT	FINENESS (HISTORIC)	FINENESS (RECENT)
Lulu Creek		860-880
Maisy May Creek	780-782	770-860
Mariposa Creek	895-900	
Matson Creek	776-893	
McCrimmon Creek		780
Miller Creek	827-857	710-820
Mint Gulch	820-851	
Montana Creek	770	790
Monte Cristo Gulch	784-796	
Moose Creek	855	840-850
Moosehorn Creek		790-820
Nugget Hill (Hunker)		820-910
Oro Grande Gulch	775	730-740, 720
Paradise Hill (Hunker)	735-802	810-840
Poker Creek		873
Portland Creek		820-835
Quartz Creek	732-800	670-750, 820
Ready Bullion Creek	710-717	800
Rosebute Creek	800-810	
Scroggie Creek	895-905	890
Sestak Creek	810-815	
Sixtymile River	810-840	860
Skookum Gulch		630-660
Soap Creek		763-766
Sparkling Creek	880	
Squaw Creek		870-920
Stewart River	837-850	780-850
Stowe Creek		770
Sulphur Creek	790-832	780-840
Ten Mile Creek	830-845	860
Thistle Creek	848-895	800-860
Toronto Creek		890
Touleary Creek		
Trail Gulch		820
Trail Hill (Bonanza)	800-805	
Treasure Hill		700
Victoria Gulch	807-820	800-860, 760-820
Wounded Moose		820-840, 856

MAYO MINING DISTRICT	FINENESS (HISTORIC)	FINENESS (RECENT)
15 Pup		876-890
Anderson Creek	870	840, 890-910
Boulder Creek	800	
Canyon Creek	825	
Davidson Creek	840	820-860
Dublin Gulch	860-923	
Duncan Creek		788-830, 760

MAYO MINING DISTRICT	FINENESS (HISTORIC)	FINENESS (RECENT)
Empire Creek	910	910-915
Fisher Gulch	900	895
Gem Gulch	895	880-895
Gill Gulch	870	
Goodman Creek		820
Haggart Creek	885-895	870
Highet Creek	820-845	800
Johnson Creek	760-820	830
Ledge Creek	805-825	790-800
Lightning Creek	830	
McLagan Creek		820-850
McNeil Creek		760
McQuesten River	870	
Minto Creek	826-835	845
Morrison Creek		815-840
Murphy's Pup	800-900	
Owl Creek		840-870
Partridge Creek		845-850
Rudolph Gulch		830
Russell Creek	850	
Sabbath Creek		800
Seattle Creek		820
Steep Creek	931-946	890-910
Swede Creek	895	880, 750
Thunder Gulch	790-825	
Upper Duncan Creek		810, 792
Van Bibber Creek		840-860
Vancouver Creek		800

WHITEHORSE MINING DISTRICT	FINENESS (HISTORIC)	FINENESS (RECENT)
Arch Creek	870	
Back Creek	760-836	
Boliden Creek	890	870-890
Bullion Creek	871	
Burwash Creek	860-876	850-860, 740
Canadian Creek	864-883	
Cottoneva Creek	830	
Discovery Creek	820-850	
Dollis Creek		834-960
East Fork Nansen Creek		800, 790-860
Eva Creek	790	
Fourth of July Creek	800-810	820
Gladstone Creek	820	767-820, 839
Great Bear Creek		820-825
Guder Creek	838	
Hayes Creek	860-880	
Iron Creek		850

WHITEHORSE MINING DISTRICT	FINENESS (HISTORIC)	FINENESS (RECENT)
Kate Creek	800-820	
Kenyon Creek	750	800-820
Kimberley Creek	850-860	
Klaza River (unnamed tributaries)	760-830	
Lake Creek	895	
Little Violet Creek	866	870-900
Livingstone Creek	880	
Martin Creek	870	
May Creek	892	
Mechanic Creek	880-910	870
Moose Brooks Creek	820-837	793-900
Nansen Creek	800	805-820, 790
Quill Creek	878	870
Reed Creek	889-896	
Revenue Creek	860-880	890-920
Ruby Creek		835-845
Rude Creek	840-850	860
Rusk Creek	830	
Seymour Creek	860	840-870
Slate Creek	800	
Soya Creek		800
Summit Creek		860-900
Swamp Creek	800	840
Tatamagouche Creek		860
Tatshenshini River	850-866	
Twelfth of July Creek		810
Victoria Creek	720-730	780, 790-810
Wade Creek	900-930