

Yukon placer mining 2024 development and exploration overview

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Yukon Geological Survey

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Introduction

The Yukon placer industry has continued to thrive amid strong and rising gold prices. There was a slight increase in activity this past season. A total of 156 operations were active across the Yukon, which was up from 147 in 2023. The Dawson Mining District remained most active, and included 70% of operations in the territory, while the Mayo and Whitehorse districts accounted for 21 and 9%, respectively. A combination of strengthening gold prices, favourable weather, and increased activity resulted in record placer revenue from April 1 to November 1, 2024. The reported placer production in 2024 of 85 799 crude ounces yielded a production revenue of C\$230 million, which marks the highest in Yukon's placer gold production history since 1886. This highlights the industry's resilience and growth, bolstered by positive economic conditions and advancements in mining technology.

Climate for mining

The fall season of 2023 in the Yukon was marked by warm temperatures and high precipitation in the form of rain that extended well into early winter. Temperatures stayed above average until January, when colder conditions finally set in. February and March 2024 brought fluctuating temperatures that averaged out to near-normal levels. The southern and central regions recorded above-average precipitation, ranging from 90 to 120% of normal. In contrast, northern regions, including the Dawson area, experienced snowfall between 120 and 150% of normal (Government of Yukon, 2024a). This led to widely varied snowpack conditions across the territory. Old Crow in the north set new records for snow depth in 2023–2024, while in May 2024, central Yukon reported snowpacks that were significantly below average (Government of Yukon, 2024b).

A return to typical seasonal temperatures occurred in the Dawson area in April 2024, whereby daily maximums reached 9.9°C and the mean temperature was 2.3°C. Clear skies and cool overnight lows moderated these conditions. Such climate variability, along with substantial snowpack accumulation in

certain regions, impacted mining operations during the early spring months. By May 2024, the Dawson area experienced typical spring weather, and daytime highs averaged 16.1°C, allowing some mining operations to commence sluicing by the May long weekend.

Throughout the summer months (July and August 2024), temperatures were warmer on average in Dawson, and the mean temperature was 15.4°C compared to the normal mean temperature of 14.0°C (G. Bramwell, pers. comm., 2024). Precipitation was also at near-normal levels, recording a total of 117 mm in Dawson and 102 mm in Whitehorse. Sluicing operations benefitted from favourable conditions extending into October, as daytime highs did not fall below 0°C until October 15th.

Gold production summary

Favourable gold prices and climate conditions led to strong gold production, resulting in a 16% increase from 2023. From April 1 to November 1, 2024, reported placer gold production totalled 85 799 crude ounces, marking the fourth time production has exceeded

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80 000 crude ounces in the last twenty years. The total placer production revenue from April 1 to November 1, 2024, amounted to C\$230M with an average gold price of C\$3351 per ounce (Fig. 1).

The Yukon is divided into 11 placer-mining areas: Klondike, Indian River, Lower Stewart/South Klondike, West Yukon, Clear Creek/South McQuesten, Mayo/Duncan, Dawson Range, Livingstone, Kluane/Gladstone/Kimberly, Whitehorse South, and Watson/Hyland (Fig. 2). The five leading areas for the 2024 season were the Indian River (39 907 crude ounces), Klondike River (14 725 crude ounces), West Yukon (12 645 crude ounces), Lower Stewart (11 173 crude ounces), and Mayo (3972 crude ounces). The Indian River area leads in production and contributes 47% of the Yukon's total placer revenue. This is primarily due to the high concentration of active operations, which include some of the largest placer mines in the Yukon. Figure 3 illustrates the distribution of placer gold production from each placer area, based on reported royalties as of November 1, 2024. Placer gold production values

are sourced from royalty data collected by the Yukon Mining Recorders' offices.

The three highest-producing drainages in the Yukon are Indian River reporting 9543 crude ounces (Indian River placer area), Sixty Mile River reporting 9209 crude ounces (West Yukon placer area), and Dominion Creek reporting 7928 crude ounces (Indian River placer area). The number of active operations remained consistent this past year and totalled 156. Of these, 70% are located in the Dawson Mining District, 21% in the Mayo Mining District, and 9% in the Whitehorse Mining District.

Development highlights

Klondike River area

There was a 28% increase in production from 2023 in the Klondike River area, which includes the prominent tributaries of Bonanza and Hunker creeks. Despite a

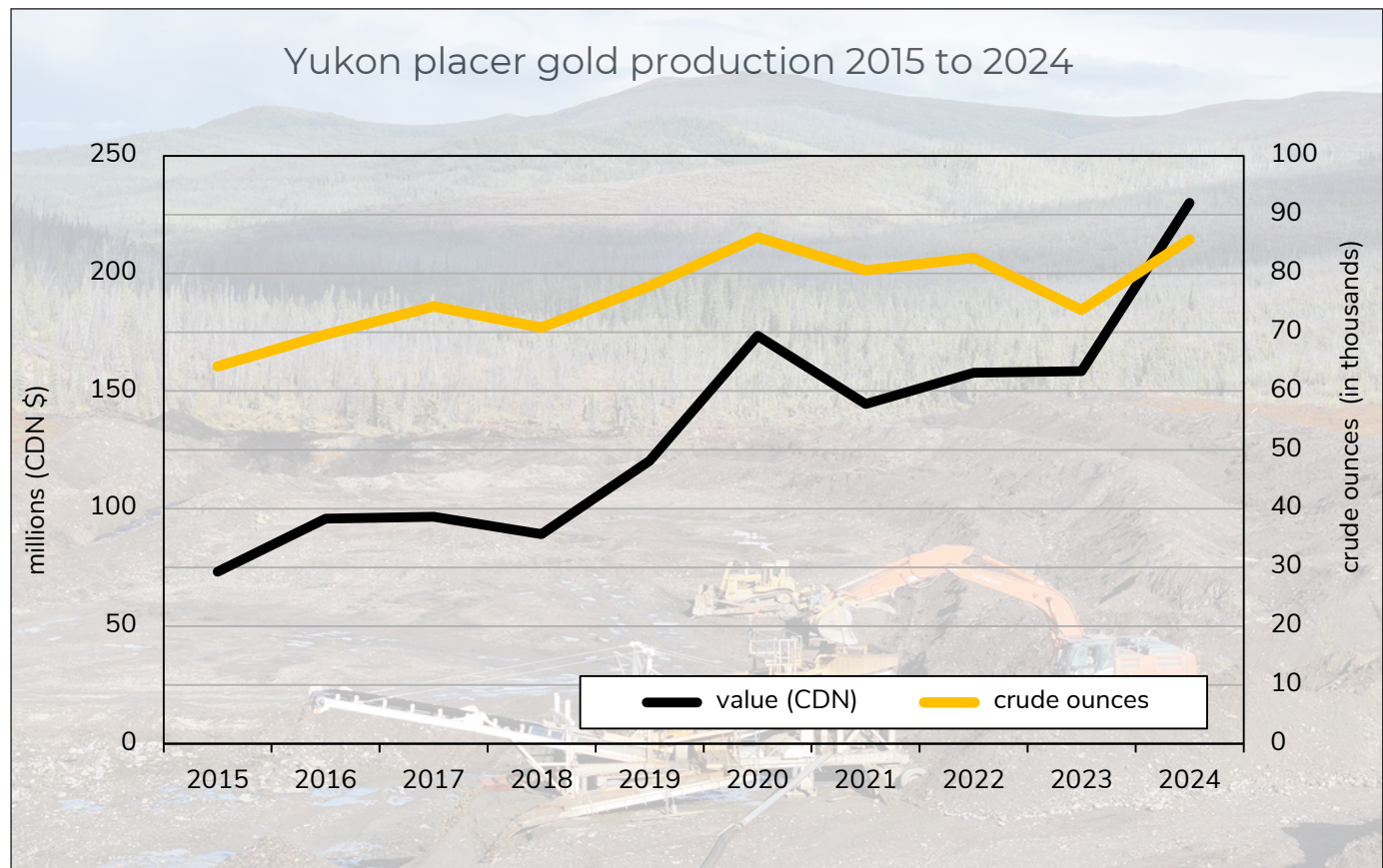


Figure 1. Yukon placer gold production in Canadian dollars over the past ten years including most recent production from April 1 to November 1, 2024. The chart displays crude ounces produced and the total value.

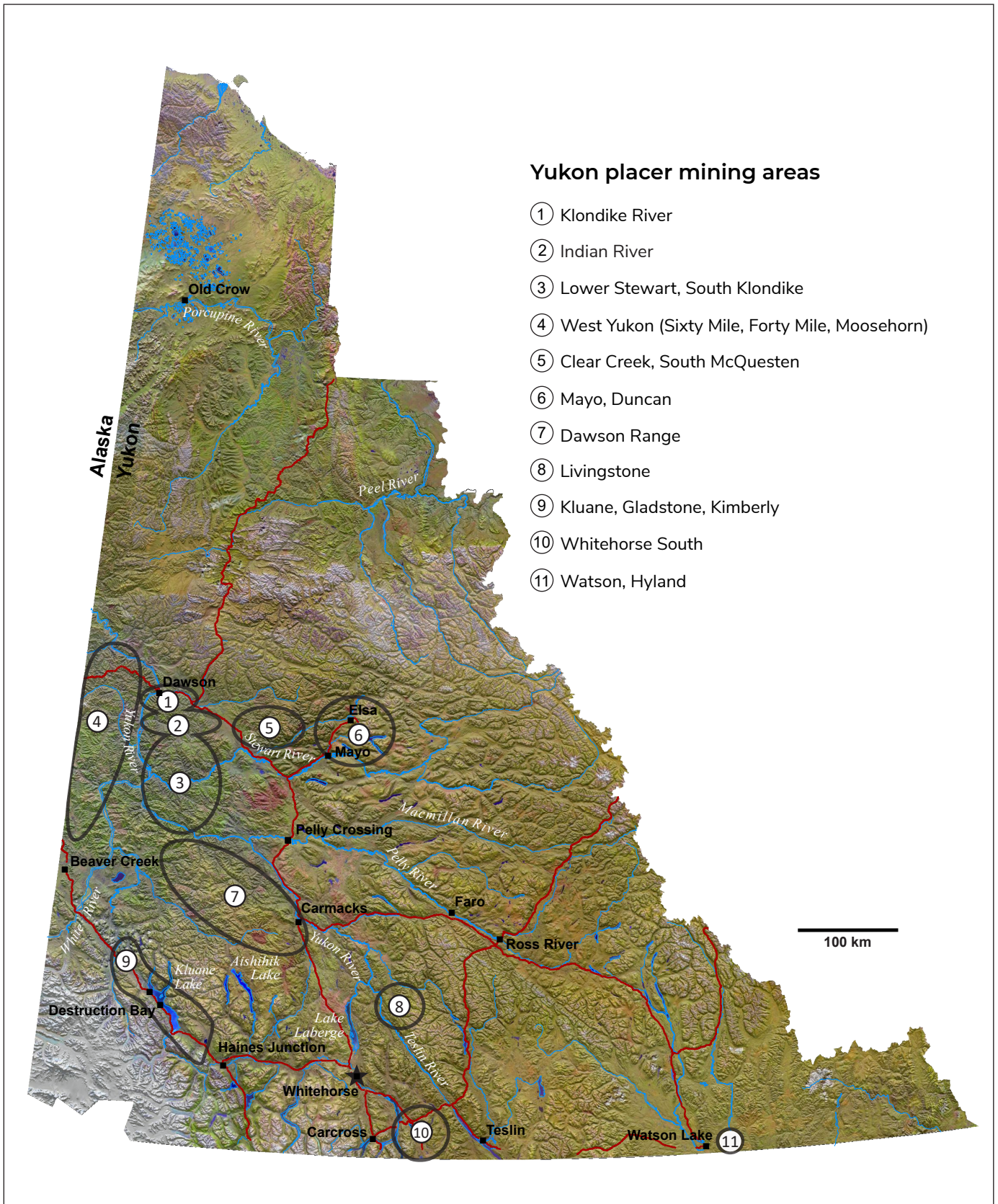


Figure 2. Placer-mining areas of the Yukon.

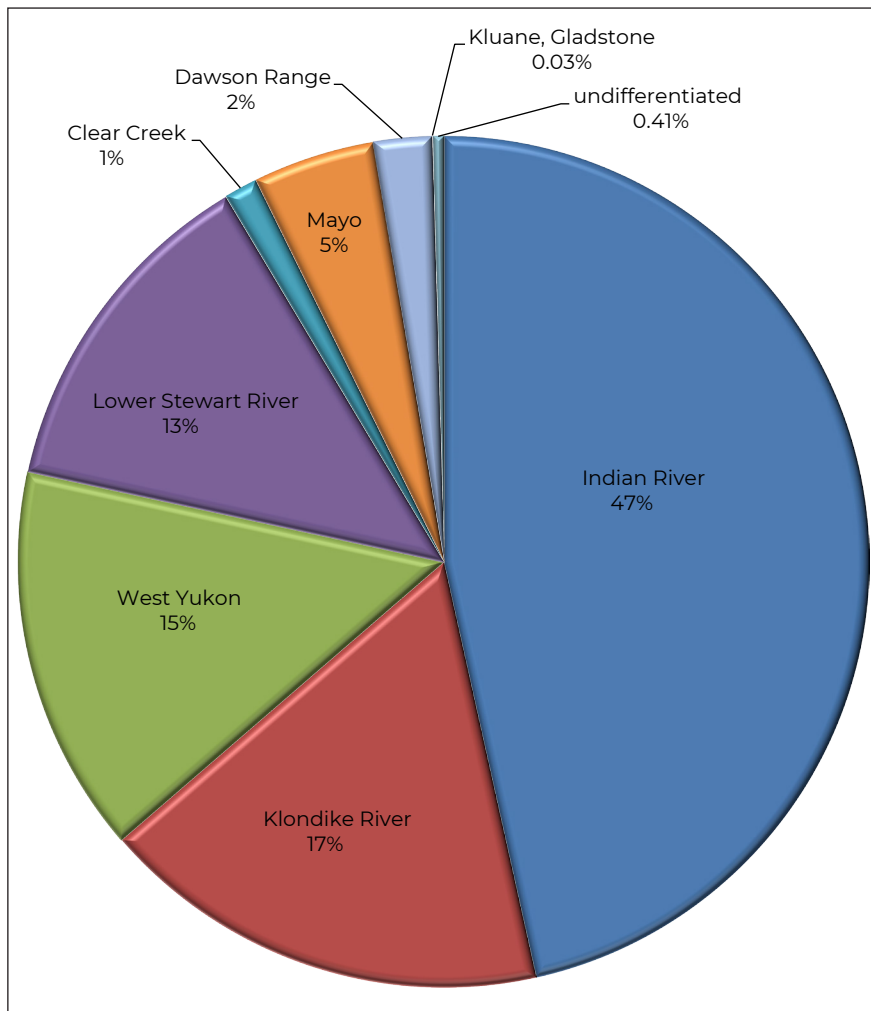


Figure 3. Distribution of placer gold production by area, based on royalties reported from April 1 to November 1, 2024.

slight dip in 2023, the overall trend over the last five years demonstrated gradual growth. Furthermore, the Klondike River placer area had the highest density of active placer operations. The main contributors in 2024 were Lovett Hill (5497 crude ounces), Paradise Hill (2684 crude ounces), Hunker Creek (2665 crude ounces), Bonanza Creek (1804 crude ounces), and Adams Gulch (595 crude ounces; Fig. 4).

M. Fraughton completed his fifth season sluicing on Swede Creek, a tributary of the Yukon River, approximately 9.5 km upstream from the City of Dawson (Fig. 5). The operation had a crew of up to three people, and mining was focused on the left limit in the lower part of the drainage. Since its inception, a total of 11 468 m³ (15 000 yd³) of material was sluiced at the mine using two Hitachi 290 excavators and a 30 m³ (40 yd³)/hr trommel. The stratigraphy reflects

a braided river system, featuring a boulder lag at the bedrock contact. Mining targeted the lowermost 0.6 m (2 ft) of coarse gravel and the uppermost 0.6 m (2 ft) of bedrock. Gold recovered had a fineness of 73%. The largest nugget weighed 23 grams.

Ownership on lower Hunker Creek shifted this season, when G. Slonski and K. Elgie sold their property to H3 Mining Company. During the 2024 season, H3 Mining stripped 91 m (300 ft) off the top of Australia Hill on the left limit of Hattie Gulch, targeting a White Channel deposit having a total thickness of 41 m (135 ft). The company's 11-person crew reached pay in September 2024 and sluiced the lowermost 3 m (10 ft) of White Channel gravel situated on bedrock.

Bear Creek Logging leased from Dulac Mining and operated at the mouth of Boulder Creek, a right-limit tributary of Bonanza Creek. A high-level White Channel bench deposit immediately downstream from the confluence of Bonanza and Boulder creeks is known as Boulder Hill, and is an area that has been mined since the Klondike Gold Rush. Supported by the Yukon Mineral Exploration

Program (YMEP) program, they conducted a drill program in the spring to explore for potential in-situ Bonanza Creek gravel that may have been preserved beneath a historical hydraulic tailings fan derived from Boulder Hill. The target was also situated outside of dredge limits, where the hydraulic tailings preserved paleo-Bonanza Creek side pay on the far, right limit of the valley. Bear Creek Logging moved 114 683 m³ (150 000 yd³) of material and employed up to five people throughout the season.

F. and K. Hawker, both seasoned miners in the Klondike, have been active since 2015 on Mint Pup, a left-limit tributary of Hunker Creek. Once they completed cut on the upper reaches of Mint Pup in July 2024, they shifted operations to the left limit of Hunker Creek in late July. The Hawkers targeted an area of flat topography upstream from the confluence of Mint Pup and Hunker

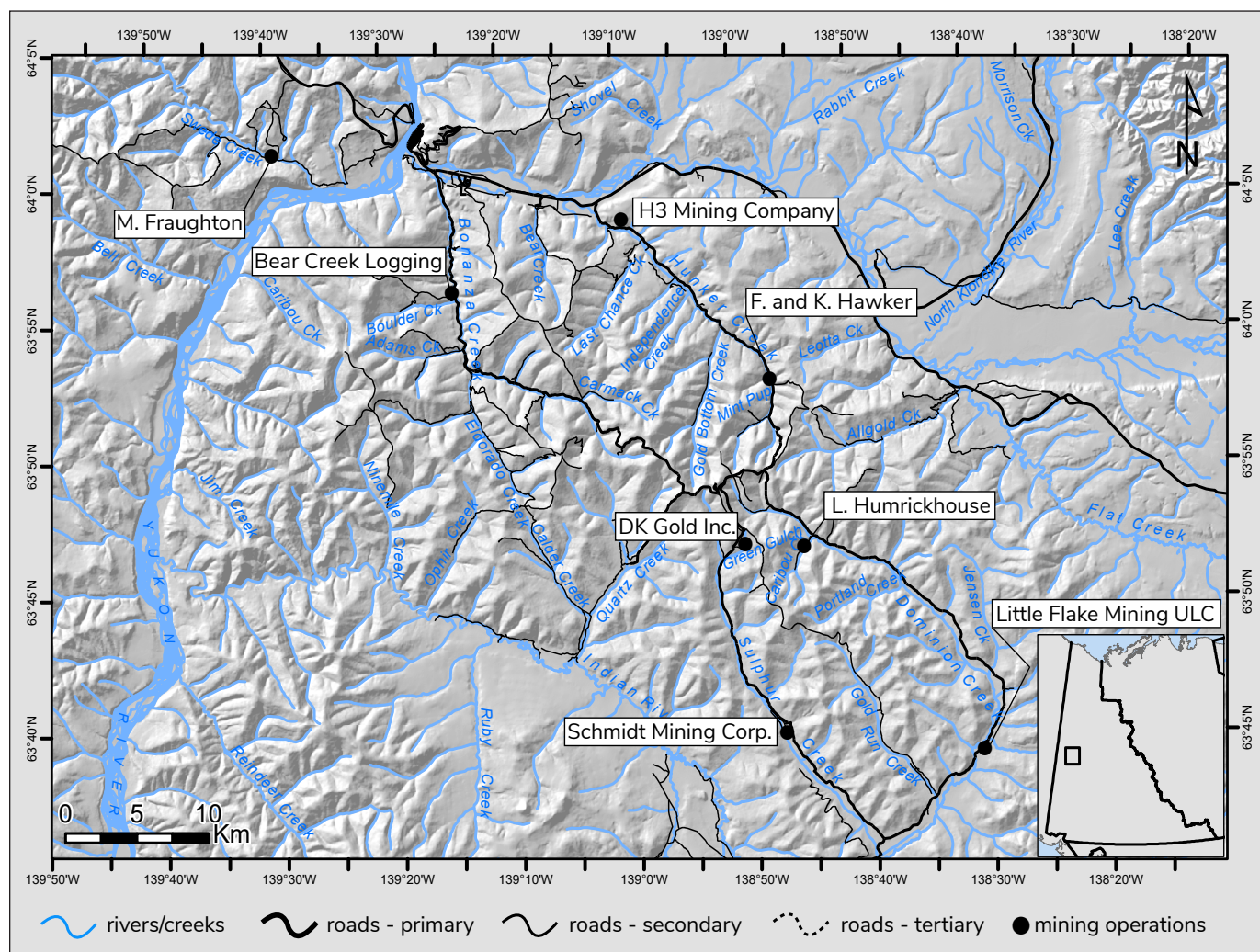


Figure 4. Locations of highlighted placer operations in the Klondike River and Indian River placer areas.

Creek, which was interpreted to be a potential extension of Hunker Creek side pay. They stripped a 46 by 24 m (150 × 80 ft) cut, where they encountered 8 m (26 ft) of frozen black muck overlying 0.9 m (3 ft) of in-situ Hunker Creek gravel (Fig. 6). The entire gravel unit was sluiced as pay.

Indian River area

Indian River remains the top-producing placer area, accounting for 47% of the Yukon's total placer production and reporting 39 907 crude ounces in 2024. Production rose 32% from 2023, including an 8% increase noted over the last five years. The top producing drainages for 2024 were Indian River (9543 crude ounces), Dominion Creek (7928 crude ounces), Quartz Creek (7371 crude ounces), Eureka Creek (6936 crude ounces), and Sulphur Creek (6455 crude ounces; see Fig. 4).

Little Flake Mining ULC continued mining on their lower Dominion Creek property and expanded by acquiring the Gold Run and Sulphur creek claims, formerly owned by TD Oilfields Services Ltd. An exposure on lower Dominion Creek revealed a section with a total thickness ranging from 6.7 to 7.6 m (22–25 ft); mining efforts focused on the lowermost 1.2 m (4 ft) of gravel within the section. A 25-person crew completed a cut measuring 92 903 m² (1 million ft²; Fig. 7). A second, larger cut measuring 278 709 m² (3 million ft²) was also prepared, and 111 484 m³ (1.2 million ft³) of material was processed during the 2024 season. Extensive stripping was completed, including 232 257 m³ (2.5 million ft³) stripped down to pay, and an additional 371 612 m³ (4 million ft³) of overburden removed. The company has a target of sluicing 278 709 m³ (3 million ft³) of pay annually as part of their proposed mine plan.



Figure 5. M. Fraughton's operation on lower Swede Creek. The 2024 mining cut is outlined by a black dashed line; the blue arrow shows stream flow direction.



Figure 7. Little Flake Mining ULC's 2024 mining cut on Dominion Creek.

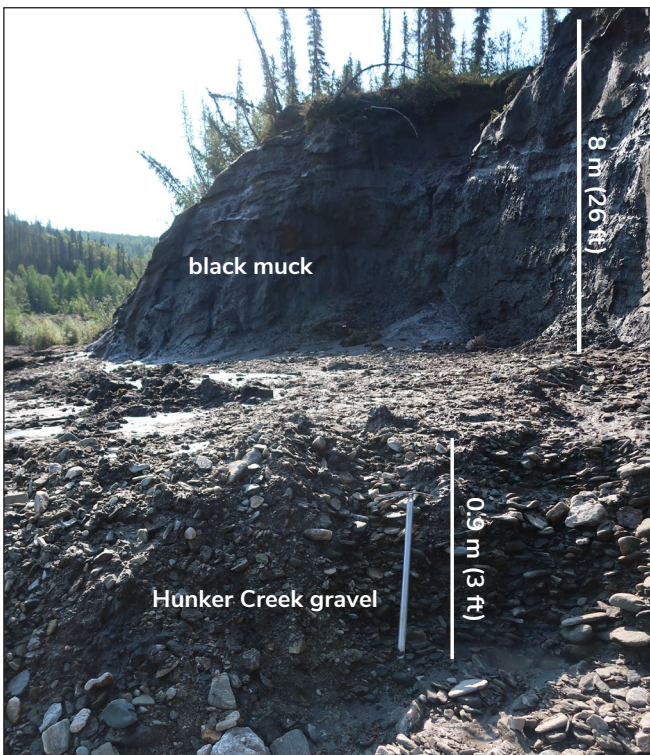


Figure 6. Exposure at F. and K. Hawker's operation on the left limit of Hunker Creek, located immediately upstream from the mouth of Mint Pup.

L. Humrickhouse leased Stuart Placers Ltd.'s property on Caribou Creek, marking the first mining activity in over a decade on this right-limit tributary of upper Dominion Creek. A crew of up to eight people processed material at a rate of 61 m³ (80 yd³)/hr using an oscillating screen deck. Mining focused on two main placer settings: the modern alluvial gravel in the valley bottom, and a left-limit bench deposit. Both deposits have little overburden to strip. The bench deposit contains 1.8 m (6 ft) of predominantly fine, pebble-rich gravel, including a cobble lag at the bedrock contact. Approximately 70% of the gold recovered from the modern alluvial gravel was coarse grained, and the fineness averaged 840.

In 2024, DK Gold Inc. shifted their operation from Gold Run Creek, a tributary of Dominion Creek, to their claims on Green Gulch, a left-limit tributary of upper Sulphur Creek. In partnership with Lucky Dog Mining Inc., they completed a 122 m (400 ft)-long cut on the left fork of Green Gulch. The operation had a crew of up to six people, and used monitors to thaw frozen black muck and pay gravel (Fig. 8). The pay gravel was situated on bedrock, and the thickness of pay varied due to a highly undulatory bedrock surface. The relief of the undulations ranged from 1.2 to 2.4 m (4–8 ft). Coarse gold was recovered, including a population of grains



Figure 8. Monitoring at DK Gold Inc. and Lucky Dog Mining's joint operation on the left fork of Green Gulch.

that appeared to be locally derived. The cut revealed extensive old-timer workings, in the form of abundant shafting.

Schmidt Mining Corp. began sluicing on Sulphur Creek during the 2024 season, following their purchase of the property in 2022, and a season of stripping in 2023. Mining operations were located at two different sites: on the mid to left limit, 3 km downstream from Brimstone Gulch, and across from the mouth of Brimstone Gulch on the right limit of Sulphur Creek. The main cut measured 107 by 366 m (350 × 1200 ft). The lowermost gravel unit, known as the Ross gravel (rich in quartz clasts), rapidly thinned at the upstream end of the cut. Notably, Yukon Consolidated Gold Corporation's (YCGC) Dredge No. 8, built in 1938, remains in the area to this day (Fig. 9). This dredge operated on Sulphur Creek until 1966, processing 14.96 million m³ (19.58 million yd³) of material, and recovering approximately 222 000 fine ounces (Green, 1977). Based on the average gold price of C\$3351 for the 2024 season, this amount of gold would be valued at \$744M.



Figure 9. YCGC Dredge No. 8 on the mid reach of Sulphur Creek. Schmidt Mining's active cut is visible in the background.

West Yukon area

West Yukon’s production rose significantly in 2024 and was up 47% from 2023. Additionally, there has been an increasing trend in production over the last five years. Sixty Mile River drainage was the lead producer for this placer region, reporting 9209 crude ounces or 73% of the area’s total placer production. Following Sixty Mile River were Browns Creek (1268 crude ounces), Bedrock Creek (708 crude ounces), and Ten Mile Creek (558 crude ounces; Fig. 10).

Yukon Exploration Green Gold Inc.’s claims on Huot Gulch, a right-limit tributary of Boucher Creek, were leased to G. Unrauh this year, marking the first instance of mechanized mining in the drainage. During the 2023 season and in preparation for mining, stripping was completed, and a 61 by 149 m (200 × 490 ft) cut was prepared. A two-person crew began mining in 2024, and a total of 38 230 m³ (50 000 yd³) of material was

stripped and 9 175 m³ (12 000 yd³) was sluiced. This season’s mining operations took place in an area of the valley bottom that is wide, and where mine planning and water management were easily facilitated. However, richer gold deposits are expected in deposits further upstream where the valley narrows.

Three operations were active on the middle reach of Browns Creek, approximately 15 km upstream from its confluence with the Fortymile River. Mining in close proximity, the three operations focused on different areas of the drainage (Fig. 11). D. van der Woude’s operation was farthest upstream where he focused on the left limit of Browns Creek. R. Unger, just below van der Woude’s operation, focused his mining on the right limit of the drainage. The third and lowermost operation belongs to M. Brunnmyr, who leased the ground from R. Unger. He mined using a floating trommel and had a crew of up to three people. The pay

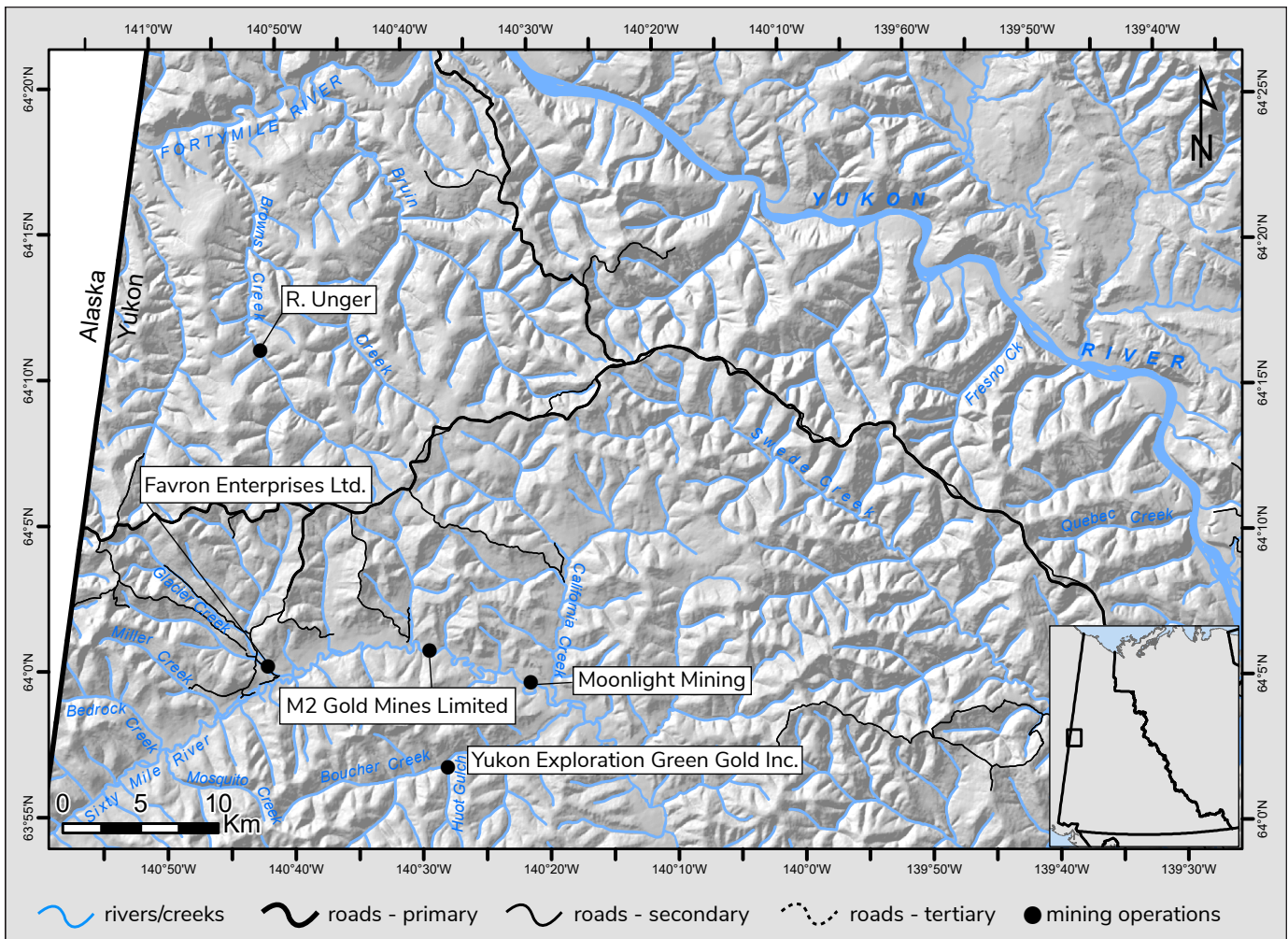


Figure 10. Locations of highlighted placer operations in the West Yukon placer area.



Figure 11. Aerial view of three active sluicing operations on Browns Creek. The view is looking upstream or to the south.

gravel on Browns Creek is consistent throughout the three properties and is situated on bedrock. It consists of 1.5 m (5 ft) of cobble gravel that fines upward into a pebble gravel. The gravel is in contact with an undulating bedrock surface, which creates variability in the thickness of the sluiced section.

Favron Enterprises Ltd. made a substantial operational shift, moving from their operations on Sulphur and Hunker Creeks, and focusing on claims within the Glacier Creek, Big Gold Creek, Bedrock Creek and Sixty Mile River drainages. Stripping efforts began on lower Glacier Creek in 2022 and continued throughout the 2023 season. In the late summer and fall of 2024, work extended to the Sixty Mile River and lower Bedrock Creek. The first year of sluicing began on Glacier Creek during the 2024 season.

Moonlight Mining relocated to their property on the Sixty Mile River, immediately upstream from the mouth of California Creek. They conducted sonic drilling on the property to further evaluate the placer potential and began their first year of sluicing in 2024. A five-person crew targeted four bench levels on the left limit of Sixty Mile River. The lowermost gravel unit (in the modern valley bottom) was sluiced for pay and consisted of 0.6 to 0.9 m (2–3 ft) of coarse gravel in contact with bedrock. All gold recovered was larger than 1.4 mm (14 mesh).

M2 Gold Mines Limited continued mining on the Sixty Mile River, and a 24-person crew worked two daily shifts totalling 23 hours. Three trommels were used at the operation, and the two largest measured 2.1 m (7 ft) in diameter, and were capable of sluicing material at a rate of up to 122 m³ (160 yd³)/hr. The company mined two left-limit bench cuts, one right-limit bench cut, and multiple valley-bottom cuts. A total of 0.6 m (2 ft) of gravel and up to 0.3 m (1 ft) of the bedrock surface was sluiced from the bench deposits. The pay gravel was siltier near the bedrock contact. In the valley bottom, they sluiced up to 0.9 m (3 ft) of gravel and 0.6 m (2 ft) of the bedrock surface. Here, the thickness of the overburden varied from a couple of feet near the river to as much as 3.7 m (12 ft) at the far limits of the valley bottom.

Lower Stewart/South Klondike area

The Lower Stewart/South Klondike area had a 9% production increase from 2023. The area produced a total of 11 173 crude ounces, which represents 13% of the Yukon's total placer production for 2024. The bulk of production was from Henderson Creek, which contributed 5559 crude ounces, amounting to 50% of the area's output. Other contributors were Barker Creek (1933 crude ounces), Black Hills Creek (994 crude ounces) and Kirkman Creek (937 crude ounces; Fig. 12).

Cordillera Quarry Services Ltd., a new operator in the area, leased ground from T. Nixdorf and mined on Black Hills Creek, between the right-limit tributaries of Childs Gulch and Oil Gulch. One cut upstream from the mouth of Oil Gulch exposed a prominent, right-limit bench deposit, where the pay gravel is in contact with bedrock. The bedrock is highly undulatory, resulting in a variable thickness of the gravel unit from 0.6 to 1.8 m (2–6 ft). The bench cut measured 107 by 4.6 m (350 × 15 ft) at the time of the author's visit in August 2024. The mine employed 4 to 8 workers and used a Macon SD-300 plant to sluice material at a rate of 38 to 57 m³ (50–75 yd³)/hr. Future mine plans include further exploration to determine the extent of the left-limit bench deposit, and a drill program to evaluate Oil Gulch.

Donahue Creek is a right-limit tributary of the Yukon River, located 6 km downstream from Thistle Creek. E. Stretch first staked the creek in 2000; however, minimal work has been completed since initial staking. In 2024, the ground was leased to Waddington Charter and Contracting Ltd. who moved into the drainage and opened up a 137 by 33 m (450 × 110 ft) cut at the

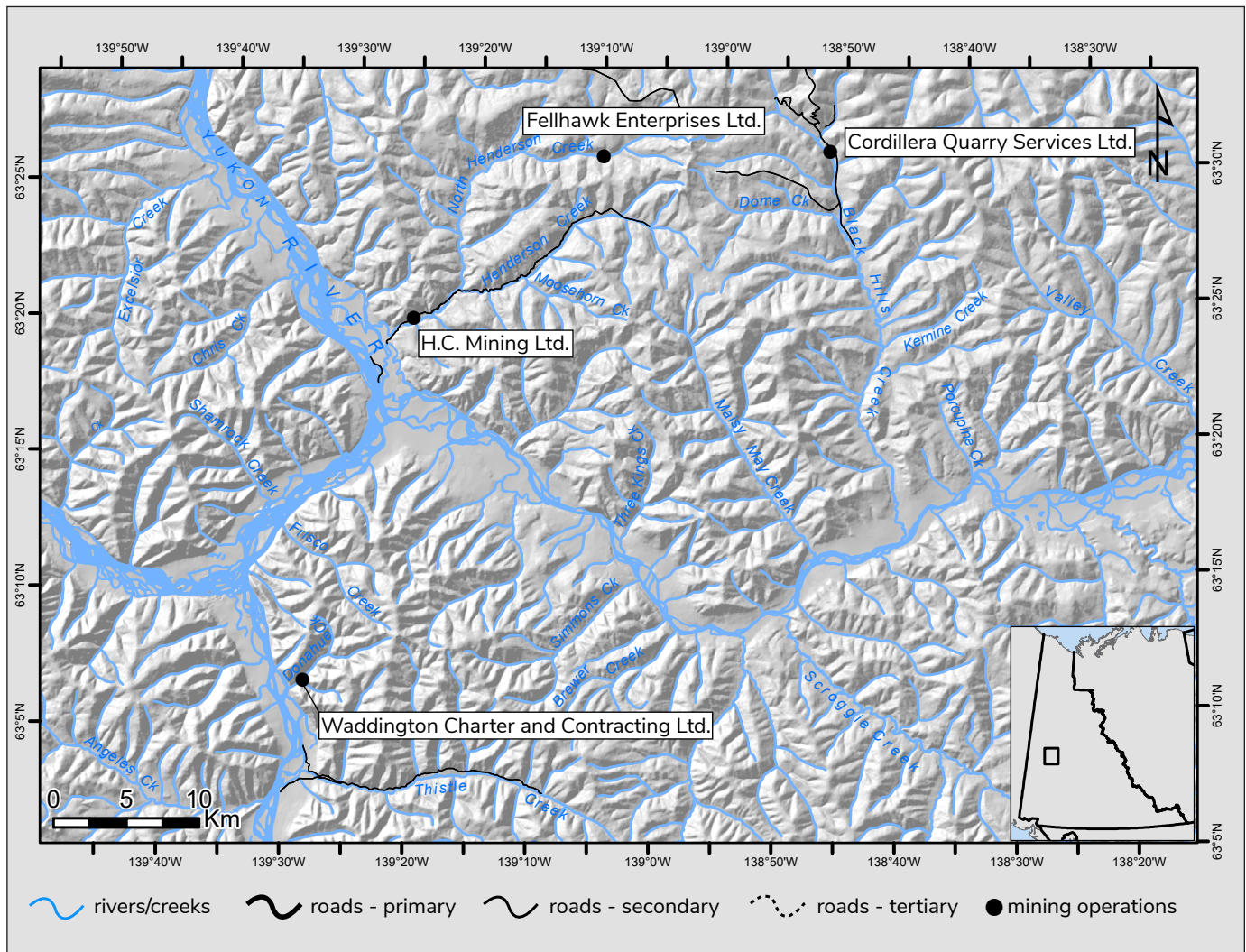


Figure 12. Locations of highlighted placer operations in the Lower Stewart/South Klondike placer area.

mouth of a lowermost, unnamed, left-limit tributary (Fig. 13). The deposit consists of a chaotic, high-energy gulch gravel, and contains boulders up to 0.9 m (3 ft) in diameter. The lowermost 0.9 m (3 ft) of gravel was targeted as pay.

In 2024, H.C. Mining Ltd. operated in two locations on their lowermost Henderson Creek claims. A 22-person crew worked daily double shifts, sluicing with up to five plants—three on lower Henderson, and two at a newly established site on Cabin Creek, a right-limit tributary about 5 km upstream from the confluence with Moosehorn Creek. Mining focused on a left-limit bench deposit downstream from the forks of Henderson and North Henderson creeks, while continuing work on upper Henderson at the Cabin Creek cut. At Cabin

Creek, the sluiced gravel had a total thickness of 2.7 m (9 ft), and was processed using two Macon screen-deck plants, fed in tandem by a Caterpillar 349 excavator (Fig. 14).

Fellhawk Enterprises Ltd. continued their mining efforts on North Henderson Creek, leasing ground from H.C. Mining Ltd. In 2024, a five-person crew completed a substantial cut, measuring approximately 64 by 457 m (210 × 1500 ft), and spanning the full width of the modern valley bottom. Gravel thickness increased as they progressed upstream, and the crew sluiced the lowermost 1.2 m (4 ft) of gravel situated on bedrock. Gravel on the right limit is more compact, slightly coarser, and has a higher percentage of matrix compared to the gravel on the left limit.



Figure 13. Aerial view of Waddington Charter and Contracting Ltd.'s active cut on Donahue Creek. The cut is outlined with a black dashed line. The view is looking upstream and to the east.

Clear Creek, Mayo and Keno area

Substantial production declines occurred in the Clear Creek/South McQuesten and Mayo/Duncan areas over the last year. As of November 1, 2024, Clear Creek/South McQuesten recorded a 44% decrease from 2023, whereas Mayo/Duncan area had a 22% reduction. In the Clear Creek/South McQuesten area, placer production was derived from four drainages: Clear Creek (860 crude ounces), Barlow Creek (142 crude ounces), Josephine Creek (53 crude ounces), and Big Creek (39 crude ounces). In the Mayo/Duncan placer area, Granite Creek reported the highest production at 1456 crude ounces, followed by Minto Creek (787 crude ounces), Hight Creek (683 crude ounces), and Owl Creek (614 crude ounces; Fig. 15).

In the spring of 2024, ownership in the Clear Creek placer area shifted to Smoler Bros Mining, who acquired the Barlow Creek property from Caw Mining & Exploration Ltd. They completed an 18 by 274 m (60 × 900 ft) cut at the confluence of Barlow and Zinc creeks, targeting left-limit side pay that was previously untouched by the former operator. Additionally, they stripped a cut farther up the Barlow Creek drainage. Using a single screen deck capable of processing material at a rate of 38 m³ (50 yd³)/hr, they sluiced a coarse gravel unit situated on bedrock. The pay gravel ranged in thickness



Figure 14. Drone image of a Caterpillar 349 excavator feeding two screen decks in tandem at H.C. Mining Ltd.'s upper Henderson Creek operation near the confluence with Cabin Creek.

from 0.6 to 1.5 m (2–5 ft), and the thickness decreased upstream. The gold recovered was mostly fine grained; however, the occasional nugget was found.

J. Wilson's operation consisted of a five-person crew who continued to progressively mine upstream into a canyon on Bennett Creek, which is a left-limit tributary of Minto Creek (Fig. 16). Mining was focused on a narrow section of the canyon, where the operators cut through a false bedrock of till and exposed a section totalling 7.3 m (24 ft) in thickness. The target was a V-shaped channel that cut into the underlying, decomposed bedrock. The sluiced section was 1.2 m (4 ft) thick and 6.1 m (20 ft) wide. The mined area in the canyon recovered a significant percentage of nuggets, whereas very minimal coarse gold was encountered downstream of the canyon.

FTG Exploration Ltd. has operated on Duncan Creek since 2021, using sonic drilling to delineate a meandering pay channel preserved beneath 15 m (50 ft) of till. This narrow channel, 6.1 m (20 ft) thick and 9.1 to 12.2 m (30–40 ft) wide, required high-density drilling at close spacing to trace its trajectory. In 2024, an eight-person crew ran double shifts and had a sluicing goal of 700 to 800 hours for the season. The main focus for the first part of the 2024 season was a 65 by 48 m (215 × 160 ft) cut immediately below

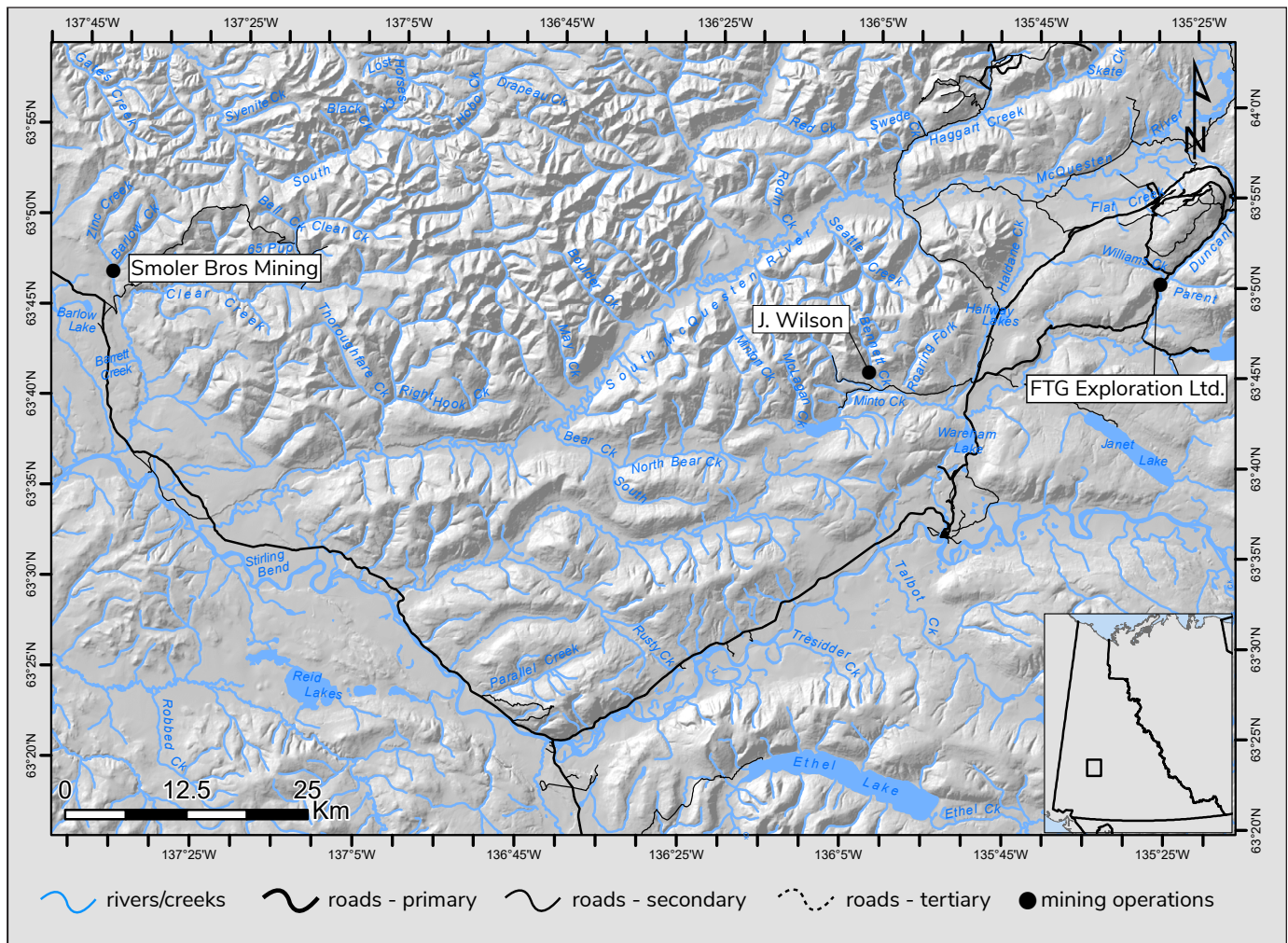


Figure 15. Locations of highlighted placer operations in the Clear Creek, Mayo and Keno placer areas.

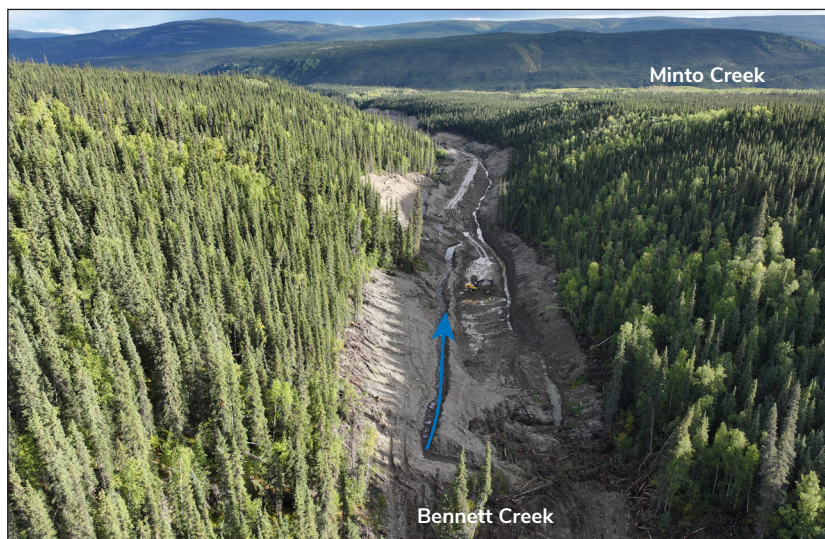


Figure 16. Aerial view of a narrow section along Bennett Creek where J. Wilson focused his 2024 mining efforts. The blue arrow shows stream flow direction; the view is looking downstream or to the south.

the confluence of Parent Creek, a left-limit tributary of Duncan Creek. This cut targeted the deeply buried, meandering paleochannel. A second cut, immediately downstream from the deep-channel cut, was on the left limit, and measured 71.3 by 121.9 m (234 × 400 ft). This cut targeted previously unmined Duncan Creek side pay that was identified through aerial photos. In early September, they focused their efforts on a third and final cut situated on the right limit of Duncan Creek, immediately downstream from the mouth of Williams Creek. Here, the operators focused on 3.0 to 4.6 m (10–15 ft) of modern Duncan Creek gravel, overlain by 4.6 m (15 ft) of muck.

Whitehorse Mining District

The Whitehorse Mining District, comprising Dawson Range, Livingstone, Kluane/Gladstone and Whitehorse South, collectively contributed 2% or 1928 crude ounces of Yukon's total placer production as of November 1, 2024. Top producers within the district, all located in the Dawson Range, included Canadian Creek (1085 crude ounces), Seymour Creek (445 crude ounces), and Nansen Creek (308 crude ounces; Fig. 17).

For the past four seasons, Batavia Mining has been steadily advancing downstream along the lower reaches of Canadian Creek toward its confluence with Britannia Creek. The operation targeted a wandering pay streak, and focused on the right-limit side pay. Mining efforts concentrated on sluicing 1.2 m (4 ft) of gravel on bedrock, and the highest gold concentration was recovered from the lowermost 0.6 m (2 ft) of the

gravel. A boulder lag marked the base of the gravel unit, suggesting a high-energy stream environment. Additionally, a silty to clay-rich layer at the bedrock contact indicated erosion and weathering of the underlying bedrock at the time of alluvial deposition. In 2024, an eight-person crew completed two cuts, including a lowermost cut measuring 134 by 44 m (440 × 145 ft), which will be expanded in the 2025 season. Recovered gold grains were worn and well-travelled, and often contained quartz inclusions. The fineness ranged between 870 and 920.

D. Dodge continued mining on Seymour Creek in the same location as 2023, upstream from the mouth of Guder Creek. His primary area of focus was on modern Seymour Creek gravel (Fig. 18). The gravel was 3 m (10 ft) thick and exhibited a texture typical of a braided river system. The gravel unit was slightly coarser

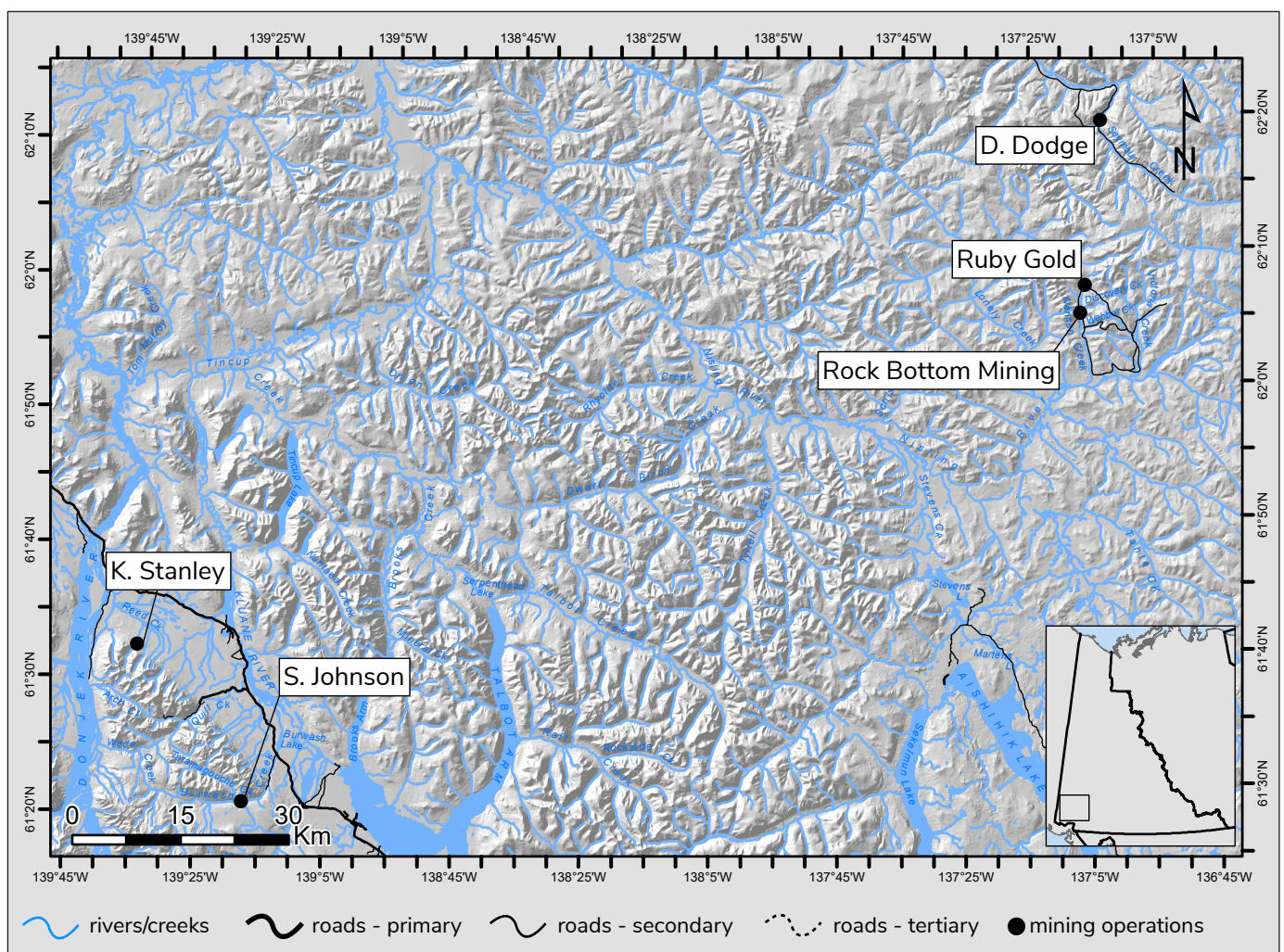


Figure 17. Locations of highlighted placer operations in the Whitehorse Mining District, comprising Dawson Range, Livingstone, Kluane/Gladstone, and Whitehorse South placer areas.



Figure 18. Aerial view of D. Dodge's 2024 operation on Seymour Creek. The view is looking upstream or to the south.

near the bedrock contact. Overburden consisted of black muck and ranged in thickness from 0.6 to 0.9 m (2–3 ft), requiring minimal stripping. A crew of six people processed pay using two Derockers in tandem, that were fed by a Volvo 400 excavator. Material was processed at a rate of 7.325 m (8 yd) every 3 minutes (122 m³ [160 yd³]/hr). Gold recovered from Seymour Creek had a fineness of 860 to 870. Gold grain size fell into three distinct populations: <0.6 mm, <0.84 mm and >0.84 mm (–30, –20 and +20 mesh, respectively).

Ruby Gold leased from Pishon Gold Resources Inc. and commenced operations at the confluence of Nansen and Summit creeks in 2023. They mined using a small trommel, and processed material over a three-week period to test the ground. In 2024, the operation scaled up significantly, employing a six-person crew to mine an 88 by 85 m (290 × 280 ft) cut on lower Summit Creek. The crew stripped 1.2 to 1.8 m (4–6 ft) of overburden before targeting 1.2 to 1.8 m (4–6 ft) of modern Summit Creek gravel. A well-defined channel was identified that cut into the underlying bedrock.

Rock Bottom Mining has been actively operating in the Nansen Creek drainage since 2022, focusing on both Nansen Creek and Discovery Creek, a left-limit tributary of Nansen Creek. In 2023, they completed a reverse circulation (RC) drill program that guided their 2024 mining activities. In 2024, a five-person crew completed a 128 by 77 m (420 × 252 ft) cut (Fig. 19) while operating daily 12-hour shifts. As they mined



Figure 19. Rock Bottom Mining's 2024 activity on Nansen Creek, downstream from the mouth of Discovery Creek, where they were targeting a deeply buried paleochannel. The blue line shows stream flow direction. The view is downstream and to the south.

through the cut, they systematically bulk sampled each unit, encountering two distinct till units and a deeply buried Nansen Creek paleochannel. This was the first time the Nansen Creek paleochannel was targeted using modern mining methods. A 1.8 m (6 ft)-diameter by 6.1 m (20 ft)-long trommel was used to process material at a rate of up to 76 m³ (100 yd³)/hr.

S. Johnson focused on mining the right-limit side pay of Burwash Creek, downstream from its confluence with Tatamagouche Creek. While mining, he intercepted a buried, side-valley channel that is believed to be a preserved glacial meltwater channel. The channel deposit consisted of a compact cobble gravel including large boulders; clasts commonly reached 0.9 m (3 ft) in diameter. A three-person crew worked daily 12-hour shifts to process the material.

K. Stanley's operation on Kelly Creek, situated within the Shakwak Trench, focused on a high-energy fan deposit. Significant glacial erosion from a northerly advancing ice sheet carved out the valley floor; however, paleochannels are believed to be preserved in sheltered areas like the lee sides of bedrock ridges or within deep channels cut into the underlying bedrock. The pay unit is a cobble gravel that is 0.6 to 0.9 m (2–3 ft) thick, and is overlain by 3.1 to 3.7 m (10–12 ft) of overburden. Since initiating mining in 2022, Stanley has primarily been operating solo and has targeted the modern stream channel and fan deposits on Kelly Creek.

Summary

The Yukon placer industry continued to show robust growth in 2024, driven by strong gold prices and favourable mining conditions. This past season marked record-breaking placer gold production, reaching 85 799 crude ounces as of November 1, 2024, and generating C\$230M in revenue—the highest in Yukon’s history since 1886.

The Klondike region, particularly the Indian River placer area, led production and recovered 39 907 crude ounces of gold, representing 47% of the Yukon’s total yield. Significant outputs were also reported from Dominion Creek and Quartz Creek. Other regions, including West Yukon and Lower Stewart/South Klondike, also experienced growth, particularly West Yukon, which reported a 47% increase in production.

Challenges such as variable weather and regulatory delays were noted, but advancements in technology and efficiencies maintained high productivity. This past season also included shifts in ownership, triggering new investments. This in turn drove exploration and development, and highlights the resilience and adaptability of the Yukon placer mining industry.

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Figure 20. Coarse gold recovered from Greens Gulch by DK Gold and Lucky Dog Mining.