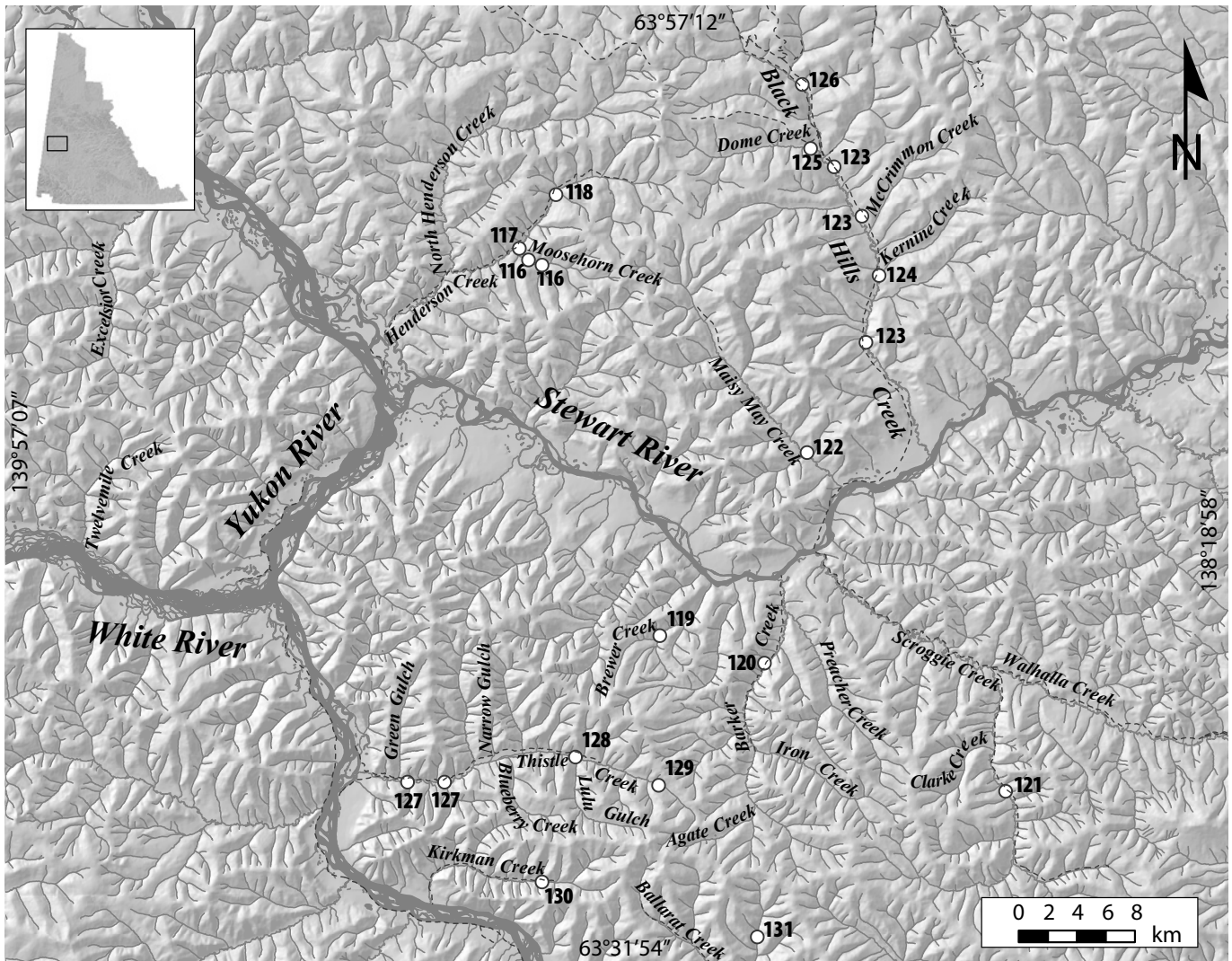


SOUTH KLONDIKE PLACER AREA

SITES
116-131



LEGEND

- 116.....H.C. Mining Ltd. - Moosehorn Creek
- 117.....H.C. Mining Ltd. - Henderson Creek
- 118.....Shellbrite Placers Ltd.
- 119.....KTX Mining Co. Ltd.
- 120.....Midas Rex Mining Inc.
- 121.....Bidrman
- 122.....35249 Yukon Inc. (Goodwill)
- 123.....Coulee Resources Ltd.
- 124.....Laurenson
- 125.....Armstrong
- 126.....Paydirt Holdings Ltd.
- 127.....Midas Rex Mining Inc.
- 128.....Sager
- 129.....Fell Hawk Placers - Thistle Creek
- 130.....Fell Hawk Placers - Kirkman Creek
- 131.....Fell Hawk Placers - Ballarat Creek

MOOSEHORN CREEK, a tributary of Henderson Creek

1150/6

2006: 63°22'45"N, 139°12'41"W

2005: 63°22'57"N, 139°13'49"W

H.C. Mining Ltd., Hayden Cowan

Water license: PM03-310 (2013)

Active producer (2005-2006)

Operation no. 116

LOCATION The operation was located on Moosehorn Creek, a left-limit tributary of Henderson Creek.

WORK HISTORY AND MINING CUTS A crew of four to five miners and one camp person worked 12 hours per day, each in two shifts, 5 days a week. In 2006, one camp person was added. In 2005, one cut with dimensions 3000 by 100 feet (900 x 30 m) was mined, and in 2006, two cuts were mined: 500 by 80 feet (150 x 25 m) and 2100 by 100 feet (650 x 30 m).

EQUIPMENT AND WATER TREATMENT Equipment in 2005 consisted of a Caterpillar D9L bulldozer, a Komatsu D155A bulldozer, a Hitachi UH143 excavator and a Hitachi EX300 excavator. In 2006, a Caterpillar D9N bulldozer and Hitachi EX350 excavator were added. The wash plant included a 10- by 10-foot hopper feeding a Simplicity 5- by 14-foot double screen deck. This fed to an 11- by 7.5-foot primary sluice run and two 8- by 14-foot secondary sluice runs with angle iron riffles. Water was supplied by a 3208 Caterpillar-powered Paco 10- by 12-inch pump rated at 2000 igpm, enough to process between 120 and 220 loose cubic yards of pay material through the wash plant. In 2006, the Paco pump was replaced by a Detroit 60 series-powered Pioneer 8- by 10-inch pump rated at 2500 igpm. Tailings were stacked with a 32-inch by 50-foot conveyor. Water was acquired from Moosehorn and Henderson creeks, settled into a 150- by 60-foot (45- x 20-m) pond and 100% recycled. Clean-ups were done using a long tom and a gold wheel.

SURFICIAL GEOLOGY AND STRATIGRAPHY The section encountered in 2005 and 2006 consisted of 8 to 12 feet (2 to 3 m) of muck overlying 3 feet (0.9 m) of gravel. All of the gravel and 2 feet (0.6 m) of bedrock were sluiced.

BEDROCK GEOLOGY Bedrock at this site is biotite gneiss.

GOLD CHARACTERISTICS Gold was a mixture of fine and coarse grain sizes and purity ranged from 790 to 820.

HENDERSON CREEK, a tributary of Stewart River

1150/6

2006: 63°23'21"N, 139°14'29"W

H.C. Mining Ltd., Hayden Cowan

Water license: PM03-310 (2013)

Active producer (2004-2006)

Operation no. 117

LOCATION The operation was located on Henderson Creek upstream of 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. Two cuts were processed in 2004: one 1500 by 120 feet (500 x 35 m) and one 1200 by 80 feet (260 x 25 m). In 2006, four to five miners and two camp personnel worked 12 hours each in two daily shifts, five days a week.

A cut 1700 by 80 feet (520 x 25 m) was processed on Henderson Creek.

EQUIPMENT AND WATER TREATMENT Equipment in 2004 consisted of a Caterpillar D9L bulldozer, a Komatsu D155A bulldozer, a Hitachi UH143 excavator and a Hitachi EX300 excavator. In 2006, a Caterpillar D9N bulldozer and Hitachi EX350 excavator were added. The wash plant in 2004 consisted of a land-based New Zealand trommel with a 5-foot-diameter barrel. Two sluice runs, each 9 feet wide and 6 feet long, were lined with hydraulic riffles. Tailings were stacked with a 36-inch by 40-foot conveyor. Between 40 and 60 loose cubic yards per hour were processed. Water was supplied by an Isuzu-powered Indeng 6- by 6-inch pump rated at 1000 igpm and settled in a 50- by 40-foot pond. In 2006, the wash plant included a 10- by 10-foot hopper which was fed between 120 and 220 loose cubic yards of pay per hour. This fed into a 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. Water was supplied by a Detroit 60 series-powered Pioneer 8- by 10-inch pump rated at 2500 igpm. Tailings were stacked with a 32-inch by 50-foot conveyor. Water was acquired from Moosehorn and Henderson creeks, settled into a 150- by 60-foot (45- x 20-m) pond and 100% recycled. Clean-ups were done using a long tom and a gold wheel.

SURFICIAL GEOLOGY AND STRATIGRAPHY The section in 2004 and 2006 consisted of 8 to 10 feet (2 to 3 m) of mud overlying 3 feet (1 m) of gravel. All of the gravel and 3 feet (1 m) of bedrock were sluiced.

BEDROCK GEOLOGY Bedrock at this site is blocky schist.

GOLD CHARACTERISTICS In 2004 and 2006, the gold was fine-grained and the fineness was 700 to 750.



H.C. Mining on Moosehorn Creek, 2006

HENDERSON CREEK, a tributary of Stewart River

1150/6

2003: 63°25'19"N, 139°11'23"W

Shellbrite Placers Ltd., Dave McInroe, Hayden Cowan

Water license: PM96-043 (2005)

Active producer (2003)

Operation no. 118

LOCATION The mining was done on Henderson Creek mainly upstream of the left-limit tributary Moosehorn Creek.

WORK HISTORY AND MINING CUTS In 1996, mining at this operation began on Henderson Creek, continuing under Dave McInroe and Shellbrite Placers Ltd. until 2002. Hayden Cowan took over the entire operation in the 2003 season, and continued stripping and sluicing a section of valley below the forks along the left limit.

EQUIPMENT AND WATER TREATMENT Equipment included a Hitachi UH143 excavator and a Komatsu 155 bulldozer. The wash plant was a hopper-fed, New Zealand-style 5-foot-diameter trommel with ½-inch screen over 12- by 10-foot sluice runs lined with hydraulic riffles. Tailings were stacked with a 35-foot conveyor. Process rate was from 70 to 100 cubic yards per hour. Hayden Cowan sluiced with both in-stream and out-of-stream settling in 2003; the creek was used as a conduit to the final in-stream settling pond.

SURFICIAL GEOLOGY AND STRATIGRAPHY The cuts had an average of 2 feet (0.6 m) of moss and black muck overlying 3 feet (0.9 m) of silt and 4 feet (1 m) of mixed gravel. The lower

2 feet (0.6 m) of gravel and a small amount of the bedrock were sluiced.

BEDROCK GEOLOGY Bedrock at this site is flat and slabby schist.

GOLD CHARACTERISTICS The gold was reported as primarily fine with a few small nuggets, and the purity ranged from 730 to 800 fine. It was brightly coloured, round and smooth.



Shellbrite Placers sluicing pay gravel on Henderson Creek, 2003.

BREWER CREEK, a tributary of Stewart River

1150/3 2003: 63°09'00"N, 139°03'52"W

KTX Mining Co. Ltd., Bernie Kreft, Erwin Kreft

Water licenses: PM97-053 (2004)

Exploration (2003) **Operation no. 119**

LOCATION The property was located on the left limit of Brewer Creek, just downstream of the main forks.

WORK HISTORY AND MINING CUTS Bernie and Erwin Kreft first worked this creek in 1994. In 2003, some stripping was conducted on the left limit approximately 1.2 miles (2 km) downstream of camp.

BEDROCK GEOLOGY Bedrock is mapped as Devonian Nasina assemblage graphitic quartzite.

BARKER CREEK, a tributary of Stewart River

1150/2 2006: 63°07'53"N, 138°55'35"W

Stuart Schmidt

Water license: PM02-293 (2008)

Exploration (2004-2006) **Operation no. 120**

LOCATION The operation was located on Barker Creek on the left-limit bench downstream of Dixie Gulch.

WORK HISTORY AND MINING CUTS Equipment was mobilized for one month each season by barge from Midas Rex Mining Ltd. operations on Thistle Creek. The total area stripped between 2004 and 2006 was 5000 by 200 by 6 feet (1500 x 60 by 2 m).

EQUIPMENT AND WATER TREATMENT A Caterpillar D10N was used to strip ground which was left to thaw each season. A Nodwell 6-inch auger was used to drill test samples and to determine the depth to bedrock.

SURFICIAL GEOLOGY AND STRATIGRAPHY The section consisted of 4 to 6 feet (1 to 2 m) of black muck overlying 6 to 8 feet (2 to 2.4 m) of angular coarse gravel.

BEDROCK GEOLOGY Bedrock at this site was described as rocky and blocky schist.

GOLD CHARACTERISTICS The gold was coarse, bright yellow and had a purity of 860.

SCROGGIE CREEK, a tributary of Stewart River

1151/15, 1150/2 2005: 63°02'51"N, 138°36'18"W

Zdenek Bidrman

Water license: PM04-360 (2015)

Active producer (2003-2006) **Operation no. 121**

LOCATION In 2005 and 2006, the operation was 3.2 miles (5 km) downstream of the confluence of Scroggie and Mariposa creeks.

WORK HISTORY AND MINING CUTS Zdenek Bidrman has been mining on Scroggie Creek since 1989. Between 2003 and 2005, three miners working a daily 12-hour shift mined 3 cuts every season, each cut averaging 500 by 330 feet (150 x 100 m). In 2006, the crew was increased to four miners and one camp person working 12 hours each daily. One cut measuring 1000 by 300 feet (300 x 100 m) was processed.

EQUIPMENT AND WATER TREATMENT Between 2003 and 2006, equipment included a Komatsu 375 bulldozer for stripping and two Komatsu WA500 loaders for feeding the plant and removing tailings. 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 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 ¾-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 into two ponds, one 500 by 300 feet (150 x 100 m) and one 200 by 200 feet (60 x 60 m). Clean-ups were done by jig and hand-panning.

SURFICIAL GEOLOGY AND STRATIGRAPHY Between 2003 and 2006, the stratigraphic section was frozen and consisted of 2 to 8 feet



Sluicing pay gravel at Zdenek Bidrman's operation on Scroggie Creek, 2004.



Aerial view of Bidrman's operation on Scroggie Creek, 2005.

(0.6 to 2 m) of black muck and 4 feet (1 m) of pebbly gravel. A total of 1 foot (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 Between 2003 and 2006, the gold was rich yellow in colour, 90% coarse grained and 10% fine grained. The fineness was 900.

MAISY MAY CREEK, a tributary of Stewart River

1150/7

2003: 63°15'33"N, 138°51'31"W

35249 Yukon Inc., Clifford Goodwill Sr.

Water license: PM99-151 (2010)

Active producer (2003)

Operation no. 122

LOCATION The operation was located on Maisy May Creek, approximately 3.5 miles (5 km) upstream from its confluence with the Stewart River.

WORK HISTORY AND MINING CUTS Exploration of this property began in 2001 and some sluicing was done in 2002. Sluicing continued in the 2003 season near the top of the ground that was opened by Goodwill in 2001 and 2002.

EQUIPMENT AND WATER TREATMENT Two Caterpillar D9N bulldozers equipped with rippers and U-blades were used to strip overburden. A Hitachi EX200 excavator was used to dig pay and feed the wash plant. A Caterpillar 966 loader was used to remove tailings. A large steel hopper fed into a 3-foot-wide by 8-foot-long screen deck which classified the pay gravel



35249 Yukon Inc.'s operation on Maisy May Creek, 2003.

down to minus 2 inch. The classified gravel was directed into a 3½-foot-diameter by 20-foot-long trommel with reverse spirals and sluice runs 1½ feet wide by 12 feet long. A 6-inch water pump powered by a 5.9-litre Cummings engine supplied water to process approximately 60 cubic yards per hour. Water was pumped from Maisy May Creek and the effluent was settled in an out-of-stream settling pond.

SURFICIAL GEOLOGY AND STRATIGRAPHY An average of 6 feet (2 m) of frozen black muck overburden was stripped off 12 feet (4 m) of gravel. The bottom 2 feet (0.6 m) of gravel and about 1 foot (0.3 m) of bedrock were sluiced.

BEDROCK GEOLOGY Bedrock was mapped as shale.

GOLD CHARACTERISTICS The gold was reported to be flat, smooth and bright.

BLACK HILLS CREEK, a tributary of Stewart River

1150/7

2005: 63°19'32"N, 138°46'20"W

2004: 63°26'02"N, 138°48'27"W

2003: 63°24'10"N, 138°46'20"W

Coulee Resources Ltd., Joel White

Water license: PM99-043 (2010)

Active producer (2003-2005)

Operation no. 123

LOCATION From 2003 to 2005, Coulee Resources Ltd. worked upstream on the left-limit bench and in the valley, and downstream on the bench on the right limit.

WORK HISTORY AND MINING CUTS Mining at this operation began on Black Hills Creek in 1995, and continued until 2002, when they moved to Sulphur Creek. In 2003, the operation returned with 12 miners working until July, and afterward 10 miners worked a double shift. One cut was mined on the bench and one cut was mined in the valley. The bench cut was 1000 by 60 feet (300 x 20 m) and the valley cut was 2700 by 350 feet (800 x 105 m). In 2004, the crew dropped to 4 miners and one cook working a 12-hour shift. A valley cut 800 by 60 feet (250 x 20 m) and a bench cut of 100 by

100 feet (30 x 30 m) were mined. In 2005, the same crew mined a valley cut of 900 by 120 feet (300 x 35 m).

EQUIPMENT AND WATER TREATMENT From 2003 to 2005, equipment included a Komatsu 455 bulldozer, two Caterpillar bulldozers (D8L and D9H), two Komatsu excavators (PC1000 and PC400), two Caterpillar loaders (980 and 980C), a Caterpillar 992 DLC excavator, and two Caterpillar 740 articulated rock trucks. A Byron Jackson 14- by 12-inch 397 Caterpillar-powered pump supplied 5000 igpm to the wash plant, which consisted of a 6- by 20-foot Clemro deck screening to ¾-inch minus and feeding six 5- by 20-foot oscillating runs with #8 expanded metal. Approximately 300 loose cubic yards per hour were processed. Water was supplied direct from Black Hills Creek and settled into a 3000- by 200-foot (1000- x 60-m) pond.

SURFICIAL GEOLOGY AND STRATIGRAPHY In 2003 and 2004, the section in the lower valley consisted of 8 feet (2.4 m) of muck overlying 7 feet (2.1 m) of gravel. The bench mined in 2004 consisted of 6 feet (1.8 m) of muck overlying 19 feet (6 m) of gravel with large boulders, while the upper valley cut mined in 2005 consisted of 8 feet (2.4 m) of muck and 7 feet (2.1 m) of gravel. In the valley, most of the gravel was sluiced, while on the bench, only the bottom 10 feet of gravel was sluiced.

BEDROCK GEOLOGY The bedrock at this site consists of muscovite schist and quartzite.

GOLD CHARACTERISTICS Between 2003 and 2005, the gold was generally coarse with round, smooth nuggets and a fineness of 790.

BLACK HILLS CREEK, a tributary of Stewart River

1150/7

2003: 63°22'00"N, 138°45'04"W

Dave Laurenson, Sarah Laurenson

Water license: PM99-043 (2010, Licensee: Coulee Resources Ltd.)

Active producer (2003)

Operation no. 124

LOCATION The operation was located on Black Hills Creek and used Coulee Resources Ltd.'s water license.

WORK HISTORY AND MINING CUTS Dave and Sarah Laurenson moved to this location from Childs Gulch. In 2003, they worked a daily 12-hour shift and processed a cut 500 by 200 feet (150 x 60 m).

EQUIPMENT AND WATER TREATMENT Equipment consisted of a Caterpillar D8H bulldozer equipped with a ripper and U-blade for stripping, preparing pay gravel, clearing tailings and reclamation. A Terex 72-51 loader fed the sluice plant and did miscellaneous jobs. The wash plant included a 10-yard



Coulee Resources Ltd.'s operation on lower Black Hills Creek, view to the south, 2003.

hopper which fed into a 4-foot-wide by 14-foot-long double screen deck. The classified gravel was then washed through sluice runs totalling 7 by 21 feet, which were lined with a combination of angle iron riffles, expanded metal and Nomad matting. Tailings were stacked with a 40-foot conveyor. Water from Black Hills Creek was supplied by an English 6-cylinder diesel-powered Ford 5- by 4-inch pump rated at 1200 igpm, enough to process 100 loose cubic yards per hour. Effluent was settled out-of-stream in a 100- by 150-foot (30- x 45-m) pond. Clean-ups were done with a long tom.

SURFICIAL GEOLOGY AND STRATIGRAPHY The section consisted of 20 feet (6 m) of black muck overlying 10 feet (3 m) of gravel on bedrock. Three feet (0.9 m) of gravel and 3 feet (0.9 m) of bedrock were sluiced.

GOLD CHARACTERISTICS Gold was described as fine-grained with a purity of 780.

DOME CREEK, a tributary of Black Hills Creek

1150/7 2003: 63°26'44"N, 138°50'19"W

William F. Armstrong

Water license: PM00-184 (2005)

Exploration (2003) **Operation no. 125**

LOCATION This small-scale exploratory operation was located on Dome Creek, a tributary to Black Hills Creek.

WORK HISTORY AND MINING CUTS William Armstrong started operations on Dome Creek in 2002 and some small-scale testing occurred the following year.

BEDROCK GEOLOGY Metamorphic and volcanic rocks dominate the drainage. Biotite-quartz schist, biotite-feldspar schist, as well as micaceous quartzite are common.

BLACK HILLS CREEK, a tributary of Stewart River

1150/10, 1150/7 2006: 63°29'05"N, 138°50'47"W

Paydirt Holdings Ltd., Tim Nixdorf, Carl Jonas

Water licenses: PM04-445 (2015), PM99-118 (2004)

Active producer (2003-2006) **Operation no. 126**

LOCATION The operation continued working upstream on Black Hills Creek. In 2006, the operation was on a left-limit bench upstream of camp.

WORK HISTORY AND MINING CUTS Paydirt Holdings Ltd. has been working on Black Hills Creek and its tributaries since 1983. In 2003, the operation stripped and sluiced at the mouth of Dome Creek. In 2004, pay gravel was sluiced at a cut near the downstream extent of the property. In 2005, an area was worked upstream from the 2004 mine pit. Side cuts were



Washing pay at Paydirt Holdings on Black Hills Creek, 2004.

prepared downstream from the main camp and sluicing and stripping took place near the camp location.

In 2006, operations continued with sluicing and stockpiling of pay gravel.

EQUIPMENT AND WATER TREATMENT From 2003 to 2006, 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. Clean-ups were done using a jig, gold wheel and by hand-panning. Water was acquired from an in-stream reservoir and effluent was settled in three out-of-stream ponds built from mined-out cuts.

SURFICIAL GEOLOGY AND STRATIGRAPHY In 2006, the left-limit bench consisted of 3 feet (0.9 m) of pebble cobble pay gravel overlain by 3 feet (0.9 m) of fine sand, overlain by 3 feet (0.9 m) of sandy colluvium. The bedrock contact was very undulating and all of the gravel was sluiced, along with 2 feet (0.6 m) of bedrock.

BEDROCK GEOLOGY The bedrock in 2006 at this site was muscovite schist.

GOLD CHARACTERISTICS The gold in 2006 was flat to chunky and orange-yellow in colour. Quartz was attached to some grains.



Aerial view of Paydirt Holdings left-limit bench cut on Black Hills Creek, 2006; view to the east.

THISTLE CREEK, a tributary of Yukon River

1150/3

2005: 63°03'51"N, 139°24'47"W

2003: 63°03'51"N, 139°21'47"W

Midas Rex Mining Inc., Stuart Schmidt

Water licenses: PM02-292 (2007), PM97-070 (2007)

Active producer (2003-2006)

Operation no. 127

LOCATION Stuart Schmidt has been mining on Thistle Creek since 1993. In 2003, Schmidt's operation concentrated on mining the main valley bottom and hydraulic stripping Edas Bench. Both upper valley and lower valley cuts were mined in 2004, 2005 and 2006.

WORK HISTORY AND MINING CUTS Between 2003 and 2006, the operation employed eight miners and one camp person, working two 12-hour shifts.

An estimated 25 to 35 cuts were mined each year from 2003 to 2005 for an annual total of 1,500,000 bedrock square feet (140 000 m²) or 450,000 cubic yards (345 000 m³) at 8 feet (2 m) thickness. In 2006, the total was slightly lower and 400,000 cubic yards (300 000 m³) were mined.

EQUIPMENT AND WATER TREATMENT Between 2003 and 2006, two Caterpillar D10N bulldozers with U-blades and rippers were used 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 via a trenched opening to a pump pond, and pumped by a Goulds Model JC 10- by 12-inch pump with a throughput of 2500 igpm and powered by a Caterpillar 3408 diesel engine. The plant processed 250 loose cubic yards per hour. Effluent was treated in a 250- by 180-foot (75- x 55-m) out-of-stream pond which was recycled up to 100% at times. In 2003, the ponds were 30% recycled due to low water from August to October, while in 2004 the rate was 70% due to low water from June to September. In 2005, recycling wasn't necessary because of an abundance of water the whole season. In 2006, water was 50% recycled. 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 An intermediate-level gravel terrace is located on the left limit of Thistle Creek. The terrace is approximately 30 feet (10 m) above the present creek level and is incised into muscovite schist and graphitic quartzite. It is capped by 15 feet (5 m) of sandy, pebble-cobble gravel and 10 to 13 feet (3 to 4 m) of muck. Between 2003 and 2006, the upper valley sections consisted of 0 to 2 feet (0 to 0.6 m) of frozen mud overlying 8 to 10 feet (2 to 3 m) of gravel. Bench sections had 25 to 60 feet (8 to 20 m) of frozen mud overlying 10 to 12 feet (3 to 4 m) of gravel, and lower valley sections had 4 to 6 feet (1 to 2 m) of frozen mud overlying 18 to 25 feet (5 to 8 m) of gravel. From 2 to 4 feet (0.6 to 1 m) of gravel and up to 6 feet (2 m) of bedrock were sluiced.

GOLD CHARACTERISTICS In 2005 and 2006, gold was described as variable in character up to coarse jewelry-size grade in areas. The fineness varied from 800 to 860.

THISTLE CREEK, a tributary of Yukon River

1150/3

2004: 63°04'38"N, 139°11'03"W

Merrit Sager

Water licenses: PM99-002 (2008), PM99-016 (2009)

Active producer (2003-2006)

Operation no. 128

LOCATION The operation was located on the right limit of Thistle Creek at the confluence with Lulu Gulch. In 2006, sluicing took place on Lulu Gulch.

WORK HISTORY AND MINING CUTS Mr. Sager worked ground on Thistle Creek in the 2000, 2001 and 2004 seasons. There was no activity in the 2002, 2003 or 2005 seasons. Previous mining on some claims has left much thawed ground available for mining. Some sluicing was done in the 2006 season.

EQUIPMENT AND WATER TREATMENT Two Caterpillar bulldozers and an excavator were used to strip ground and feed the wash plant, which consisted of a screen deck attached to a hopper with a single sluice run. Water was acquired by pump with the intake in an in-stream reservoir. A Caterpillar diesel engine powered the pump at a rate of 1500 igpm. Settling was out-of-stream with no discharge to Thistle Creek.



Midas Rex Mining Inc. on Thistle Creek, 2005.



Merritt Sager's operation on Lulu Gulch near the confluence with Thistle Creek, 2004.

SURFICIAL GEOLOGY AND STRATIGRAPHY Approximately 6 to 8 feet (2 to 3 m) of boulder-rich, sandy, coarse-cobble gravel was overlain by 2 to 6 feet (0.6 to 2 m) of black muck.

BEDROCK GEOLOGY Bedrock at this site consists of blocky gneiss.

GOLD CHARACTERISTICS Gold was reported as generally bright and shiny with no quartz.

THISTLE CREEK, a tributary of Yukon River

1150/3

2003: 63°03'30"N, 139°04'23"W

Fell Hawk Placers, Joe Fellers, Wendy Fellers

Water license: PM00-170 (2005)

Active producer (2003-2004)

Operation no. 129

LOCATION This operation was located on Thistle Creek, a tributary of the Yukon River. In 2003, the operation was 10 miles (16 km) upstream from the confluence of Thistle Creek and the Yukon River.

WORK HISTORY AND MINING CUTS Joe and Wendy Fellers moved from Kirkman Creek during the 1999 season, and mined here until 2004. The upper reaches of Thistle Creek were worked in the early part of 2003 by three miners supported by two camp personnel, all working a daily 10-hour shift. Four cuts covering a length of 1500 feet (450 m) and width of 70 feet (20 m) were completed. Late in the 2003 season, the operation was shut down and moved to Kirkman Creek. Reclamation was conducted in 2004.

EQUIPMENT AND WATER TREATMENT In 2003, Caterpillar D9L and D8L bulldozers were used to strip and push in the cut and two Caterpillar 235 excavators were used to stack overburden and feed the wash plant. The wash plant was a screen deck which processed 120 loose cubic yards per hour. Water

was supplied from Thistle Creek by a 3208 diesel-powered 8- by 10-inch pump rated at 2000 igpm. Effluent was 100% recycled from 3 out-of-stream settling ponds, each approximately 300 feet (100 m) long and 100 feet (30 m) wide. Clean-ups were done every two days.

SURFICIAL GEOLOGY AND STRATIGRAPHY The downstream ground was composed of 2 to 6 feet (0.6 to 2 m) of frozen black muck, overlying 7 to 8 feet (2.1 to 2.4 m) of 'average' sized gravel deposits, while the upstream gravel layer was from 5 to 9 feet (1.5 to 3 m) in depth. Two feet (0.6 m) of the gravel and 4 feet (1 m) of the decomposed bedrock were sluiced. In 2003, the section consisted of 15 feet (5 m) of mud overlying 18 feet (6 m) of gravel. From 2 to 3 feet (0.6 to 0.9 m) of gravel and 2 to 3 feet (0.6 to 0.9 m) of bedrock were sluiced.

BEDROCK GEOLOGY Bedrock at this site is mostly blocky schist which contains some quartz veins.

GOLD CHARACTERISTICS The pay gravel yielded beautiful, bright gold, with smooth, rounded edges. There were a number of nuggets with no quartz. Mesh sizes on the gold recovered from upper Thistle Creek were 18% at plus four, 10% at plus six, 27% at plus ten, 25% at plus sixteen and 20% at minus sixteen. The lower valley produced 16% at plus four, 13% at plus six, 31% at plus ten, 18% at plus sixteen and 22% at minus 16. Fineness ranged between 850 and 870.

KIRKMAN CREEK, a tributary of Yukon River

1150/3

2005: 63°00'04"N, 139°14'05"W

Fell Hawk Placers, Joe Fellers, Wendy Fellers

Water licenses: PM05-488 (2009), PM99-134 (2009)

Active producer (2003-2006)

Operation no. 130

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 Fell Hawk Placers mined here from 1990 to 1992, and again from 1998 to 1999. The intervening years they mined on Thistle and Ballarat creeks. In 2003, the beginning of the season was spent closing down the operation on Thistle Creek and moving back to Kirkman Creek. A crew of two miners worked a 10-hour shift to mine three cuts, each with approximate dimensions of 300 by 120 feet (100 x 35 m). From 2004 to 2006, a crew of three miners and two camp personnel worked a daily 11-hour shift. Five mining cuts were completed each year; in 2004, these were approximately 300 feet (100 m) long by 100 feet (30 m) wide and 25 feet (8 m) to 40 feet (10 m) deep, while in 2005 and 2006 the cuts were each 300 by 100 by 20 feet (100 x 30 x 6 m) deep.



Fell-Hawk Placers mining operations at Kirkman Creek, 2005.

EQUIPMENT AND WATER TREATMENT In 2003, equipment at the start of the season consisted of a Caterpillar D8L bulldozer and a Caterpillar 235 excavator, which were used to mine the first two cuts. The wash plant was a Derocker, and water, supplied via an intake ditch from Kirkman Creek and ground seepage was pumped by a 3208, 8- by 10-inch diesel-powered pump rated at 2000 igpm. Effluent was settled in two to four out-of-stream ponds and not recycled. In September, the remaining equipment was brought over from Thistle Creek, including a Caterpillar D9L bulldozer, a Caterpillar 966 loader, an additional Caterpillar 235 excavator, a screening plant and various other pieces.

From 2004 to 2006, equipment included Caterpillar D7, D8, D8L and D9L bulldozers, two Caterpillar 235 excavators, a Caterpillar 966 loader, 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. A Caterpillar D300E rock truck was added in 2005, which saved fuel by cutting bulldozer pushing time. The wash plant consisted of 10- by 20-foot Derocker and a 5- by 16-foot single screen deck fed at 100 loose cubic yards per hour in 2004, 120 loose cubic yards per hour in 2005, and 180 loose cubic yards per hour in 2006. Tailings were stacked by a 30-foot conveyor. Water was supplied from Kirkman Creek plus mine cut seepage and pumped by a 3208 diesel-powered 8- by 10-inch pump at 2000 igpm. Effluent was settled into two to five out-of-stream ponds averaging 300 feet (100 m) long and 120 feet (40 m) wide — 80% recycled in 2004 and 2006 but not in 2005. Clean-ups were done every second day or 30 hours, with the sluice box concentrates run through

a Spriggs four-cell jig, mini-trommel and two centrifugal wheels. Final concentrates were then screened, magnetized and hand picked clean.

SURFICIAL GEOLOGY AND STRATIGRAPHY In 2003, the section consisted of 10 feet (3 m) of mud overlying 20 feet (6 m) of gravel. Two feet (0.6 m) of gravel and 4 feet (2 m) of bedrock were sluiced. In 2004, the section varied from 4 to 10 feet (2 to 3 m) of mud overlying 20 to 30 feet (6 to 10 m) of gravel, to 15 feet (5 m) of mud overlying 8 feet (3 m) of gravel. A total of 2 to 3 feet (0.6 to 0.9 m) of gravel and 2 to 4 feet (0.6 to 2 m) of bedrock were sluiced. Many very large ('fridge-sized') boulders were encountered in some areas, and seepage water was abundant in some mine cuts. In 2005, the section consisted of 15 feet (5 m) of mud overlying 20 feet (6 m) of gravel. Two feet (0.6 m) of gravel and 4 feet (2 m) of bedrock were sluiced. A well hole had 7 feet (3 m) of mud and 22 feet (7 m) of gravel. A layer of 'false' bedrock was encountered in some areas.

In 2006, the section was partly thawed and partly frozen. A total of 12 to 30 feet (4 to 10 m) of gravel was overlying 15 feet (5 m) of muck. A total of 2 feet (0.6 m) of gravel and 4 to 6 feet (1 to 2 m) of bedrock were sluiced.

BEDROCK GEOLOGY The outcrops along Kirkman Creek include mainly mica schist intruded by granitic and related pegmatitic rocks.

GOLD CHARACTERISTICS From 2003 to 2006, the gold was described as mostly coarse, rough and with a fair amount of quartz. The fineness was 863 to 870.

BALLARAT CREEK, a tributary of Yukon River

115J/14, 115J/15

2004: 62°57'49"N, 138°56'37"W

Fell Hawk Placers, Joe Fellers, Wendy Fellers

Water licenses: PM03-340 (AP003340 2014)

Active producer (2004)

Operation no. 131

LOCATION The operation was located on Ballarat Creek, a left-limit tributary of the Yukon River.

WORK HISTORY AND MINING CUTS Joe and Wendy Fellers first worked on Ballarat Creek in 1991 and mined until 1998, when they began to concentrate their activity on Kirkman and Thistle creeks. In 2004, a small stripping operation was initiated on Ballarat Creek. Equipment was moved between Ballarat and Kirkman creeks.

BEDROCK GEOLOGY Steeply dipping schist and gneiss of the Lower Paleozoic Pelly Gneiss Group underlie Ballarat Creek.