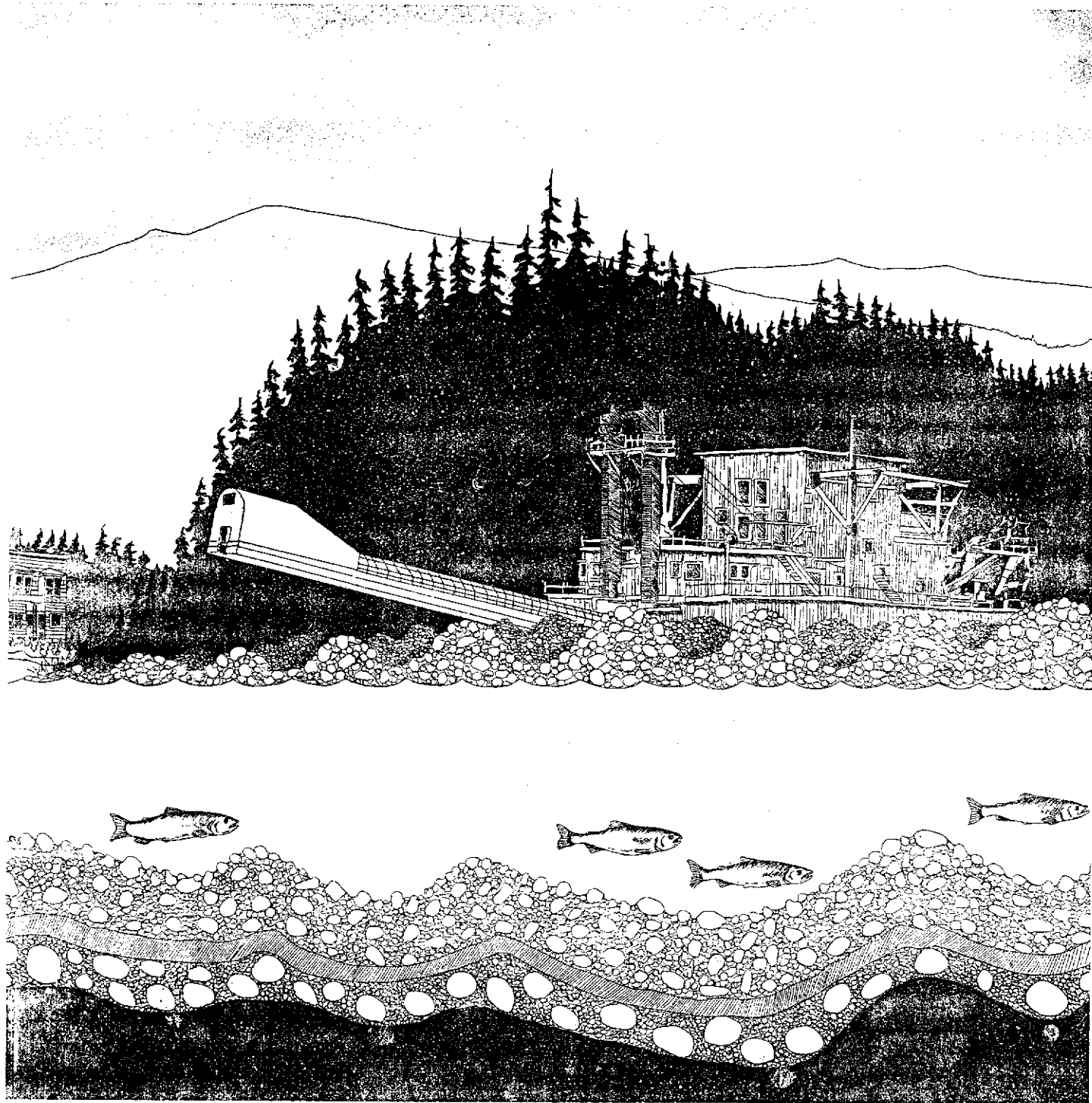


YUKON PLACER MINING INDUSTRY 1993-1994



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YUKON PLACER MINING INDUSTRY 1993-1994

This publication was compiled and edited by L.P. van Kalsbeek and R.F. Thomson, and the placer mining area maps were produced by Staff Geologist W.P. LeBarge. Information for the placer mining inspection reports was gathered from mine site visits conducted by Placer Mining Inspectors S.J. Howes, J.B. Leary, R.E. Leckie, A.L. Millar, A.E. Rothwell, R.F. Thomson and L.P. van Kalsbeek, under the direction of D.A. Latoski, Head, Placer Mining Section. The publication is a joint effort of the Placer Mining Section and the Exploration and Geological Services Division of the Mineral Resources Directorate, Northern Affairs Program, Yukon Region.

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Placer Mining Section, Mineral Development Division of Northern Affairs Program, Yukon Region, invites readers to
write and inform us of any inaccuracies or new information with respect to Yukon Placer Mining Industry Reports.
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PREFACE

This report documents the state of the Placer Mining Industry in the Yukon Territory for the 1993 and 1994 mining seasons. This report differs from previous volumes in that the placer mining inspection reports are organized by drainage basin. We have included placer mining area maps showing the location of each property described in the reports. Each property is also referenced to a 1:50,000 scale map of the National Topographic System (NTS).

The majority of this volume consists of detailed descriptions of placer operations visited by the staff of the Placer Mining Section of the Mineral Development Division, Northern Affairs Program, Yukon Region. Also included is information that may be useful to readers who are interested in searching for and developing placer properties in the Yukon Territory.

We invite comments from the readers of this report on the material presented herein and also suggestions for inclusion of any other material in future publications in this series that may be of use to the Placer Mining fraternity to whom this publication is directed.

We thank the many miners who donated time from their busy schedules to describe their mines and their mining methods to our staff. We recognize this input and sincerely appreciate it, as without it this publication would not be possible.

David A. Latoski
Head, Placer Mining Section
Chief, Claim Inspector
Northern Affairs Program

MINERAL RESOURCES DIRECTORATE, NORTHERN AFFAIRS PROGRAM

Mineral Development Division

Present staff includes A. R. Waroway (Regional Manager, Mineral Development), D. A. Latoski (Head, Placer Mining Section, Chief Claim Inspector), A. L. Millar (Placer Mining Inspector, Dawson), L. P. van Kalsbeek (Placer Mining Inspector, Whitehorse), S. J. Howes (Placer Mining Inspector, Whitehorse), R. F. Thomson (Placer Mining Inspector, Whitehorse), A. E. Rothwell (Placer Mining Inspector, Dawson), J. B. Leary (Placer Mining Inspector, Dawson), R. E. Leckie (Placer Mining Inspector, Mayo), V. R. Bailie (Office Manager, Whitehorse), E. A. Sembsmoen (Office Clerk, Whitehorse), and V. Roberts (Office Clerk, Dawson). Placer mining inspectors conduct claim inspections under the authority of the *Yukon Quartz Mining Act*, the *Yukon Placer Mining Act*, the *Territorial Dredging Regulations* and the *Territorial Coal Regulations*. They also complete field inspection reports for each mine visited, and assistance is provided to miners regarding road access or mining problems. The Placer Mining Section is the agency responsible for inspection and enforcement of effluent discharge standards set forth in the *Yukon Placer Authorization*, as well as fish habitat and conservation and restoration measures.

Mineral Rights Division

The present structure consists of a regional office and four district mining records offices (Watson Lake, Whitehorse, Mayo and Dawson). They administer more than 65,000 individual dispositions made under federal legislation, namely the *Yukon Quartz Mining Act (1924)*, the *Yukon Placer Mining Act (1906)*, and the *Territorial Coal Regulations* and *Territorial Dredging Regulations* made under the *Territorial Lands Act*.

The staff consists of Roland Ronaghan (Regional Manager), J. Oberg (Acting Whitehorse Mining Recorder), M. Dejean (Dawson City Mining Recorder), P. McLeod (Watson Lake Mining Recorder), D. Wiebe (Mayo Mining Recorder), and ten full time support staff.

Exploration and Geological Services Division

Present staff include T. Bremner (Chief Geologist), J.G. Abbott (Senior Geologist), D. Emond and H. Copland (Environmental Geologists), J. Hunt (Mineral Deposits Geologist), W.P. LeBarge (Placer Geologist), M. Burke (Staff Geologist), R. Deklerk (Minfile Geologist), and A. Wagner (Office Manager). Trevor Bremner is currently involved with planning government programs in the Yukon. Grant Abbott is seconded to the MDA Geoscience office as scientific advisor. Diane Emond and Hugh Copland provide technical assistance to the Regional Environmental Review Committee, carry out geoscientific environment-related studies, and are compiling a database of baseline information on surficial processes which can assist with the preparation of permit applications. Julie Hunt is beginning a three year regional study of mineral deposits in the Finlayson Lake volcanogenic massive sulphide camps. Mike Burke is responsible for approving quartz assessment reports, visiting active mining properties in the Yukon, and compiling the annual Yukon Mining and Exploration Overview. Bill LeBarge is responsible for visiting placer mining properties, compiling information for the Yukon Placer Minfile, and approving placer assessment reports in the Yukon. He is also engaged in a placer potential study of the Mayo area. Robert Deklerk compiles information on Yukon mineral occurrences and maintains the Yukon Minfile database. He is also responsible for the H.S. Bostock Core Library. Services available to industry personnel include a geological library of texts and journals, Yukon Minfile, and the H.S. Bostock Core Library (which houses over 120,000 metres of drill core from various Yukon properties and is equipped with a viewing area, rock cutting, and core splitting facilities). Geology Division staff are available for consultation by arrangement at their office at 345-300 Main Street, Whitehorse, Yukon, (403) 667-3101.

ACKNOWLEDGEMENTS

This publication benefited from the efforts of a number of people and agencies. S.J. Howes, J.B. Leary, R.E. Leckie, A.L. Millar, A.E. Rothwell, R.F. Thomson, and L.P. van Kalsbeek from the Placer Mining Section conducted the mine visits and gathered data for the placer mining inspection reports, under the direction of D.A. Latoski. V.R. Bailie provided proofreading services. W.P. LeBarge prepared the placer mining area maps, and final production and publishing arrangements were coordinated by R. Raycroft, Communications Services. Photographs were taken by A.E. Rothwell, J.B. Leary, A.L. Millar, R.F. Thomson, R.E. Leckie, and L.P. van Kalsbeek. Finally, the contributions of the placer mining industry and the individual miners are gratefully acknowledged, as this publication would not be possible without their cooperation and assistance.

YUKON PLACER MINING 1993 - 1994

INTRODUCTION

This volume is a compilation of two sources of data: placer mining inspection reports, and placer publications by government and industry sources. The Placer Mining Section of the Northern Affairs Program, Indian and Northern Affairs Canada was the principal agency involved in gathering and compiling information for this publication. Mining inspection reports were prepared from site visits conducted by Placer Mining Inspectors from 1993 to 1994. Information provided regarding claims, leases and royalties collected was provided by Mineral Rights, Division of the Mineral Resources Directorate of the Northern Affairs Program.

EXPLANATORY NOTES

Many of the placer mining operations which were active during the period of 1993 to 1994 may have been visited only once or twice; there are also operations which were not documented at all during this time. Some miners may find their particular operation has not been included this is due to incomplete or missing data. Submission of relevant information is invited for inclusion in subsequent industry activity reports. The narrative descriptions were written by the placer mining inspectors and were not edited by the miners.

The descriptive reports in this volume have been arranged by drainage basin. Streams within each basin are organized alphabetically. The properties on a creek are described in consecutive order from mouth to headwaters.

The mining inspection reports include the creek name, the operator, the water licence number (when available), and the year of the inspection. A "Site No." found in the descriptive heading of each report corresponds to a location on one of the Placer Mining Area Maps, which is also identified in the heading. The location of each operation is given in latitude and longitude, as well as by the 1:50,000 scale NTS map division.

Since most placer miners do not commonly use the metric system British units of measure have been used. A conversion table is provided.

VUE D'ENSEMBLE DE L'INDUSTRIE D'EXPLOITATION DES PLACERS AU YUKON - EN 1993 ET EN 1994

À l'instar des diverses tendances du marché qui sont un bon indicateur de la conjoncture économique mondiale, l'industrie des placers est un bon indicateur de la santé économique du Yukon. Le fléchissement du dollar, la hausse du prix de l'or et le développement de nouvelles technologies ont contribué à l'augmentation du taux de croissance de l'industrie.

Les années 1990 ont été marquées par l'entrée des Néo-Zélandais avec leurs stations de lavage flottantes et terrestres, et leurs systèmes de classement ultraperformants qui ont permis d'augmenter la capacité de récupération de l'or. Ces stations ont été adaptées aux conditions des creeks du Yukon et on assiste présentement à un regain d'intérêt concernant l'exploration de nouveaux et d'anciens cours d'eau aurifères, ce qui renforcera une industrie déjà en très bonne santé.

À l'instar de l'année précédente, la saison placérienne de 1994 a été marquée par une augmentation de la production. Ces deux années encourageantes font suite aux trois années de déclin qui avaient suivi l'année record de 1989, alors qu'on avait enregistré un taux de récupération de 165,571 onces d'or brut.

Des redevances ont été payées sur 114,479 onces d'or brut récupérées au cours de l'année 1994, soit une augmentation de 5% (5529 onces brutes) par rapport aux 108,950 onces d'or brut enregistrées en 1993.

Activités de jalonnement

L'accroissement soutenu de la production a été accompagné par une intensification des activités de jalonnement au cours des années 1993 et 1994, après quatre années de ralentissement (Figure 1).

Cette tendance positive a induit une augmentation des jalonnements prospectifs au cours des années 1993 et 1994 (Figure 2).

Les activités de jalonnement sont indicatrices de la santé de l'industrie placérienne. Le taux de croissance encourageant décrit ci-dessus s'est

accompagné d'une augmentation du nombre de claims en règle en 1993 et en 1994 (Figure 3).

Au 31 décembre 1993, 17,338 claims étaient en règle et 17,484 en 1994, comparativement au record des 18,000 claims en règle à l'apogée de la ruée vers l'or en 1898.

En 1994, le nombre de baux de prospection est passé à 293 des 303 qu'il était en 1993 (Figure 4).

Au total, le nombre de placers détenus sous forme de claims et de baux de prospection a augmenté de 5.5% en 1994 (Figure 5).

La surface linéaire totale exprimée en kilomètres (milles) des baux et des claims placériens s'est chiffrée à 3514 km (2184 mi) et à 3709 km (2305 mi) en 1993 et en 1994 respectivement. Ces chiffres indiquent que l'industrie des placers du Yukon est en très bonne santé.

Production aurifère en 1993 et en 1994

Les placers demeurent l'un des principaux moteurs du secteur primaire du Yukon. En 1993, le Yukon a produit 108,950 onces d'or brut (Figure 6) ou, compte tenu d'une teneur moyenne de 800 onces d'or fin, 87,160 onces d'or fin, pour une valeur de plus de 42.26 millions de dollars canadiens.

En 1994, la production aurifère a atteint un total de 114,479 onces d'or brut, ou 91,583 onces d'or fin, pour une valeur de 48.37 millions de dollars canadiens (Figure 6).

Ce montant indique l'apport économique direct de l'industrie placérienne mais une partie seulement de son apport total.

En effet, les figures ci-dessus ne montrent pas les retombées économiques indirectes de l'industrie placérienne : achats de carburant, de matériel et d'équipement auprès des fournisseurs locaux, salaires des travailleurs et des fournisseurs employés par les exploitations minières.

La valeur totale de l'or produit en 1993 et en 1994 a dépassé le cap des 90 millions de dollars. Les tableaux suivants donnent les 25 creeks les plus productifs en 1993 et en 1994.

Creeks les plus productifs en 1993

1.	Indian River	16,545
2.	Dominion	12,044
3.	Gold Run	11,182
4.	Sixtymile R.	10,093
5.	Hunker	10,019
6.	Quartz	4,530
7.	Klondike R.	3,709
8.	Henderson	3,476
9.	Last Chance	2,958
10.	Bonanza	2,896
11.	Highet	2,787
12.	Matson	2,596
13.	Clear	2,536
14.	Soya	2,134
15.	Duncan	1,955
16.	Thistle	1,720
17.	Black Hills	1,587
18.	Sulphur	1,563
19.	Dublin G.	1,448
20.	Haggart	1,327
21.	Miller	1,147
22.	Ballarat	1,122
23.	Gladstone	1,051
24.	Eldorado	902
25.	Gold Bottom	685

Creeks les plus productifs en 1994

1.	Indian River	19,841
2.	Dominion	16,700
3.	Sixtymile R.	13,003
4.	Hunker	12,392
5.	Gold Run	8,669
6.	Last Chance	4,095
7.	Bonanza	3,433
8.	Quartz	3,359
9.	Haggart	3,007
10.	Clear	3,005
11.	Matson	2,821
12.	Sulphur	2,535
13.	Gladstone	2,137
14.	Highet	1,927
15.	Kondike R.	1,553
16.	Swamp	1,473
17.	Duncan	1,430
18.	Nansen	1,374

19.	Ballarat	1,371
20.	Ledge	958
21.	Tenmile	727
22.	Eureka	640
23.	Kate	595
24.	Gold Bottom	594
25.	Glacier	545

La saison 1994 a enregistré 214 opérations de stripping et de sluicing comparativement à 182 opérations de placers en 1993, soit une augmentation de 18%. Toutefois, une diminution des permis d'utilisation des eaux délivrés aux exploitants de placer par l'Office des eaux du Yukon. En effet, on comptait 387 permis en règle à la fin de la saison 1994, comparativement à 423 l'année précédente, soit une diminution de 8.5 %.

Prix de l'or

Entre le début de l'année 1993 et la fin de l'année 1994, le prix de l'or a augmenté de 24.5 % (Figure 7). En 1993, le prix de l'or est passé de 405.60 \$ US l'once, ou 529.50 \$ Can (taux de change de 0.766) en août, à 324.60 \$ US l'once, ou 409.84 Can (taux de change de 0.792) en février. La moyenne globale mensuelle pour 1993 s'est chiffrée à 359.80 \$ US l'once, ou 464.25 \$ Can (taux de change de 0.775).

Les chiffres de 1994 ne s'écartent pas notablement de ceux de 1993. En 1994, le prix de l'or est passé d'un plafond de 396.25 \$ US l'once, ou 536.20 \$ Can (taux de change de 0.739) en septembre à un creux de 369.65 \$ US l'once, ou 511.27 \$ Can (taux de change de 0.723) en avril. La moyenne mensuelle de 1994 s'est chiffrée à 383.92 \$ US l'once, ou 523.76 \$ Can (taux de change de 0.733).

AN OVERVIEW OF THE YUKON PLACER MINING INDUSTRY 1993 AND 1994

If market trends are indicators of what happens with world economies, then the Yukon's placer mining industry is no exception. A weak Canadian dollar in concert with higher gold prices contributed to an upswing in growth, as well as achievements in new technology.

The 1990's are witness to an influx of New Zealanders and their floating and land-based wash plants, with highly effective classifying systems that increase gold recovery. With modifications made to these plants to suit specific Yukon creeks, we are seeing a renewed interest in exploring new and historical streams, which will strengthen an already healthy placer industry.

The 1994 placer mining season was the second consecutive year in which gold production increased, after three years of decline following the modern-day record year of 165,571 crude ounces recovered in 1989. Royalties were paid on 114,479 crude ounces of gold during 1994, which represents an increase of 5% or 5529 crude ounces from the 108,950 crude ounces reported in 1993.

Staking Activity

The steady increase in gold production was echoed by an increase in claim staking. Placer claim staking climbed in both 1993 and 1994, reversing four years of steady decline (Figure 1).

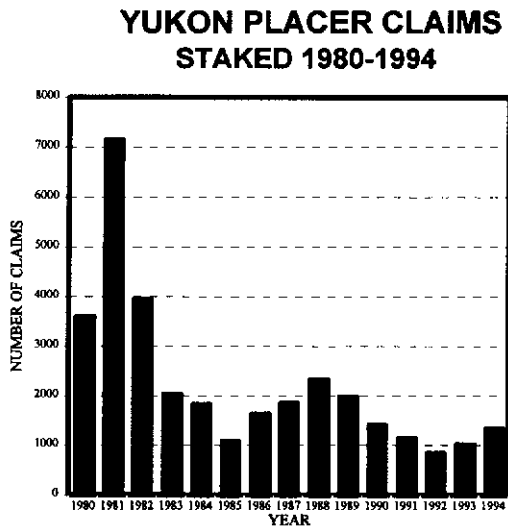


Figure 1

This positive trend was reflected in the staking of prospecting leases, which also increased in 1993 and 1994 (Figure 2).

YUKON PLACER LEASES STAKED 1980-1994

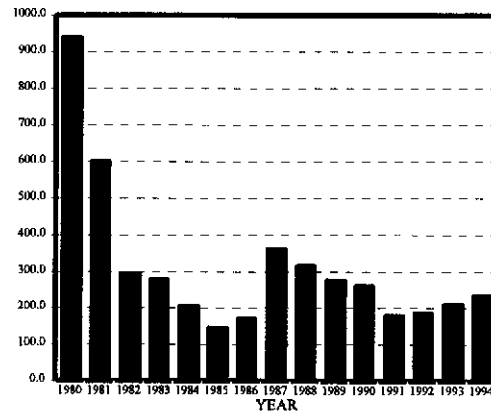


Figure 2

Claim staking activity is an indication of the health of the placer mining industry. The encouraging pattern of growth described above is also found in the number of claims held in good standing, which rose in 1993 and again in 1994 (Figure 3).

YUKON PLACER CLAIMS IN GOOD STANDING 1980-1994

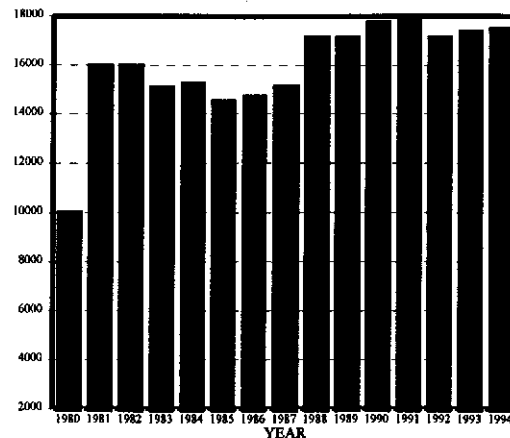


Figure 3

The figures of 17,338 claims held in good standing as of December 31, 1993, and 17,464 in

1994, compare with the historic figure of about 18,000 placer claims held in good standing at the height of the Klondike Gold Rush of 1898.

The number of placer leases held in 1994 fell slightly to 293 from 1993's figure of 303 (Figure 4).

YUKON PLACER LEASES IN GOOD STANDING 1980-1994

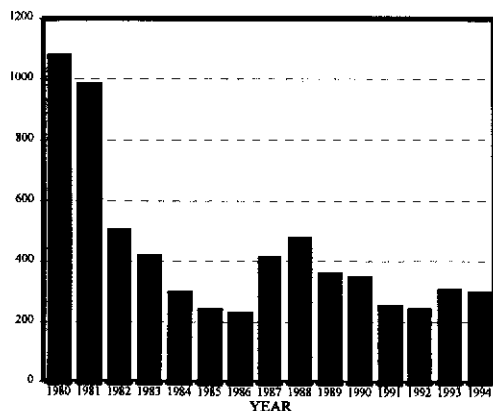


Figure 4

Together, the amount of placer ground held in claims and leases has increased, rising 5.5% in 1994 (Figure 5).

MILES OF YUKON PLACER HELD IN GOOD STANDING 1980-1994

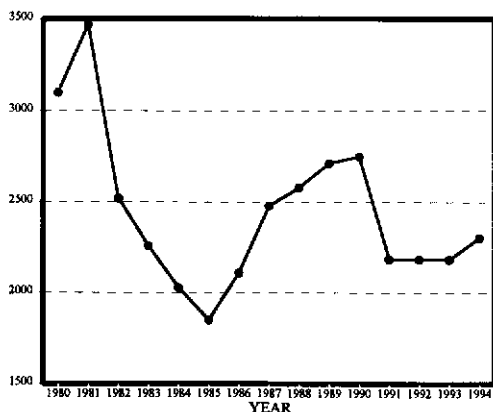


Figure 5

Measured in kilometres (miles), the combined total of leases and claims equated to 3514 (2184) and

3709 (2305) in 1993 and 1994 respectively. These figures suggest that the overall health of the Yukon's placer mining industry, as reflected by the amount of placer ground held in good standing, is sound.

Gold Production in 1993 and 1994

Placer gold production continues to make a significant contribution to the Yukon's resource-based economy. In 1993 the industry produced 108,950 crude ounces (Figure 6) or, based on an average grade of 800 fine, 87,160 fine ounces of gold valued at over 42.26 million dollars Canadian.

PLACER GOLD PRODUCTION CRUDE OUNCES 1980-1994

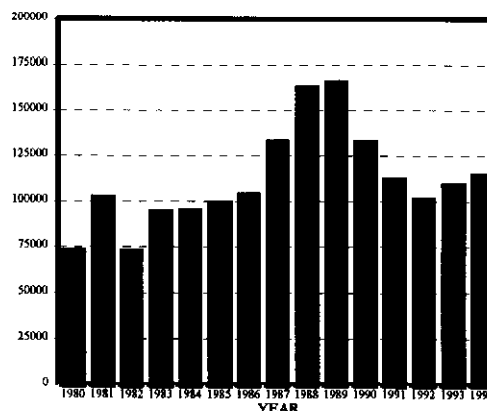


Figure 6

Gold produced in 1994 reached a total of 114,479 crude ounces, or 91,583 fine ounces valued at 48.37 million dollars Canadian (Figure 6).

These dollar figures represent the direct economic contribution of the Yukon's placer industry, and represent only a part of the total economic contribution.

Other factors not included in these figures are "spin-offs" from placer mining, such as purchases of fuel, parts and supplies from local businesses, and the wages of workers of both the mining operations and their suppliers.

The total combined dollar value of the gold produced in 1993 and 1994 surpassed the 90 million dollar mark. The following tables show the 25 most productive creeks in 1993 and 1994.

Most Productive Creeks 1993

1. Indian River	16,545
2. Dominion	12,044
3. Gold Run	11,182
4. Sixtymile R.	10,093
5. Hunker	10,019
6. Quartz	4,530
7. Klondike R.	3,709
8. Henderson	3,476
9. Last Chance	2,956
10. Bonanza	2,896
11. Highet	2,787
12. Matson	2,596
13. Clear	2,536
14. Soya	2,134
15. Duncan	1,955
16. Thistle	1,720
17. Black Hills	1,587
18. Sulphur	1,563
19. Dublin G.	1,448
20. Haggart	1,327
21. Miller	1,147
22. Ballarat	1,122
23. Gladstone	1,051
24. Eldorado	902
25. Gold Bottom	685

Most Productive Creeks 1994

1. Indian River	19,841
2. Dominion	16,700
3. Sixtymile R.	13,003
4. Hunker	12,392
5. Gold Run	8,669
6. Last Chance	4,095
7. Bonanza	3,433
8. Quartz	3,359
9. Haggart	3,007
10. Clear	3,005
11. Matson	2,821
12. Sulphur	2,535
13. Gladstone	2,137
14. Highet	1,927
15. Klondike R.	1,553
16. Swamp	1,473
17. Duncan	1,430
18. Nansen	1,374
19. Ballarat	1,371
20. Ledge	958
21. Tenmile	727
22. Eureka	640
23. Kate	595
24. Gold Bottom	594
25. Glacier	545

The 1994 season saw 214 operations either stripping or sluicing compared with 182 placer operations in 1993, an increase of 18%. Water Use Licences issued for placer mining by the Yukon Territory Water Board, however, were down in 1994. There were 387 valid water use licences at the end of the 1994 season compared with 423 the previous year, an 8.5% decrease.

Gold Price

Gold prices through the start of 1993 to the end of 1994 rose 24.5% (Figure 7).

AVERAGE MONTHLY PRICES 93-94 LONDON MARKET - US DOLLARS

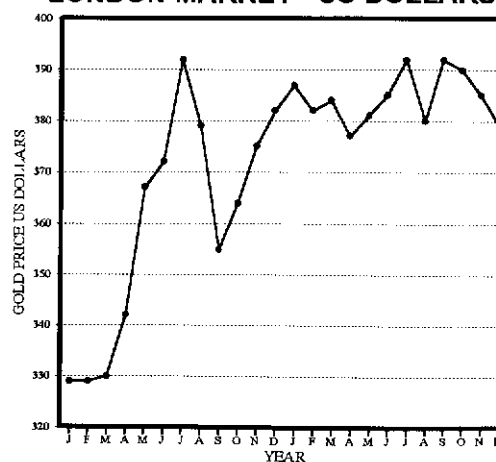


Figure 7

In 1993 gold prices ranged from a high of \$405.60 U.S. per ounce or \$529.50 Canadian (Canadian-U.S. dollar exchange rate of 0.766) in August, to a low of \$324.60 U.S. per ounce or \$409.84 Canadian (Canadian-U.S. dollar exchange rate of 0.792) in February. The overall monthly average gold price for 1993 was \$359.80 U.S. per ounce or \$464.25 Canadian (Canadian-U.S. dollar exchange rate of 0.775).

The 1994 figures did not vary greatly from the 1993 figures. In 1994 gold prices ranged from a high of \$396.25 U.S. per ounce or \$536.20 Canadian (Canadian-U.S. dollar exchange rate of 0.739) in September to a low of \$369.65 U.S. per ounce or \$511.27 Canadian (Canadian-U.S. dollar exchange rate of 0.723) in April. The 1994 monthly average was \$383.92 U.S. per ounce or \$523.76 Canadian (Canadian-U.S. dollar exchange rate of 0.733).

PLACER GOLD PRODUCED FROM YUKON CREEKS, 1985 - 1994 (compiled by L.P. van Kalsbeek)

		Crude Ounces								
CREEK or RIVER	Tributary to	87	88	89	90	91	92	93	94	87-94
Dawson Mining District										
Allgold	Klondike	151	635	1565	1495	719	0	0	280	4845
Ballarat	Yukon	472	483	448	1025	308	1214	1122	1371	6443
Barker	Stewart	1182	0	3	38	158	0	86	0	1477
Barlow	Clear	0	0	13	118	27	40	204	43	445
Bear	Klondike	647	435	244	594	954	683	606	151	4314
Bedrock	Sixtymile	101	0	1320	1149	0	0	0	0	2570
Big Gold	Sixtymile	0	0	32	0	0	0	0	0	32
Black Hills	Stewart	8857	3767	2843	2695	1853	2113	1587	228	21943
Bonanza	Klondike	15284	9824	5368	2827	5400	2592	2896	3433	47624
Clear	Stewart	4834	4290	6725	9372	6930	3227	2536	3005	40919
Dominion	Indian	13380	16190	25627	19017	19387	18652	12044	16700	140977
Eldorado	Bonanza	2914	3790	2175	429	713	483	902	63	11469
Eureka	Indian	2982	3623	2104	901	709	200	525	640	11684
Fortymile	Yukon	159	324	179	273	83	259	83	60	1420
Glacier	Sixtymile	884	1338	3039	2226	2395	731	0	545	11156
Gold Bottom	Hunker	0	0	1179	987	858	18	685	594	4319
Gold Run	Dominion	7288	8520	5464	10172	7891	9655	11182	8668	68841
Henderson	Stewart	854	1624	1385	1768	1867	3858	3476	510	15342
Hobo	Klondike	0	0	0	0	0	0	0	0	0
Hunker	Klondike	8355	17423	17046	11311	12084	11089	10019	12392	99719
Indian	Yukon	15774	30482	20865	19086	12196	12894	16545	19841	147683
Kirkman	Yukon	128	81	46	310	498	87	411	212	1773
Klondike	Yukon	157	393	2207	2525	1145	2573	3709	1553	14262
Last Chance	Hunker	0	0	0	0	0	2044	2956	4095	9095
Little Gold	Sixtymile	0	364	57	0	0	0	0	0	421
Maisy May	Stewart	5542	4063	3991	543	1175	789	143	0	16246
Matson	Sixtymile	0	0	244	31	0	193	2596	2821	5885
Miller	Sixtymile	5069	6026	3921	2790	2718	1323	1147	0	22994
Moose	Fortymile	0	0	0	0	544	0	8	300	852
Poker	Fortymile	0	0	0	0	0	0	0	0	0
Quartz	Indian	1024	384	732	6366	3627	2912	4530	3359	22934
Scroggie/Mariposa	Stewart	6895	8394	7036	6121	5718	3658	472	533	38827
Sestak	Yukon	0	40	539	399	70	0	0	0	1048
Sheep	Firth	0	0	0	0	0	0	0	0	0
Sixtymile	Yukon	11676	10160	12710	6003	4516	5580	10093	13003	73721
Sparkling	Yukon	0	0	0	0	0	0	0	498	498
Sulphur	Dominion	3888	4662	3983	2481	1469	2031	1563	2535	22592
Tenmile	Sixtymile	3399	3477	0	0	0	119	0	727	7722
Thistle	Yukon	162	0	2794	2840	797	767	1720	379	9459
Upper Bonanza	Bonanza	0	0	923	256	0	0	20	71	1270
Various Dawson Creeks		5	0	7043	1310	355	407	264	185	9569
Total Dawson		120023	140790	143850	117458	97164	90169	94140	98796	902390
Mayo Mining District										
Anderson	Mayo Lake	0	0	0	0	0	44	34	43	121
Bear	Moose/Stewart	80	132	231	209	123	11	164	59	1009
Carlson	Minto	0	0	0	0	0	0	0	0	0
Davidson	Mayo River	0	0	90	112	392	0	0	1	595
Dawn	Mayo Lake	0	0	0	0	0	0	0	0	0
Dublin Gulch	Haggart	0	0	1361	1454	2480	779	1448	17	7539
Duncan	Mayo River	238	727	1003	2148	2318	1370	1955	1430	11189
Empire	No Gold	174	223	0	0	0	11	0	20	428
Gem	Sprague	14	64	0	0	0	0	0	0	78
Haggart	McQuesten	1542	1661	1513	124	462	560	1327	3007	10196
Highet	Minto	2233	3042	3460	3498	2506	4466	2787	1927	23919
Johnson	McQuesten	411	470	668	782	648	0	161	0	3140
Ledge	Mayo Lake	99	153	194	219	154	372	340	958	2489
Lightning	Duncan	437	331	438	641	0	0	0	0	1847
McQuesten	Stewart	0	0	0	0	0	0	0	0	0
Minto	Mayo River	0	247	85	0	0	0	0	190	522
Morrison	Seattle	0	16	0	0	0	0	0	0	16
Russell	Macmillan	0	277	0	0	0	0	0	10	287
Seattle	McQuesten	0	0	0	0	0	0	0	0	0
Steep	Mayo Lake	0	0	0	0	0	0	0	104	104
Stewart	Yukon	0	0	0	0	0	0	0	258	258
Swede	Haggart	258	3230	61	0	0	0	0	85	3634
Thunder	Lightning	0	0	0	0	841	378	547	307	2071
Vancouver	McQuesten	0	371	184	0	0	0	0	0	555
Various Mayo Creeks		0	0	1551	0	1	0	0	13	1565
Total Mayo District		5486	10944	10839	9187	9925	7989	8763	8429	71562

CREEK or RIVER	Tributary to	87	88	89	90	91	92	93	94	87-94
Whitehorse Mining District										
Arch	Donjek	0	0	0	0	0	0	0	0	0
Back	Victoria	82	173	122	54	188	9	83	0	711
Boldin	Big	0	0	0	0	0	0	0	49	49
Burwash	Kluane	18	39	0	28	17	27	222	35	386
Canadian	Britannia	0	0	0	0	0	0	0	0	0
Casino	Dip	0	0	0	0	0	0	0	0	0
Cottoneva	South Big Salmon	0	0	56	0	407	0	75	519	1057
Discovery	Nansen	0	0	0	0	0	0	158	275	433
Dollis	Tatshenshini	0	0	132	0	0	0	0	0	132
Fourth of July	Jarvis	948	1076	861	4	0	0	0	0	2889
Gladstone	Kluane Lake	0	0	0	0	168	578	1051	2137	4512
Great Bear	Lesaux	0	0	0	0	0	0	87	0	87
Guder	Seymour	47	0	126	0	0	0	0	0	173
Happy	Big	0	0	0	0	0	0	0	0	0
Hayes tributaries	Selwyn	30	105	0	34	0	0	0	0	169
Kate	Ladue	0	42	0	522	662	276	362	595	2459
Kenyon	Scottie	4313	0	0	0	0	0	0	0	4313
Kimberly	Jarvis	32	5	11	53	81	0	21	124	327
Klaza tributaries	Nisling	166	107	89	210	489	63	0	0	1104
Lake	South Big Salmon	18	0	31	14	0	0	0	9	72
Little Violet	South Big Salmon	0	18	0	34	156	0	31	17	258
Livingstone	South Big Salmon	417	507	312	195	0	57	488	160	2136
Martin	South Big Salmon	13	0	0	0	0	0	0	0	13
Mechanic	Big	0	57	0	0	22	79	0	0	158
Mendocina	South Big Salmon	8	0	0	12	0	0	0	0	20
Moose Brooke	Lubbock/Atlin	0	0	0	0	0	0	475	0	475
Nansen	Nisling	162	737	45	0	664	35	459	1374	3476
Porcupine	Donjek	0	0	0	0	0	0	0	0	0
Printers	Cultus	0	0	0	0	0	0	0	0	0
Quili	Kluane	8	0	0	0	0	0	0	0	6
Unnamed	South Big Salmon	0	0	0	0	14	0	0	10	24
Reed	Donjek	127	85	29	20	0	0	0	0	261
Revenue	Big	105	623	28	273	0	0	154	210	1393
Rude	Dip	387	1039	798	1259	831	42	0	0	4356
Seymour	Big	320	347	0	43	0	54	142	132	1038
South Big Salmon	Big Salmon	0	0	0	0	0	0	0	0	0
Soya	Swamp	0	0	0	0	0	0	2134	0	2134
Squirrel	Duke	0	0	0	21	0	0	0	0	21
Summit	South Big Salmon	16	0	0	0	0	0	43	0	59
Swamp	Scottie	0	5583	6153	3054	1160	1670	0	1473	19093
Swede Johnson	Kluane	54	0	0	0	0	0	0	0	54
Tatshenshini R.	Alsek	0	0	0	0	19	14	36	16	85
Victoria	Nisling	0	215	436	0	0	0	0	0	651
Wheaton	Lake Bennett	0	0	0	0	0	0	0	0	0
Various Whitehorse Creeks		0	0	1673	160	2	0	26	119	1980
Total Whitehorse		7269	10758	10882	5990	4880	2904	6047	7254	56562
Watson Lake Mining District										
Stream or River		87	88	89	90	91	92	93	94	87-94
Liard River		13	0	0	0	0	0	0	0	13
Various Watson Lake Creeks		0	0	0	23	0	0	0	0	23
Total Watson Lake		13	0	0	23	0	0	0	0	36
Summary of Placer Gold Production										
		87	88	89	90	91	92	93	94	87-94
Dawson Mining District		120023	140790	143850	117458	97167	90168	94140	98796	902390
Mayo Mining District		5486	10944	10839	9187	9925	7989	8763	7254	71562
Whitehorse Mining District		7269	10758	10882	5990	4880	2904	6047	8429	56562
Watson Lake Mining District		13	0	0	23	0	0	0	0	36
Total		132791	162492	165571	132658	111972	101061	108950	114479	1030550

FINENESS OF YUKON PLACER GOLD

Creek	Fineness	Creek	Fineness
Adams Gulch	615-746	- Lower	790-840
Allgold Creek	858-860	Dublin Gulch	860-923
American Gulch	864	Duncan Creek	792-802
Arch Creek	870	Eagle Pup	
Anderson Creek	720-728	Eighty Pup	797
(✓Fortymile Area)		Eldorado Creek Benches	
Anderson Creek	870	✠ Gold Hill	768
(✓Mayo Lake Area)		Eldorado Creek	733-803
Back Creek	760-836	Empire Creek	910
Ballarat Creek	852-860	Eureka Creek	677-745
Barker Creek	793-900	Eva Creek	790
Barlow Creek	853	15 Pup	700
Bear Creek	644-746	(✓Last Chance Creek)	
Bear Creek		Fifteen Pup	876
(✓Mayo Area)		(✓Mayo Area)	
Bedrock Creek	820	Fisher Gulch	900
Bennett Creek		Forth of July Creek	810
Big Gold Creek	847-854	Fortymile River	814-845
Black Hills Creek	730-855	Fortynine Pup	
Blueberry Creek	880	French Gulch	631-750
Boliden Creek	890	Friday Gulch	790-804
Bonanza Creek Benches		Gay Gulch	780-790
✠ American Hill	864	Gauvin Gulch	664
✠ Cheechako Hill	750-785	Gem Gulch	895
✠ King Solomon Hill	785-800	Gill Gulch	870
✠ Trail Hill	800-805	Glacier Creek	830-860
Bonanza Creek - Upper	809-827	Gladstone Creek	820
- Middle	781	Gold Bottom Creek	780-800
- Lower	739-798	Gold Run Creek	830-878
Boulder Creek	800	Goring Creek	738
Burwash Creek	860-876	Guder Creek	838
Bullion Creek	871	Haggart Creek	885-895
Brewer Creek		Hayes Creek	860-880
Brimstone Gulch	830	Henderson Creek	720-760
Browns Creek	800	Henry Gulch	605-650
Bruin Creek	800	Hester Creek	850
Canadian Creek	864-883	Highet Creek	820-845
Canyon Creek	825	Homestake Gulch	660-750
Caribou Creek	816-840	Hunker Creek Benches	
Childs Gulch	750	✠ Australian Hill	850-860
Claffey Pup	750	✠ Dago Hill	798-859
Clear Creek	820-860	✠ Paradise Hill	735-802
(Left Fork Clear Creek)	730	Hunker Creek -Upper	798-859
(Right Fork Clear Creek)	720-740	- Middle	725-820
Cottoneva Creek	830	- Lower	701-726
Davidson Creek	840	Independence Creek	780-794
Discovery Creek	820-850	Indian River	780-843
Discovery Pup	700	Irish Gulch	624-742
Dominion Creek - Upper	805-832	Jackson Gulch	829-842
- Middle	817-849	Johnson Creek	760-820

<u>Creek</u>	<u>Fineness</u>
Kate Creek	820
Kenyon Creek	750
Kimberley Creek	850-860
Kirkman Creek	860-896
Klaza River	760-830
(✓)Unnamed Tribs)	
Klondike City	780-790
Klondike River Benches	
☛ Dawson Hill	790-825
☛ Groetschier Bench	790-825
☛ Jackson Hill	835
Lake Creek	895
Last Chance Creek	683-832
Ledge Creek	805-825
Lightning Creek	830
Livingstone Creek	880
Log Cabin Creek	850-895
Lombard Pup	860
Lovett Gulch	860
Little Gold Creek	
Little Blanche Creek	650-710
Little Violet Creek	866
Maisy May Creek	780-782
Mariposa Creek	895-900
Martin Creek	870
Matson Creek	776-893
May Creek	892
McQuesten River	870
Mechanic Creek	880-910
Miller Creek	827-857
Mint Gulch	820-851
Minto Creek	827-835
Montana Creek	770
Monte Cristo Gulch	784-796
Moose Brooks Creek	820-837
Moose Creek (Fortymile Area)	855
Moosehorn Range	820
Murphy's Pup	
Nansen Creek	800
Oro Grande Gulch	775
Quartz Creek	732-800
Quill Creek	
Ready Bullion Creek	710-717
Reed Creek	889-896
Revenue Creek	860-880
Rosebute Creek	800-810
Rude Creek	840-850
Rusk Creek	830
Russell Creek	850
Scroggie Creek	895-905
Sestak Creek	810-815
Seven Pup	

<u>Creek</u>	<u>Fineness</u>
Seymour Creek	860
Slate Creek	800
65 Pup	960
Sixtymile River	810-840
Sparkling Creek	880
Steep Creek	931-946
Stewart River	837-850
Sulphur Creek	790-832
Squaw (Dollis) Creek	834
Swamp Creek	800
Swede Creek	895
Tatshenshini River	850-866
Ten Mile Creek	830-845
Thistle Creek	848-895
Thunder Gulch	790-825
27 Gulch (Eldorado Creek)	750
27 Pup (Hunker Creek)	845
Victoria Creek	720-730
Victoria Gulch	807-820
Wade Creek	900-930

DREDGES IN THE KLONDIKE

Number	Make	Buckets cu.ft.	Start	Finish	Mined (yd ³)	Where	Remarks
Discovery Dedge	Risdon	3¼	1901	1908	Unknown	42 ^{B/D} Bonanza cr. - Discovery Bonanza creek.	From Cassiar Bar, shipped to Circle, Alaska (steam).
Can#1 - NW#1 - YC#1	Marion	7	1905	1938	15,447,289	Bear cr. mouth - 21 ^{B/D} Hunker - 17 ^{B/LD} Dominion creek.	Parts for YC#11
Bonanza Basin Co.	Allis Chalmers	6½	1906	1909	Unknown	Klondike mouth.	Originally steam powered, fate unknown.
YG#1 - YC#7	Bucyrus	5	1906	1950	19,435,899	Lower Bonanza cr. - Quartz cr.	Quartz mouth - abandoned.
YG#1 - YC#9	Bucyrus	5	1906	1966	19,258,037	Lower Bonanza cr. - Bear cr. - Sulphur creek.	Sulphur cr. @ Meadow gulch - abandoned.
YG#2	Bucyrus	5	1907	1918	5,747,219	Lower Bonanza creek.	Parts to Hightet cr. - Dredge - Mayo Mining District.
YG#4 - NW#2 - YC#5	Marion	7	1908	1943	28,937,006	Lower Hunker - 41 ^{B/D} Hunker cr. - 249 ^{B/LD} Dominion creek.	Burned by lightning strike.
YG#6 - YC#6	Bucyrus	7	1908	1966	41,481,619	90 ^{B/D} Bonanza cr. - Gold Run cr. - lower Sulphur creek.	Dominion cr. near Australia pipeline - abandoned.
YG#5	Bucyrus	7	1908	1917	6,714,922	Lower Hunker cr. - 31 ^{B/D} Bonanza cr. - 7 Eldorado creek.	Parts shipped to Malaya.
YG#7	Marion	7	1908	1911	1,546,533	36 ^{B/D} Hunker creek.	Shipped to Iditarod, Alaska.
Can#2 - YC#2	Marion	16	1910	1942	48,855,501	Klondike river valley.	Near Quigley gulch, abandoned
YG#8	Bucyrus	7	1911	1917	4,688,302	4 ^{A/D} Bonanza creek.	Shipped to Malaya, (steel hull).
YG#9	Bucyrus	7	1911	1915	2,420,066	7 to 26 Eldorado creek.	Shipped to Idaho, (steel hull).
Can#3 - YC#3	Marion	16	1913	1952	48,266,723	Lower Klondike river., Lower Bonanza creek	
Can#4 - YC#4	Marion	16	1913	1959	65,559,475	Klondike river - lower Bonanza creek - 17 ^{B/D} Bonanza creek.	Parks Canada exhibit, Bonanza creek.
YC#8	Yuba	7	1938	1966	19,578,477	Middle Sulphur creek.	Abandoned.
YC#10	Yuba	7	1939	1964	18,604,366	10 ^{B/LD} Dominion cr. To 175 ^{B/LD} .	Near Kentucky creek, abandoned.
YC#11	Yuba	7	1939	1966	21,921,063	59 ^{B/D} Hunker cr. - last chance cr.	Last Chance cr., abandoned.
YC#12	Marion	2½	1953	1965	1,881,200	Middle Dominion creek.	Near Hunter creek bought by Parks Canada (steel hull).
			Total	sluiced:	370,343,697	cubic yards	

Abbreviations : Can - Canadian Klondike Mining Company
 NW - North West Corp. / New North West Corp.
 YG - Yukon Gold Company.
 YC - Yukon Consolidated Gold Corp.
 A/D - Above Discovery
 B/D - Below Discovery
 B/LD - Below Lower Discovery

Rated daily processing capacity : 5 cu. ft. - 3,500 yd³
 7 cu. ft. - 5,000 yd³
 16cu. ft. - 16,000 yd³

These dredges worked in the Klondike area only : other dredges in Yukon operated on Sixtymile R., Fortymile R., Henderson Cr., Thistle Cr., Clear Cr. (2½ cu. ft. Built by Walter Johnson Company 1939). Gladstone Cr., Hightet Cr., Stewart R., and Yukon river (Cassiar bar).

The last dredge to operate in the Klondike was No. 11 at the mouth of Last Chance creek November 1966.

THE ENVIRONMENTAL ASSESSMENT PROCESS

The Northern Affairs Program of the Department of Indian Affairs and Northern Development is responsible for managing the minerals, oil and gas, water, forests and most of the land in the Yukon Territory. Environmental protection is a major element of this resource management responsibility.

The *Canadian Environmental Assessment Act (CEAA)* came into force in January 1995. It replaced the *Environmental Assessment Review Process Guidelines Order (EARPGO)*. Project assessments that were underway at that time, however, will continue and be completed under the *EARPGO*.

For information about the environmental assessment process as it applies to placer mining proposals and water use, contact the Yukon Territory Water Board.

CONVERSION FACTORS

1 cubic yard	= 0.764 cubic metres
1 long ton	= 2240 lbs
1 short ton	= 2000 lbs
1 tonne	= 1.102 short tons
1 tonne	= 2204.62 lbs
1 troy ounce	= 31.1035 grams
1 troy ounce	= 20 pennyweights
1 troy ounce	= 480 grains
1 pennyweight	= 24 grains
1 grain	= 0.06479 grams
1 ounce/cubic yard	= 40.68 grams/cubic metre
1 ounce/ton	= 34.2848 grams/tonne

GRAIN SIZE

Particles	Average diameter in mm
Boulders	greater than 256 mm
Cobbles	64 mm to 256 mm
Pebbles	4 mm to 64 mm
Gravel	greater than 2 mm
Sand	2 mm to 1/16 mm
Silt	1/16 mm to 1/256 mm
Clay	less than 1/256 mm

Note: 1 inch = 25.4 millimetres (mm)

VOLUME

10 Millilitres (ML)	= 1 Centilitre (C)
10 Centilitres	= 1 Decilitre (DL) = 100 Millilitres
10 Decilitres	= 1 Litre (L) = 1,000 Millilitres
10 Litres	= 1 Dekalitre (DAL)
10 Dekalitres	= 1 Hectolitre (HL) = 100 Litres

10 Hectolitres
 Litre x 0.21998
 Litre x 0.26417
 Gallon x 4.5459 (British, Canadian)
 Gallon (U.S.) x 3.785

= 1 Kilolitre (KL) = 1,000 Litres
 = Gallon (British)
 = Gallon (U.S.)
 = Litres
 = Litres

TEMPERATURE

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times .555$$

$$^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$$

The following measures are not to be held as absolute values but are used by many miners in making working estimates:

1 standard gold pan = 16" diameter top, 10" diameter bottom, 2.5" depth, holds 0.007 cubic yards, or 0.005 cubic metres, and weighs approximately 21 lbs (ordinary gravel)

1 cubic yard = approximately 143 standard gold pans

Weight of ordinary gravel in place = 2500 to 3000 lbs/cubic yard

Specific gravity of ordinary gravel in place = 1.48 to 1.78 g/cm³

1 ounce gold/ton ordinary gravel = 1.25 to 1.50 ounces/cubic yard

1 gram gold/tonne ordinary gravel = 1.48 to 1.78 grams/cubic metre

Swelling factor of ordinary gravels = 20 to 30% increase in volume

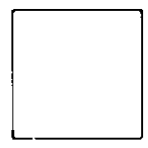
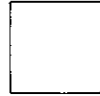
WEIGHTS

12 troy ounce	= 1 troy pound
32.15 troy ounce	= 1 kilogram = 1,000 grams
24 karats	= pure gold
22 karats	= 91.6 % fine gold
21.6 karats	= 90% fine gold
18 karats	= 75% fine gold
14 karats	= 58.3% fine gold
10 karats	= 41.6% fine gold

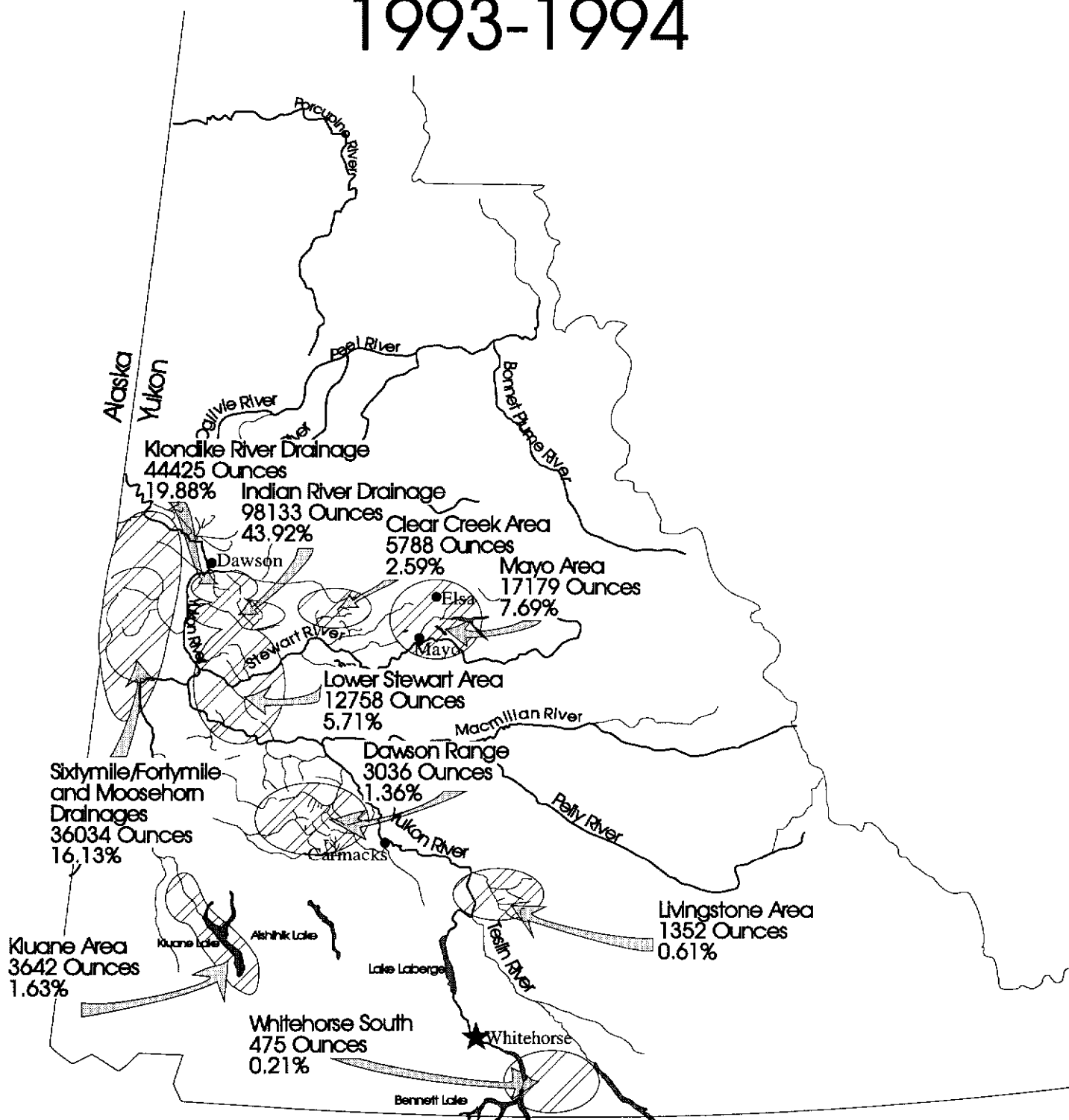
TYLER STANDARD SCREEN SCALE

Relationship of openings in basic $\sqrt{2}:1$ screen scale series.

(Openings not to scale).

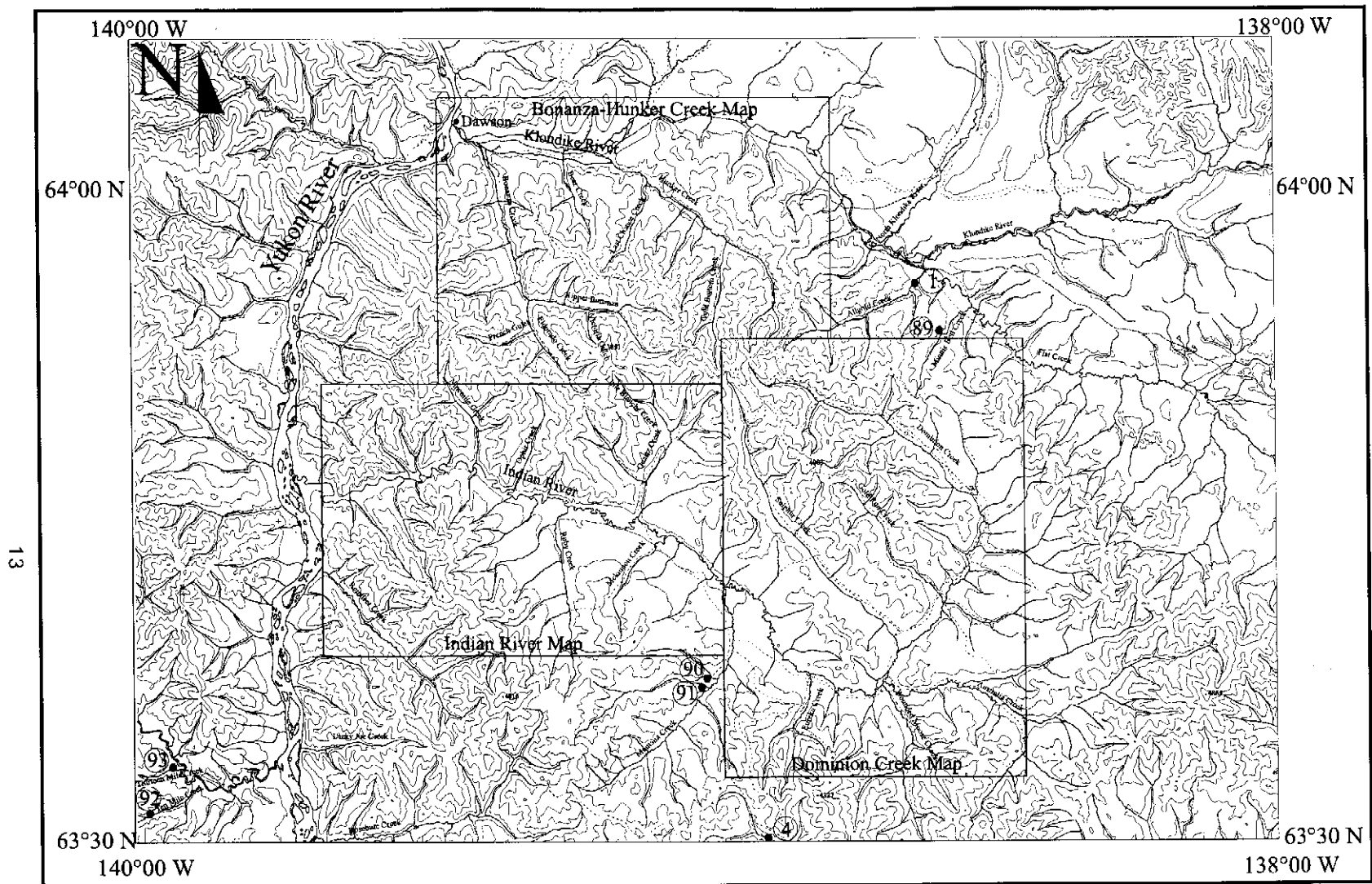
	OPENING IN INCHES	
	1.060	
	0.746	
	0.525	
	0.371	
	MESH	0.263
	3	0.185
	4	0.181
	6	0.093
	8	0.065
	10	0.048
	14	0.0328
	20	0.0232
	28	0.0164
	35	0.0116
	48	0.0082
	65	0.0058
	100	0.0041
	150	0.0028
	200	0.0021
	270	0.0015
	400	

Yukon Placer Gold Production 1993-1994



YUKON PLACER INDUSTRY ACTIVITIES

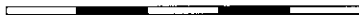
Summaries of mining inspection reports



Klondike Placer Area

 Secondary roads
 Major roads

 Rivers

Yukon Territory

 0 km 25

 Contours

 Placer Operations

ALLGOLD CREEK	115 O/15
Henry Gulch Placers	63°56'N 138°37'W
Water Licence: PM92-081	1993, 1994
Klondike Placer Area Map	Site No. 1

Operation/Location: The area mined was on the lower end of Allgold Creek, 3500 feet upstream from its confluence with Flat Creek. In this area Allgold Creek is wide and flat. Four miners worked for 12 hours each day.

Equipment/Function: A D9G Caterpillar bulldozer equipped with a U-blade and ripper, a 980B Caterpillar loader with a five yard bucket, a 225 Caterpillar excavator with a one yard bucket, and a 20 yard 631B Caterpillar scraper were used to mine this site.

Wash Plant: Pay gravel was processed using a shaker plant with a single 5 foot by 12 foot deck with ¾ inch punch plate feeding a four square yard hopper. Material travelled across a single run sluice 4 feet wide by 12 feet long where the majority of gold was recovered using expanded metal and 1¼ inch riffles over Nomad matting. The single run fed three oscillating runs 4 feet by 10 feet lined with expanded metal over Nomad matting. An 8 by 10 inch Fairbanks Morse pump powered by 371 GM engine provided 1200 igpm to the plant to process 80 yards per hour. A two cell jig was used for clean-ups.



Henry Gulch Placers' sluice set-up on Allgold Creek in 1994.

Ground Description: The ground was 25 to 30 feet deep. About 15 feet of black muck covered 15 feet of gravel. There was uniform composition with variable particle sizes. Boulders up to three

feet in size were found approximately eight feet below the watercourse. Bedrock was wavy and lower in elevation on the right limit. Four feet of gravel and 2 to 4 feet of bedrock were sluiced.

Mining Cuts: In 1993 stripping began on a cut on the lower property which was sluiced in 1994. The area stripped was 500 by 70 feet, with 12,963 cubic yards of material removed. In 1993 an additional cut at the upper end of the property was stripped and sluiced. The surface dimensions of this cut were 100 feet by 150 feet. The total volume was 7800 cubic yards of which 3400 yards were sluiced. The cut begun in 1993 was completed in 1994. The volume stripped was 15,500 cubic yards with 7800 yards sluiced. An area 1200 feet by 80 feet by 15 feet was stripped for sluicing in 1995.

Water Supply and Treatment: Water was pumped from an out-of-stream pond which was fed on demand from Allgold Creek. An out-of-stream pond treated the effluent which exited to another small out-of-stream pond before entering Allgold Creek approximately 1500 feet downstream.

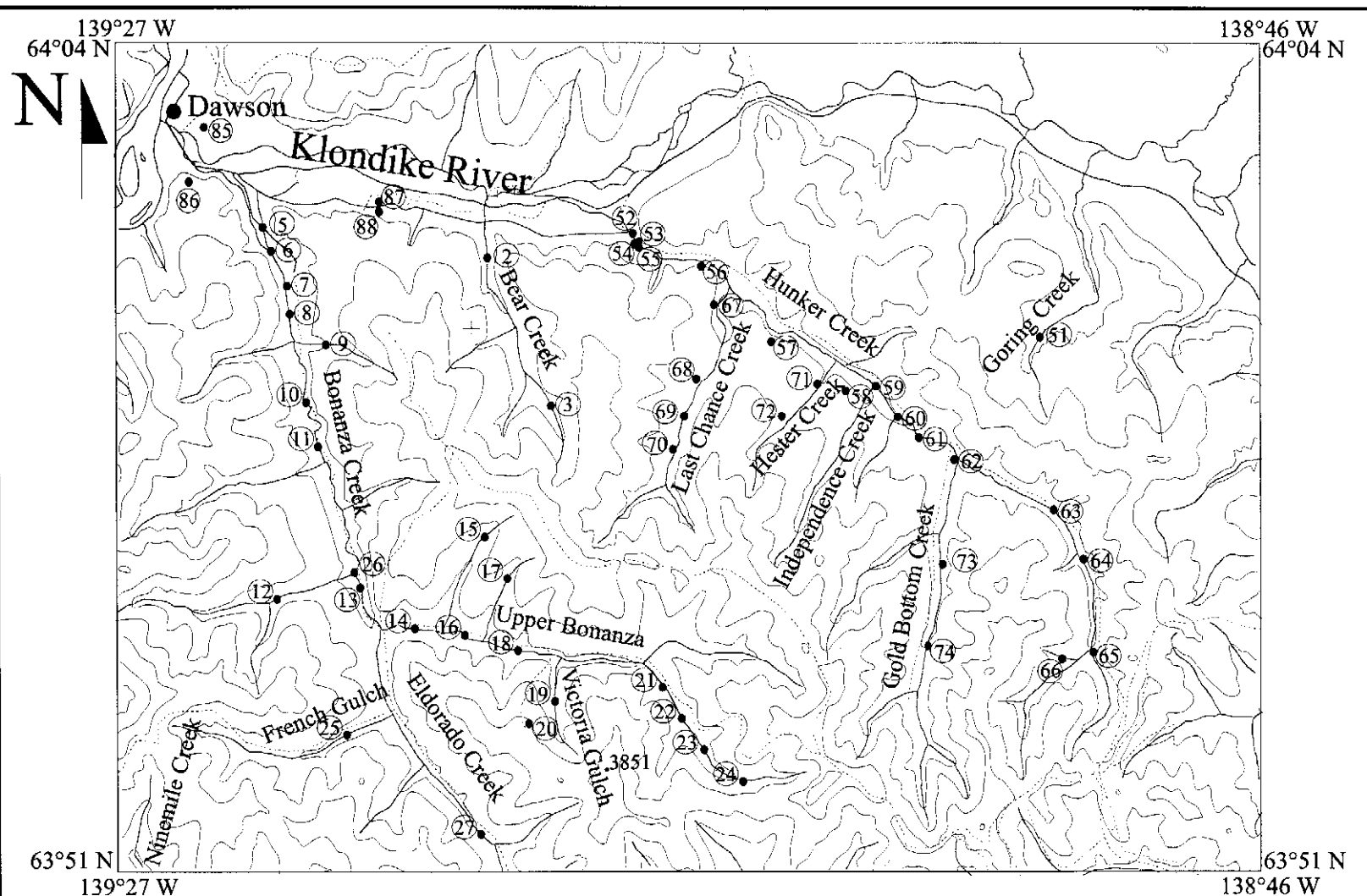
Gold: The gold was flat and smooth, with mesh sizes of 30% +10, 60% -10 to +60, and 10% -60. Fineness varied from 820 to 870.

Comments: The operators have been addressing stream rehabilitation and site restoration on an ongoing basis. Old shafts were scarce. Small bones and one broken piece of tusk were found.

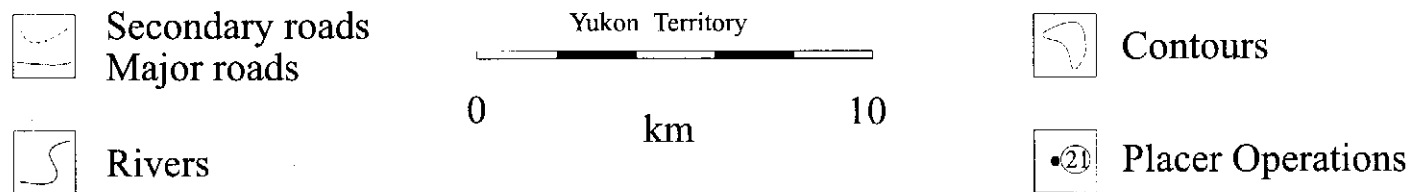
BEAR CREEK	116 B/3
Sunrise Placers	64°01'N 139°15'W
Water Licence: PM93-001	1994
Bonanza-Hunker Creek Map	Site No. 2

Operation/Location: Cam Arkenstall and Dave Brickner ran a four person operation in 1994, near the mouth of Bear Creek. They mined rim to rim in the valley bottom of Bear Creek, and settled in old dredge ponds in the Klondike valley, downstream from Bear Creek.

Equipment/Function: Two Fiat 31 bulldozers were used to strip overburden and to dig and push gravel. A Liebert 981 backhoe was used to dig pay gravel and load the dump truck for long hauls. One Hough 120 loader fed the wash plant, and one Hough 90 loader removed tailings.



Bonanza-Hunker Creek Placer Area



Wash Plant: A trommel 7 feet in diameter by 42 feet long fed four oscillating sluice runs 4 feet wide by 16 feet long. About 200 cubic yards per hour were processed using 1500 igpm of water supplied by a 6 inch Gorman Rupp pump.

Ground Description: Frozen black muck overburden from 20 to 25 feet deep was removed from gravels 5 to 6 feet deep. All gravel plus up to two feet of decomposed schist bedrock were sluiced.

Mining Cuts: Gravel was hauled by truck from several locations on the bottom claims. One cut along the left rim was about 30 feet wide by 200 feet long.

Water Supply and Treatment: Water was pumped from an out-of-stream reservoir in an old mining cut in Bear Creek. Settling occurred in dredge ponds in the Klondike valley along the left limit, downstream from Bear Creek.

Gold: The gold was flat and mostly fine with some small flakes, but no nuggets. Fineness varied from 650 to 710.

BEAR CREEK	115 O/14
Louis Peckham	63°58'N 139°12'W
Water Licence: PM91-042	1993, 1994
Bonanza-Hunker Creek Map	Site No. 3

Operation/Location: Louis Peckham continued a two person operation on upper Lindow Creek, a right limit tributary to Bear Creek. Mining cuts were excavated rim to rim in the narrow valley bottom.

Equipment/Function: One Caterpillar D8H bulldozer was used to strip overburden and stockpile gravel. A Mitsubishi MS230 backhoe was used to dig pay gravel and clean ponds and ditches. A Komatsu track loader fed the wash plant and a Caterpillar D4 bulldozer removed tailings.

Wash Plant: A trommel 5 feet in diameter by 18 feet long fed multiple sluice runs 11 feet wide by 8 feet long. The runs were lined with hydraulic riffles followed by expanded metal riffles. About 600 igpm of water, supplied by a 6 inch Gorman Rupp pump, were used to process 35 to 40 cubic yards per hour.

Ground Description: About two feet of overburden and slide bedrock were mixed at the surface. There were 8 to 10 feet of gravel mixed with broken slide bedrock in the valley bottom. All gravels plus 6 to 8 inches of bedrock were processed.

Mining Cuts: One cut 30 feet wide by 150 feet long was mined in 1993. In 1994 a cut about 30 feet wide by 50 feet long was mined.

Water Supply and Treatment: Water was stored and recycled in three instream ponds, each about 30 feet wide by 75 feet long.

Gold: The gold was coarse with a fineness of 650.

BONANZA CREEK	116 B/3
Michael F. Creaven	64°02'N 139°23'W
Water Licence: PM93-022	1993, 1994
Bonanza-Hunker Creek Map	Site No. 5

Operation/Location: At the lower end of Bonanza Creek, between California Gulch and Examiner Gulch, frozen black muck was mechanically stripped on the left limit. On the right limit, at the base of Lovett Hill, a small cut in thawed gravel and broken bedrock was excavated at the edge of an old mining cut.

Equipment/Function: An International TD25 bulldozer was used to strip frozen black muck overburden. A Case 560 backhoe/loader was used to excavate pay gravels and feed the wash plant.

Wash Plant: A small trommel with a 4 foot by 8 foot screen deck fed 5/8 inch minus to a sluice box 1 foot wide by 16 feet long with one inch angle iron riffles.

Ground Description: The left limit of the valley was covered with frozen black muck to an unknown depth. The right limit of the valley was previously mined up to an exposed face of gravel and bedrock about 20 feet deep.

Mining Cuts: Approximately 6000 cubic yards of overburden were mechanically stripped and stockpiled along the left limit. About 1235 cubic yards of thawed gravel were sluiced along the right limit in 1994.

Water Supply and Treatment: Bonanza Creek remained on the left limit of the valley in its original channel. Sluicing water was recycled from groundwater fed settling ponds in old mining cuts along the right limit.

Gold: The gold was fine, flat, and smooth, measuring one mm and smaller. Fineness was around 800.

BONANZA CREEK	116 B/3
Joe A. Langevin	64°01'N 139°23'W
Unlicensed	1993, 1994
Bonanza-Hunker Creek Map	Site No. 6

Operation/Location: Joe Langevin ran a one person operation at the mouth of California Gulch, a left limit tributary to lower Bonanza Creek two kilometres upstream from its confluence with the Klondike River. California Gulch is steep sided and about 15 to 20 feet wide in the bottom.

Equipment/Function: One Caterpillar backhoe/loader was leased to dig a trench down into bedrock. All other mining was done with hand tools only.

Wash Plant: A small hand operated wooden sluice box was used to process one or two yards per day, using gravity-fed water.

Ground Description: Gravel and overburden were mixed at the surface to a depth of 4 to 6 feet above bedrock. Decomposed bedrock was the surface at the upper end of the trench.

Mining Cuts: One trench about 4 feet wide by 6 feet deep by 150 feet long was mined.

Water Supply and Treatment: California Gulch had intermittent flows only after spring melt and heavy rainstorms. Water was ditched about 150 feet to the sluice box. Waste water was settled in the trench with seepage discharge only.

Gold: Only fine gold has been recovered so far.

BONANZA CREEK	116 B/3
Aime Brunet	64°03'N 139°22'W
Water Licence: PM91-101	1993
Bonanza-Hunker Creek Map	Site No. 7

Operation/Location: In 1993 Jim Conklin and Dick Daeme sub-contracted a two person operation on

the left limit of Bonanza Creek, opposite Trail Gulch.

Equipment/Function: One Caterpillar 960 loader was used to dig pay, feed the wash plant, and remove tailings. A six inch pump and water monitor were used to remove overburden.

Wash Plant: A screen deck and single sluice run with angle iron riffles were used to process about 50 yards per hour.

Ground Description: From 35 to 40 feet of frozen muck and slide bedrock overburden covered 10 to 12 feet of gravel.

Mining Cuts: One cut on the left limit bench about 150 feet by 150 feet by 12 feet deep produced about 10,000 cubic yards of pay gravel.

Water Supply and Treatment: Water was pumped from an instream reservoir on Bonanza Creek and settling occurred in two out-of-stream ponds.

Gold: The gold was fine, with no nuggets or flakes. Fineness was 790.

BONANZA CREEK	116 B/3
Robert Nicholson	64°01'N 139°22'W
Water Licence: PM91-028	1993, 1994
Bonanza-Hunker Creek Map	Site No. 8

Operation/Location: Clive Nicholson ran a three person operation at the mouth of Lovett Gulch, a right limit tributary to lower Bonanza Creek. Mining occurred on the first tier bench level of Lovett Hill.

Equipment/Function: One Caterpillar D9 bulldozer was used to strip overburden and dig pay gravels. Two belly scraper buggies were used to strip and stockpile overburden and gravel. A Caterpillar 920 loader fed the wash plant and removed tailings.

Wash Plant: A trommel 7 feet in diameter and 40 feet long fed a single sluice run 4 feet wide by 15 feet long lined with expanded metal riffles over Nomad mat. Approximately 100 cubic yards per hour were processed using about 1500 igpm of water supplied by a Paramount 6 by 5 inch pump, powered by a Caterpillar 3304 diesel.

Ground Description: Frozen organic overburden 45 to 50 feet deep was mechanically stripped from a

gravel layer 10 to 15 feet deep. The bottom six feet of gravel plus up to three feet of bedrock were sluiced. Tailings were used to backfill large flooded mining cuts in the valley bottom.

Mining Cuts: Mining has progressed from the base of Lovett Hill up to the first tier bench level. One cut about 100 feet by 200 feet by 60 feet deep was excavated each year.

Water Supply and Treatment: Water was recycled from large, flooded mining cuts in the valley bottom. These ponds were separated from Bonanza Creek by the public access road.

Gold: The gold was fine, flat, and dull. Fineness was 795.

BONANZA CREEK	115 0/14
Orlo Davis	63°59'N 139°21'W
Water Licence: PM93-042	1994
Bonanza-Hunker Creek Map	Site No. 9

Operation/Location: Orlo Davis started near the mouth of Pure Gold Gulch, a right limit tributary to Bonanza Creek, about six kilometres up the Bonanza Creek road. Pure Gold Gulch is about 200 feet wide and gently sloped at its downstream end.

Equipment/Function: An International TD25 bulldozer was used to strip overburden from the first six claims at the downstream end of Pure Gold Gulch. A ripper was added to remove frozen overburden down to pay gravel.

Wash Plant: A 5 foot by 14 foot double deck shaker screening plant with single sluice run was set up but was not used. Mr. Davis expected to process about 80 cubic yards per hour using 600 igpm of water from a 4 inch Honda pump in 1995.

Ground Description: Up to four feet of frozen black muck covered frozen gravel layers which varied from 10 to 16 feet deep.

Mining Cuts: Ground was prepared in 1994 for mining in 1995.

Water Supply and Treatment: No water was used. The operation was licensed for an instream reservoir and a stream channel diversion.

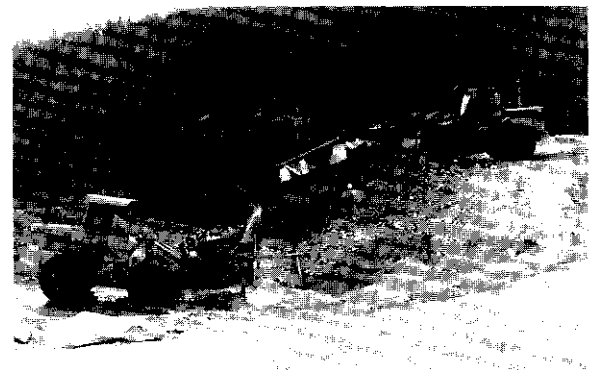
Gold: No gold was recovered.

BONANZA CREEK	115 0/14
Kohlman Explorations Ltd.	63°59'N 139°22'W
Water Licence: PM92-024	1993, 1994
Bonanza-Hunker Creek Map	Site No. 10

Operation/Location: Leo Twordik continued a three person operation on lower Bonanza Creek, about half way between Sourdough Gulch and 49 Gulch.

Equipment/Function: A Caterpillar 225 excavator was used to dig pay gravel. One Caterpillar 966 loader fed pay gravel into the wash plant, and one 950 loader hauled tailings.

Wash Plant: A derocker and single sluice run with a boil box at the top of the sluice was used. The sluice was lined with one inch angle iron riffles over the top half, and expanded metal over Nomad carpet in the bottom half. Sixty cubic yards per hour were processed using 2500 igpm of water delivered by a 6 inch by 8 inch Deutz pump.



Two loaders feeding the wash plant and removing tailings at Kohlman Exploration's operation on Bonanza Creek.

Ground Description: The valley bottom had been dredged in the old days but pay gravels were recovered from below the dredge tailings, mixed with broken bedrock. A left limit terrace was mined, about 60 vertical feet above the creek level. Several ice filled shafts up to 40 feet long were exposed in the mixed gravel and slide bedrock.

Mining Cuts: Approximately 60,000 cubic yards were mined from the valley bottom in 1993 and 1994. About 12,000 cubic yards were mined from the left limit terrace in 1994.

Water Supply and Treatment: Water was pumped from an instream reservoir in Bonanza Creek and was settled in two large out-of-stream ponds in old mining cuts. Discharge was by seepage back to Bonanza Creek.

Gold: Flakes and some small nuggets were recovered from the valley bottom, but only fines were found on the terrace. Fineness was 780.

BONANZA CREEK	115 0/14
Max Lanzinger	63°59'N 139°21'W
Water Licence: PM93-053	1993, 1994
Bonanza-Hunker Creek Map	Site No. 11

Operation/Location: Max Lanzinger continued his two person operation on the left limit of Bonanza Creek, immediately upstream from 49 Gulch. In 1993 mining occurred on the left hillside and valley bottom. In 1994 the operation moved up onto the high left bench, about 400 feet above creek level.

Equipment/Function: One Terex 8250 bulldozer was used to strip and stockpile gravel. A John Deere 644 loader fed pay gravel into the wash plant and a Hough 90 loader removed and stacked tailings.

Wash Plant: An oscillating screen deck 5 feet by 10 feet classified down to minus ¾ inch. Two oscillating sluice runs 4 feet wide by 8 feet long were lined with expanded metal riffles. About 100 cubic yards per hour were processed using 800 igpm of water delivered by an 8 inch by 6 inch high pressure pump.

Ground Description: This ground was previously stripped. About six feet of gravel and decomposed bedrock were scraped down from the left limit side hill. About 12 feet of gravel were sluiced from on top of the bench.

Mining Cuts: Each year approximately 50,000 cubic yards were processed. Material came from the valley bottom and hill side in 1993, and from the bench top in 1994.

Water Supply and Treatment: Water was recycled in two out-of-stream settling ponds built in old mining cuts in the valley bottom.

Gold: Only fines were recovered. Fineness was 820.

BONANZA CREEK	115 0/14
Jim Stuart Placers	63°56'N 139°20'W
Water Licence: PM93-115	1993
Bonanza-Hunker Creek Map	Site No. 12

Operation/Location: Jim Stuart Placers, a three person operation, mined the left limit bench on Adams Gulch, ½ mile upstream from its confluence with Bonanza Creek. Adams Gulch is a left limit tributary to Bonanza Creek one mile below Grand Forks. The camp and settling ponds were located in the gulch bottom, and the wash plant was set up in the mining cuts on the left bench.

Equipment/Function: Two Caterpillar bulldozers, one D9G and one D8N, were used to strip overburden and to dig and stockpile pay gravel. One Hein Werner C14A excavator was used to feed the wash plant and a Caterpillar 966C loader hauled and stacked tailings.

Wash Plant: A 4½ foot diameter trommel 30 feet long classified materials to minus ¾ inch. The undersize was fed to two sluice runs 60 inches wide by 8 feet long with hydraulic riffles in the first two feet, followed by expanded metal over Nomad matting. About 1500 igpm of water were delivered by an 8 by 10 inch Canada pump, powered by a 150 horsepower Volvo engine. From 75 to 100 cubic yards per hour were sluiced. A 6 by 8 inch Monarch pump powered by a GM 671 diesel was used to recycle water from Adams Gulch up to the bench.

Ground Description: Organic black muck 3 to 4 feet deep covered about 35 feet of clay and muck. Beneath this were mixed gravels 12 to 15 feet deep, with lots of quartz, similar to white channel gravel but grey coloured. The bottom 12 to 15 feet of gravel and one foot of bedrock were sluiced.

Mining Cuts: One cut 125 feet wide by 700 feet long by 50 feet deep was mined on the left bench.

Water Supply and Treatment: A recycle pond on the bench about 300 feet long by 80 feet wide was fed with water pumped from two settling ponds in Adams Gulch. The first was 200 feet long by 50 feet wide and the second was 250 feet long by 100 feet wide. There was a stable creek bypass channel on the right limit of Adams Gulch.

Gold: Gold recovered near the edge of the bench was fairly coarse and got finer toward the middle of the bench cut. Fineness was 670.

Comments: Some mercury was found on gold recovered from oldtimers' tailings.

BONANZA CREEK	115 O/14
Ivan Daunt	63°55'N 139°20'W
Water Licence: PM93-123	1993, 1994
Bonanza-Hunker Creek Map	Site No. 13

Operation/Location: Ivan Daunt continued a one person operation on Skookum Gulch, a left limit tributary to Bonanza Creek, about ¼ mile downstream from Grand Forks. Mining progressed up the narrow gulch to the third claim in 1993 and 1994.

Equipment/Function: An Allis Chalmers HD16 bulldozer was used to strip overburden, dig pay gravel, and push tailings. A Caterpillar 966B loader fed the wash plant and a JCB track loader removed and stacked tailings.

Wash Plant: A screen deck 5 feet wide by 12 feet long fed a single sluice run 3 feet wide by 20 feet long, lined with angle iron riffles. About 15 cubic yards per hour were processed using 1200 igpm of water supplied by a 6 by 6 inch pump, powered by a Perkins diesel.

Ground Description: Skookum Gulch is very narrow with steep side walls. Frozen overburden was mixed with gravel and broken slide bedrock to a depth of 25 to 30 feet. Bedrock was decomposed greenish schist. Pay gravels were 3 to 6 feet deep and up to 20 feet wide, in the middle of the valley bottom. All gravel plus 2 to 3 feet of bedrock were sluiced.

Mining Cuts: In 1993 and 1994 mining progressed upstream along the centre of the valley bottom in Skookum Gulch. Each year the 25 foot wide cut was extended 250 feet. Approximately 4000 cubic yards were processed per season.

Water Supply and Treatment: Water was recycled in three instream settling ponds on Skookum Gulch. Skookum Gulch usually dried up after spring run off and make up water was pumped from an instream reservoir on Bonanza Creek.

Gold: The gold was coarse with angular nuggets and quartz attached. Fineness varied from 650 to 710.

BONANZA CREEK	115 O/14
George Hamilton	63°55'N 139°18'W
Water Licence: PM93-060	1993, 1994
Bonanza-Hunker Creek Map	Site No. 14

Operation/Location: George Hamilton and three other miners operated on upper Bonanza Creek just upstream of Spring Gulch, ½ mile above Grand Forks. The valley bottom was 200 to 300 feet wide at this location.

Equipment/Function: One Caterpillar D7 bulldozer was used to strip and stockpile gravel, and push tailings. A NorthWest excavator with a three yard bucket was used to feed the wash plant and dig pay gravel.

Wash Plant: Approximately 40 cubic yards per hour were processed through a trommel 40 inches in diameter by 22 feet long. Material classified to ½ inch minus entered two sluice runs 16 inches wide by 12 feet long, lined with expanded metal riffles. A 6 inch by 8 inch Worthington pump, powered by a Caterpillar 333 diesel engine, delivered about 600 igpm of water.



Excavator feeding pay gravel into a trommel at George Hamilton's operation on Bonanza Creek.

Ground Description: Overburden, gravel, slide bedrock, and oldtimers' tailings were all mixed together. The total depth was 12 to 15 feet. All materials plus 1 to 2 feet of bedrock were sluiced.

Mining Cuts: Activity was limited to testing in 1993. A cut 200 feet long by 30 feet wide was

mined along the right limit of the valley bottom in 1994.

Water Supply and Treatment: Water was recycled in out-of-stream settling ponds in old mining cuts. Water supply was by groundwater seepage. A creek bypass channel was maintained along the left limit of the valley.

Gold: Only very fine gold was recovered. All of it was flat and smooth. Fineness was 820.

BONANZA CREEK	115 0/14
H.W. Shaw	63°57'N 139°15'W
Water Licence: PM94-045	1993
Bonanza-Hunker Creek Map	Site No. 15

Operation/Location: H.W. Shaw ran a one person operation near the top end of Gauvin Gulch, a right limit tributary of upper Bonanza Creek, about one mile upstream from Grand Forks. In the upper reach where Mr. Shaw worked, Gauvin Gulch is very steep and about 10 meters wide.

Equipment/Function: An International TD8C bulldozer with angle blade and ripper was used to remove overburden and dig pay gravel. One Bobcat 742 loader with 1/2 yard bucket fed the wash plant and removed tailings.

Wash Plant: A dump box 6 feet by 8 feet and a screen deck 4 feet by 6 feet classified to one inch minus. These fed a single sluice run 16 inches wide by 16 feet long, with expanded metal riffles over miners matting. From 8 to 10 cubic yards per hour were processed using 100 igpm, supplied by a 4 inch Monarch pump.

Ground Description: Gravel, overburden, and slide bedrock were all mixed together from the surface down to depths which varied from a few feet deep, on the sides of the valley wall, to 20 feet near the middle of the gulch. Bedrock was wavy schist, and the gravels were rust coloured. Large, broken bedrock slabs were found in the gravel at all levels. All gravels were sluiced.

Mining Cuts: Approximately 1200 cubic yards were processed in 1993 from one cut which averaged 15 feet deep by 30 feet wide by 75 feet long.

Water Supply and Treatment: Gauvin Gulch usually dried up very early at this elevation. Water

from spring run-off was stored in four instream recycle/settling ponds and reused all season.

Gold: The gold was angular, rough, and dull in colour. Some small nuggets had quartz attached. Fineness was around 664.

BONANZA CREEK	115 0/14
Slate River Mining & Expl. Ltd.	63°55' 139°17'
Water Licence: PM92-025	1993, 1994
Bonanza-Hunker Creek Map	Site No. 16

Operation/Location: David McBirney ran a one person operation on the right limit bench of upper Bonanza Creek, on Bunker Hill, about one mile above Grand Forks.

Equipment/Function: One Caterpillar D9G bulldozer was used for stripping and to push tailings. One Hitachi EX200 backhoe was used to feed the wash plant and for ditching.

Wash Plant: A trommel 5 feet in diameter by 15 feet long classified to minus one inch, with oversize carried onto a conveyor belt. The undersize material dropped onto two sluice runs. The top run was 10 feet wide by 6 feet long with hydraulic riffles. The material then passed through a boil box and onto the second sluice, which was 10 feet wide by 6 feet long. The top half was lined with hydraulic riffles and the bottom half with expanded metal. About 75 cubic yards per hour were sluiced using 700 igpm of water, supplied by a 5 inch by 4 inch Ajax pump, powered by a Perkins 6354 diesel

Ground Description: One foot of organic overburden covered 15 feet of white channel gravel over bedrock. The bottom five feet of gravel was sluiced and the bedrock was just skimmed. No gold was found in the bedrock.

Mining Cuts: In 1993 one cut 300 feet long by 180 feet wide was mined. In 1994 a cut 540 feet long by 60 feet wide (along the rim) was mined.

Water Supply and Treatment: Water was recycled from two out-of-stream ponds in old mining cuts on the right limit of the valley bottom. In 1994 a recycle pond was built and maintained on the bench with make up water pumped up from the valley.

Gold: The gold was round and granular with fineness of 800.

BONANZA CREEK 116 Q/14
Alfred and Marlene Roberts 63°56'N 139°16'W
Water Licence: PM92-049 1993, 1994
Bonanza-Hunker Creek Map Site No. 17

Operation/Location: Homestake Gulch is a right limit tributary to upper Bonanza Creek about two miles upstream from Grand Forks. This two person family operation was located near the top end of Homestake Gulch, two miles upstream from Bonanza Creek, in a steep and narrow part of the gulch. Alfred and Marlene Roberts have mined at this location since the early 1980's.

Equipment/Function: A Caterpillar D8H bulldozer with straight blade and no ripper was used to strip overburden and dig pay gravel. An International 125C bulldozer pushed pay gravel and fed the wash plant. A Bucyrus 20B dragline was also used to feed the wash plant and to clean out the recycle/settling ponds.

Wash Plant: A hopper fed a Parker wet shaker screen deck 5 feet wide by 10 feet long, which classified to ¾ inch minus. This was followed by a single sluice run 24 inches wide by 20 feet long with all expanded metal riffles over Nomad mat, and sloped at 1 ½ inches per foot. Approximately 24 cubic yards per hour were process using 450 igpm of water supplied by a 4 inch Monarch pump, and recycled with a 3 inch Honda pump.

Ground Description: Frozen black muck overburden was 16 to 20 feet deep on top of about four feet of gravel. Some slide bedrock was encountered within the frozen overburden. Gravel layers varied from 2 to 4 feet, and up to three feet of highly decomposed bedrock were also sluiced.

Mining Cuts: Approximately 1700 cubic yards per year were processed in 1993 and 1994 from one mining cut, which averaged 30 feet wide by 250 feet long.

Water Supply and Treatment: Early in the spring water was stored in three instream recycle/settling ponds, for reuse all season.

Gold: The gold was dull coloured, chunky, and angular, with fineness of 663.

Comments: Mammoth tusks and bones were found as well as oldtimers' shafts, drifts, and rooms.

BONANZA CREEK 116 Q/14
Bonanza Ventures 63°55'N 139°16'W
Water Licence: PM92-053 1993, 1994
Bonanza-Hunker Creek Map Site No. 18

Operation/Location: Partners John Alton, Marty Knutson, and Tom Mickey continued their five person operation on upper Bonanza Creek and O'Neil Gulch. Mining moved upstream on O'Neil Gulch at the rate of approximately 800 feet per year in 1993 and 1994. Mining also occurred in the Bonanza Creek valley, 1500 feet downstream from O'Neil Gulch.

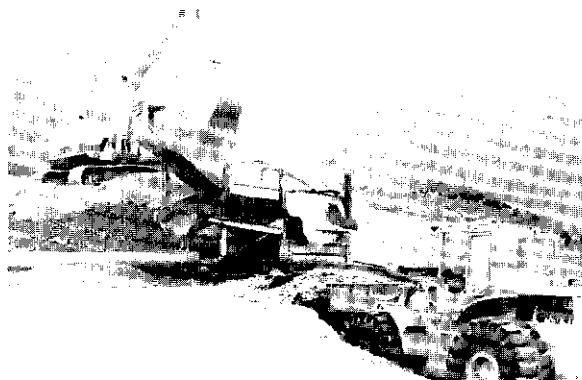
Equipment/Function: A Caterpillar D9G bulldozer with U-blade and ripper was used for stripping overburden and stockpiling pay gravel, and a Caterpillar 225 backhoe fed the wash plant. Two Caterpillar loaders, a 980B with a five yard bucket and a 966C with a four yard bucket, hauled pay to the wash plant and stacked tailings. An Insley H1000 backhoe was used to clean drains and a scraper was used to move tailings and build dykes.

Wash Plant: In 1993 the wash plant consisted of a 10 foot by 20 foot derocker with 1 ½ inch gaps between plates. This fed a single sluice run with angle iron riffles followed by two oscillating sluice runs with expanded metal riffles and Nomad mat. In 1994 an orbital screen deck with ¾ inch punch plate was added to the system. A 6 by 6 inch Gardner Denver pump provided the 1000 igpm used to process 70 to 80 cubic yards per hour.

Ground Description: O'Neil Gulch was steep and 50 to 80 feet wide at the bottom. There was 4 to 8 feet of black muck overburden with oldtimers' tailings on top and slide rock mixed in. Gravel seams varied from a few feet up to 8 or 10 feet deep. Bedrock was reddish brown schist with quartz stringers and was easily broken into slabs. The Bonanza Creek valley, 400 feet wide in this area, was dredged in the middle to a depth of 23 feet. The left limit of the valley had 19 feet of frozen overburden on top of six feet of gravel. Bedrock was blue grey schist.

Mining Cuts: In O'Neil Gulch, one cut approximately 70 feet wide by 800 feet long was mined each year. On the left limit of Bonanza

Creek one cut on the rim 50 feet wide by 200 feet long and one cut in dredged tailings 150 feet by 100 feet were mined. In 1994 a cut 400 feet long by 30 feet wide at the narrow end and 80 feet wide at the other end was also mined on the left limit.



Bonanza Ventures' sluice plant being fed by a backhoe, with tailings being removed by loader.

Water Supply and Treatment: One instream reservoir on Bonanza Creek, upstream of O'Neil Gulch, was used to supply water for sluicing and hydraulic monitoring. One large instream settling pond was constructed at the mouth of O'Neil Gulch and three large out-of-stream settling ponds were maintained in the Bonanza Creek valley. Water was also recycled from the Bonanza Creek settling ponds for sluicing.

Gold: The gold was coarse and angular, with fineness around 800.

BONANZA CREEK	115 O/14
6077 Yukon Ltd.	63°54'N 139°13'W
Water Licence: PM91-091	1993, 1994
Bonanza-Hunker Creek Map	Site No. 19

Operation/Location: Don Trainer ran a two person operation in Victoria Gulch, a left limit tributary of upper Bonanza Creek. The operation progressed upstream along the middle of the valley bottom as far as claim 10 in 1994. This was a continuation of the operation started by Vern Trainer near the mouth of Victoria Gulch.

Equipment/Function: One Caterpillar D8K bulldozer was used to strip and stockpile gravel. A

Caterpillar 980 loader was used to feed the wash plant and to remove and stack tailings.

Wash Plant: The wash plant consisted of a 10 foot by 15 foot derocker, with triple sluice runs stepped and sloped at different angles. About 100 cubic yards per hour were processed using approximately 2000 igpm of water supplied by an 8 inch by 10 inch Morris pump.

Ground Description: Victoria Gulch was previously mined and very little overburden remained in the valley bottom. The gravel was five feet deep near the middle and thinner on the sides. One foot of bedrock was sluiced along with all gravel.

Mining Cuts: One cut 200 feet long by 20 feet wide was mined each year.

Water Supply and Treatment: Water was recycled from a series of three instream settling ponds in Victoria Gulch.

Gold: The gold was coarse with fineness of 815.

BONANZA CREEK	115 O/14
Jerry Bryde	63°54'N 139°14'W
Water Licence: PM93-036	1993, 1994
Bonanza-Hunker Creek Map	Site No. 20

Operation/Location: Jerry Bryde ran a one person operation at the top end of 7 Pup, a left limit tributary of Victoria Gulch, which is a left limit tributary of upper Bonanza Creek.

Equipment/Function: One Caterpillar D7E dozer was used for stripping and stockpiling overburden. A Caterpillar 941B track loader fed the wash plant and removed tailings. An Insley dragline was used to clean out settling ponds.

Wash Plant: Twenty cubic yards per hour were processed through a Super Sluice 3 with vibrating screen deck, which classified to ¾ inch minus. This fed two sluice runs 24 inches wide by 9 feet long, with ¾ inch expanded metal riffles over Nomad matting. Approximately 600 igpm were delivered by a 4 inch Honda pump.

Ground Description: The site was located below and adjacent to the Lone Star (Cathay View, Boulder Lode) gold occurrence at the top end of 7 Pup. Gravels occurred directly below the moss to a depth of eight feet.

Mining Cuts: Approximately 2000 cubic yards per season were processed from cuts 100 feet by 100 feet by 5 feet deep.

Water Supply and Treatment: Water was recycled in two spring fed ponds with seepage discharge only.

Gold: The gold was crystalline with quartz attached. Other minerals associated included barite, goethite and magnetite. Fineness ranged from 790 to 840.

Comments: Mr. Bryde worked alone at this site with moral support from his friends. Many specimens of crystal gold and quartz with visible gold have been recovered.

BONANZA CREEK	115 0/14
Edward T. Paine	63°54'N 139°08'W
Water Licence: PM93-006	1993, 1994
Bonanza-Hunker Creek Map	Site No. 21

Operation/Location: Edward (Ted) Paine continued this one person operation on upper Bonanza Creek, just upstream from Carmacks Fork. The mining cut was located near the right limit of the valley bottom which was about 100 feet wide.

Equipment/Function: Stripping of overburden and removal of waste gravel was done with leased Caterpillar D8 and D9 bulldozers. A John Deere 350-B track loader with a ¾ yard bucket was used to dig pay gravel, feed the wash plant, and remove and stack tailings.

Wash Plant: A 4 foot by 8 foot dump box fed a 3 foot by 5 foot screen deck which classified down to minus 5/8 inch. The undersize passed over a single sluice run 21 inches wide by 12 feet long with expanded metal riffles on Astro turf matting, sloped at 2 ¼ inches per foot. Approximately 10 cubic yards per hour were processed using 60 igpm of water supplied by a 3 inch Gorman Rupp pump.

Ground Description: Two feet of black muck overburden covered seamed layers of frozen fine and coarse gravel to a depth of 15 feet near the middle of the valley bottom. No shafts or drifts were encountered. Bedrock was flat and decomposed. The bottom 1 to 2 feet of gravel plus up to two feet of bedrock were processed.

Mining Cuts: One cut 25 feet wide by 100 feet long produced about 850 cubic yards per season in 1993 and 1994.

Water Supply and Treatment: Water was recycled 100% in an out-of-stream settling pond 80 feet wide by 80 feet long. This pond was located 90 feet away from the creek channel with seepage discharge only.

Gold: The gold was flat and smooth, with 40% larger than 10 mesh. Fineness was 800.

BONANZA CREEK	115 0/14
Jim and Marcene Simpson	63°54'N 139°09'W
Water Licence: PM93-023	1993, 1994
Bonanza-Hunker Creek Map	Site No. 22

Operation/Location: This family operation was located in the middle of the valley bottom of upper Bonanza Creek, upstream from Carmack Fork, next door to Ted Paine. The Bonanza Creek valley is 100 to 150 feet wide in this area.

Equipment/Function: One Caterpillar D9 bulldozer was leased to strip overburden, stockpile gravel, and rip bedrock. A Case 450 track loader fed the wash plant and removed and stacked tailings.

Wash Plant: A Juniper double deck screen classified to minus ½ inch. It was followed by a single sluice run 30 inches wide by 35 feet long, with Hungarian riffles and expanded metal riffles. Twenty cubic yards per hour were processed using 1000 igpm of water supplied by a 4 inch Gorman Rupp pump.

Ground Description: On the right limit of the valley bottom about 12 feet of organic overburden was stripped from gravel layers which averaged 4 to 6 feet deep. All gravels plus 2 ½ feet of bedrock were sluiced.

Mining Cuts: One cut 135 feet wide by 420 feet long was prepared in 1993. Approximately 4000 cubic yards were processed in 1993 and about 800 cubic yards were processed in 1994.

Water Supply and Treatment: Make up water was gravity fed from Bonanza Creek to an out-of-stream recycle pond 100 feet long by 50 feet wide. Two shallow out-of-stream settling ponds were located immediately below the sluice box and were cleaned out at the end of each shift.

Gold: The gold was mostly fine with some small nuggets. Fineness was 810.

BONANZA CREEK	115 0/14
Jim and Marcene Simpson	63°54'N 139°09'W
Water Licence: PM93-023	1993, 1994
Bonanza-Hunker Creek Map	Site No. 22

Operation/Location: This family operation was located in the middle of the valley bottom of upper Bonanza Creek, upstream from Carmack Fork, next door to Ted Paine. The Bonanza Creek valley is 100 to 150 feet wide in this area.

Equipment/Function: One Caterpillar D9 bulldozer was leased to strip overburden, stockpile gravel, and rip bedrock. A Case 450 track loader fed the wash plant and removed and stacked tailings.

Wash Plant: A Juniper double deck screen classified to minus ½ inch. It was followed by a single sluice run 30 inches wide by 35 feet long, with Hungarian riffles and expanded metal riffles. Twenty cubic yards per hour were processed using 1000 igpm of water supplied by a 4 inch Gorman Rupp pump.

Ground Description: On the right limit of the valley bottom about 12 feet of organic overburden was stripped from gravel layers which averaged 4 to 6 feet deep. All gravels plus 2½ feet of bedrock were sluiced.

Mining Cuts: One cut 135 feet wide by 420 feet long was prepared in 1993. Approximately 4000 cubic yards were processed in 1993 and about 800 cubic yards were processed in 1994.

Water Supply and Treatment: Make up water was gravity fed from Bonanza Creek to an out-of-stream recycle pond 100 feet long by 50 feet wide. Two shallow out-of-stream settling ponds were located immediately below the sluice box and were cleaned out at the end of each shift.

Gold: The gold was mostly fine with some small nuggets. Fineness was 810.

BONANZA CREEK	115 0/14
6077 Yukon Ltd.	63°54'N 139°07'W
Water Licence: PM94-003	1993, 1994
Bonanza-Hunker Creek Map	Site No. 23

Operation/Location: Vern Trainer continued to run a three person operation on upper Bonanza Creek, in the valley bottom half way between Ready Bullion Gulch and Carmacks Fork. The mining operation at this location began in 1991 and has progressed steadily upstream each year.

Equipment/Function: Two Caterpillar D8H bulldozers were used for stripping overburden and digging gravel. A Caterpillar backhoe with a 1½ yard bucket fed pay gravel to the wash plant, a Caterpillar 980 loader removed and stacked tailings, and a JVC excavator cleaned and maintained settling ponds.



Vern Trainer's wash plant on upper Bonanza Creek being fed by an excavator.

Wash Plant: A derocker 10 feet by 15 feet fed a single sluice run, 4 feet wide by 30 feet long. The sluice was sloped at 2½ inches per foot. The first 15 feet of sluice was lined with ¾ inch punch plate over expanded metal riffles on plastic matting and the last 15 feet was lined with three inch angle iron riffles. About 2000 igpm of water, delivered by an 8 by 10 inch Morris pump powered by a Perkins diesel, was used to process up to 120 cubic yards per hour.

Ground Description: The organic overburden layer got progressively thinner as mining moved upstream. In 1993 and 1994, 15 feet of black muck was mechanically stripped from the valley bottom and stockpiled on the right limit valley

wall. Gravel layers up to six feet deep were sluiced without bedrock.

Mining Cuts: One cut was mined each year near the middle of the valley bottom. In 1993 it measured about 200 feet wide by 1000 feet long, and in 1994 about 150 feet wide by 800 feet long.

Water Supply and Treatment: Water was supplied from a small instream reservoir on Bonanza Creek, with partial recycle from two large out-of-stream settling ponds on the right limit of the valley bottom at the downstream end of the claims. A creek bypass channel was maintained along the left limit of the valley bottom.

Gold: Mostly fines were recovered with small, flattened flakes. Purity was 750 fine.

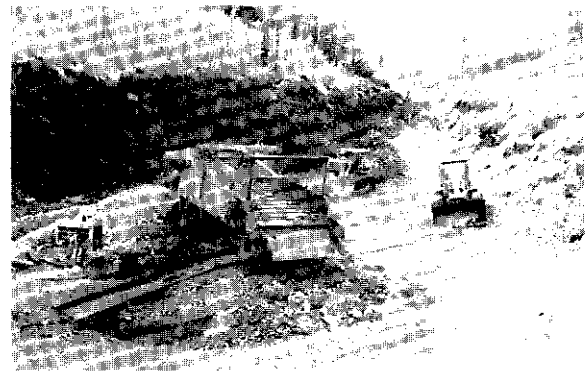
BONANZA CREEK	115 O/14
Oremax Metals	63°53'N 139°08'W
Water Licence: PM92-100	1993, 1994
Bonanza-Hunker Creek Map	Site No. 24

Operation/Location: Steve and Barbara Danielson took over this family operation from Don Coomes in 1993. Ready Bullion Gulch is a left limit tributary to upper Bonanza Creek. Mining progressed up the gulch for about six claims. The gulch is 90 to 110 feet wide in this area.

Equipment/Function: One Caterpillar D9G bulldozer with U-blade and ripper was used to stockpile pay gravel. An Hitachi UH7 backhoe was used to dig pay gravels. One Caterpillar 980B loader fed the wash plant, a 966B loader stacked tailings, and a dump truck hauled pay gravel to the wash plant.

Wash Plant: A derocker fed a single sluice run 4 feet wide by 12 feet long, with three inch angle iron riffles and 1 ½ inch angle iron riffles. From 70 to 90 cubic yards per hour were processed using 1600 igpm of water delivered by a 6 inch Duetz pump. The wash plant was mounted on skids and moved upstream 1100 feet in 1994.

Ground Description: In 1993 5 to 8 feet of overburden and oldtimer tailings were stripped from frozen gravels in the gulch bottom. Two feet of gravel and up to four feet of decomposed bedrock were sluiced. The pay was richest in the right bank.



Looking upstream on Ready Bullion Gulch at the derocker and sluice box of Steve Danielson.

Mining Cuts: One cut 80 feet wide by 200 feet long was mined in 1993. In 1994 a cut that varied from 30 feet wide to 120 feet wide by 500 feet long was mined.

Water Supply and Treatment: Water was recycled in three instream settling ponds on Ready Bullion Gulch, with make up water pumped from an instream reservoir on upper Bonanza Creek.

Gold: The gold was rough and angular with quartz attached. Fineness was 800.

Comments: Bison bones and oldtimer drifts were common.

FRENCH GULCH/ELDORADO CREEK	115 O/14
James Archibald	63°53'N 139°20'W
Water Licence: PM92-069	1993, 1994
Bonanza-Hunker Creek Map	Site No. 25

Operation/Location: James Archibald continued a one person operation on French Gulch, a left limit tributary of Eldorado Creek 1 ½ miles upstream from Grand Forks. A mining cut on French Gulch claim 3, stripped of overburden in 1991, was mined in 1993. A mining cut on claim 3A was prepared in the fall of 1993 and mined in 1994.

Equipment/Function: One Caterpillar D8K bulldozer was used for stripping overburden and digging pay gravels. One Caterpillar 980B loader fed the wash plant and removed tailings.

Wash Plant: In 1993 the wash plant was an eight foot dump box with a single sluice run 3 feet wide

by 32 feet long. The grade was 2 inches in 12 feet, and 2 ½ inch angle iron riffles were set at 17 degrees. Approximately 45 cubic yards per hour were processed using 2500 igpm of water supplied by a 10 by 12 inch Byron-Jackson pump, powered by a 671 Detroit Diesel.

Late in 1993 the wash plant was replaced by a 10 by 20 foot derocker screening plant. The single sluice run was decreased to 24 feet long with the same grade and riffles. The rate of water use decreased to 1500 igpm, while the processing rate increased to 55 cubic yards per hour. An 8 by 10 inch Fairbanks-Morris pump supplied the derocker.

Ground Description: Mining cuts were located in the centre of the narrow valley bottom of French Gulch. Black muck overburden was mechanically stripped and stockpiled in the fall of each season. Overburden contained sand and silt seams as well as prehistoric animal bones. Gravel layers varied from a few feet up to 10 or 12 feet deep. All gravels plus up to six feet of decomposed bedrock were sluiced.

Water Supply and Treatment: One instream reservoir on French Gulch stored enough water for three hours of sluicing per day. One large out-of-stream settling pond near the mouth of French Gulch was two acres in surface area. This pond was mechanically cleaned out at the end of each season using the front-end loader.



Looking upstream at French Gulch. A 980B Caterpillar loader is feeding the derocker and removing tailings. Note the creek bypass channel on the right side of the photo.

Gold: Fineness was 645 and 54% to 58% of the gold was larger than 12 mesh.

BONANZA CREEK	115 O/14
Van Resources	63°56'N 139°20'W
Water Licence: PM91-111	1993, 1994
Bonanza-Hunker Creek Map	Site No. 26

Operation/Location: Sarah and Dave Laurenson ran a two person operation in the valley bottom of Bonanza Creek, just upstream from Adams Gulch. They mined the left limit in 1993 and the right limit in 1994.

Equipment/Function: One Caterpillar D8 bulldozer was used to strip overburden, dig pay gravel, rip bedrock, and stack tailings. A Terex 72/51 loader fed pay gravel to the wash plant. In 1994 a water monitor was used to wash overburden and gravel through the sluice box.

Wash Plant: A grizzly and hopper fed gravel to a conveyor belt which led to a shuffle plate feeder for the screen deck. The screen deck was 4 feet by 14 feet and was followed by three sluice runs 30 inches wide by 20 feet long, with angle iron riffles and expanded metal. About 100 cubic yards per hour were sluiced using 500 igpm of water supplied by a 4 inch by 5 inch pump.

Ground Description: Five feet of previously stripped gravel plus two feet of decomposed bedrock were excavated from the left limit of the valley bottom in 1993. In 1994 a cut was opened on the right limit of the valley bottom which had 50 to 60 feet of black muck overburden mixed with slide bedrock and gravel, on top of solid bedrock. Many old shafts and frozen rooms were encountered.

Mining Cuts: The cut on the left limit produced 4000 cubic yards of gravel. The cut of the right limit was 100 feet wide by 300 feet long by up to 60 feet deep.

Water Supply and Treatment: Water was pumped from an instream reservoir on Bonanza Creek and was settled in three out-of-stream settling ponds, 100 feet wide by a total of 1000 feet long. Discharge was by seepage only.

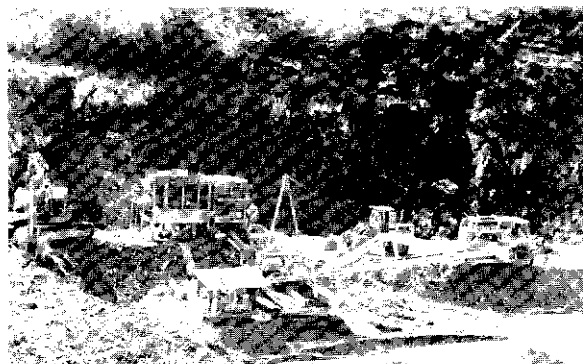
Gold: Gold recovered from the left limit was very fine with a few small nuggets and fineness of

770. Gold recovery from the right limit cut was very poor.

ORO GRANDE GULCH/ELDORADO CK 115 O/14
Beron Placers Co. Ltd. 63°52'N 139°18'W
Water Licence: PM91-075 1993, 1994
Bonanza-Hunker Creek Map Site No. 27

Operation/Location: In 1993 Ron and Bern Johnson continued their family operation in Oro Grande Gulch, a right limit tributary of Eldorado Creek. In 1994 they moved the operation to the right limit of the Eldorado Creek valley, above and below Oro Grande Gulch.

Equipment/Function: One Caterpillar D6 bulldozer was used for yard work, setting up the wash plant, and drilling. A D8K bulldozer was used for stripping overburden and digging pay gravel. A Caterpillar 950 loader removed coarse tailings from the wash plant, and a Caterpillar 245 excavator was used to dig pay gravel and bedrock, and to feed the wash plant.



Beron Placers' wash plant set-up in the Eldorado Creek valley near Oro Grande Gulch.

Wash Plant: A vibrating feeder grizzly screening material down to 3 inches by 1 ½ inches was followed by an Allis Chalmers horizontal screen deck classifying to ¾ inches. A pulsating sluice box 4 feet wide by 9 feet long was combined with expanded metal sluice runs 8 feet wide by 10 feet long. Oversize material was stacked by a 50 foot conveyor belt. Pay gravels were processed at a rate of 140 to 175 cubic yards per hour using 1000 igpm of water supplied by a 6 by 8 inch Monarch pump.

Ground Description: Oro Grande Gulch was narrow and deep with an average 30 feet of overburden composed of mixed black muck and slide rock. Pay gravels were about three feet deep and bedrock was steeply sloped. Old shafts were encountered at regular intervals up the valley. The right limit of Eldorado Creek near Oro Grande Gulch consisted of recent stream deposits mixed with oldtimers' tailings and some untouched side pay averaging four feet deep with bedrock as deep as 16 feet in places.

Mining Cuts: The cut from Oro Grand Gulch totalled 900 feet long by 90 feet wide. One cut in Eldorado Creek, below Oro Grande Gulch, was 250 feet wide by 700 feet long, and the cut in Eldorado Creek above Oro Grande Gulch was 150 feet wide by 400 feet long.

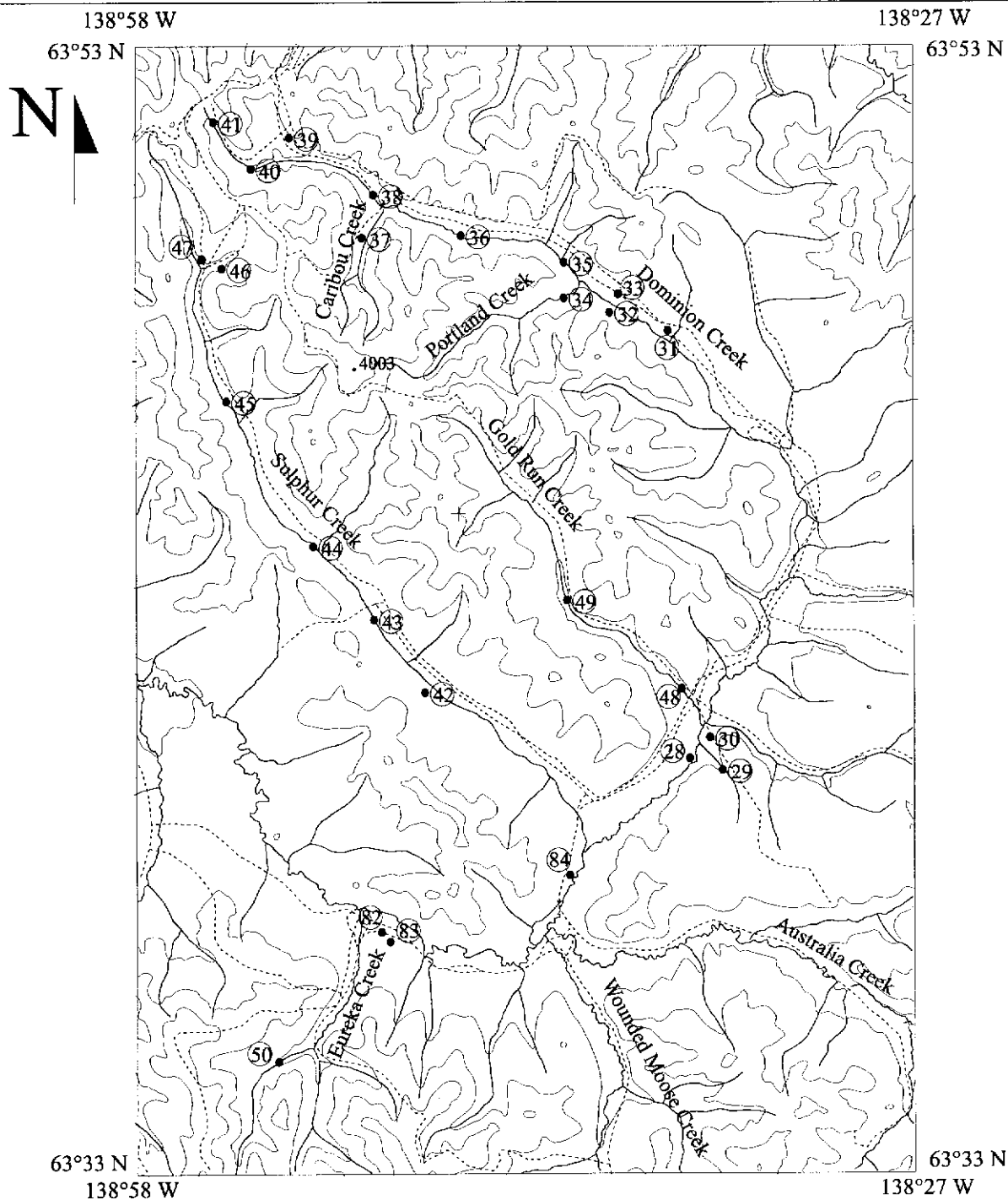
Water Supply and Treatment: Water was stored in a large out-of-stream reservoir in the Eldorado Creek valley, upstream from Oro Grande Gulch. Water was pumped up the gulch using an 8 inch by 10 inch Paco pump powered by a GM 8V71 diesel. Waste water was treated in a large out-of-stream settling pond in the Eldorado Creek valley, downstream from Oro Grande Gulch.

Gold: Gold from Oro Grande Gulch was rough and angular with lots of quartz attached. Gold from Eldorado Creek was well rounded, smoother, and contained some mercury contamination. Fineness was around 740.

DOMINION CREEK 115 O/10
Gimlex Enterprises Ltd. 63°40'N 138°37'W
Water Licence: PM93-065 1994
Dominion Creek Map Site No. 28

Operation/Location: This operation was located on the right limit of Dominion Creek approximately one kilometre downstream from Gold Run Creek, on the flat valley floor in the area of the historic ditch. From two to four miners worked 12 hours per day at this operation.

Equipment/Function: Two Komatsu D355 bulldozers and one Komatsu D155 bulldozer, all equipped with U-blades and rippers, were used to strip and mine. A Caterpillar 235 excavator was used to strip, dig drains, and mine. Two Komatsu WA600 loaders were used to strip and sluice.



Dominion Creek Placer Area

Yukon Territory



Secondary roads



Major roads



Rivers



0

km

10



Contours



Placer Operations

Wash Plant: A Pearson triple run sluice box with adjustable side runs processed from 70 to 100 loose yards per hour. Water was pumped using a 10 by 12 inch Caterpillar pump at a rate of 3000 to 5000 igpm.

Ground Description: The average total depth to bedrock was 42 feet. The top 15 feet consisted of frozen organic material and mud. Under this were seven feet of washed brown gravel and sand, then 20 feet of white channel gravel. Bedrock was a green chlorite schist. A total of eight feet of lower gravel and upper bedrock were sluiced.

Mining Cuts: Two cuts were completed and another begun in 1994. A total of approximately 50,000 cubic yards were sluiced. The cuts were approximately 300 feet by 300 feet in surface area.

Water Supply and Treatment: The water supply was discharge and excess water from the upstream operator, Ross Mining Ltd. It was conveyed by an existing aqueduct (put in place by Consolidated Mines Yukon when it was operating in this area) and the historic Dominion Creek ditch. Effluent was settled in mined-out cuts beside the ditch. The final discharge to the creek was located approximately four kilometres downstream at the end of the ditch.

Gold: The gold was predominantly fine, with 90% less than 12 mesh. Larger gold was mostly rough, crystalline, or wire, with some smooth and flattened pieces. Fineness was 860.

Comments: Waste and tailings from the third cut were used to begin restoration of the previous cuts.

UNNAMED TRIB. OF DOMINION CK. 115 0/10
 Gyppo Mining Ltd. 63°41'N 138°35'W
 Water Licence: PM93-102 1993, 1994
 Dominion Creek Map Site No. 29

Operation/Location: Six miners worked 11 ½ hours per day at this operation. The unnamed left limit tributary of Dominion Creek downstream from Rob Roy Creek is also referred to as Lee Pup or Gyppo Creek.

Equipment/Function: A D9 Caterpillar bulldozer was used to strip, and a D8 bulldozer pushed pay to the plant. A Hein Werner excavator fed the

hopper, and a 966C Caterpillar loader stacked tailings.

Wash Plant: The processing plant consisted of a Tyroc double deck vibratory three inch plus top screen and a one inch minus lower screen. The sluice runs utilized riffles or expanded metal over Nomad matting for recovery. Process water was pumped using a 12 by 14 inch GM which provided 1500 igpm to process 80 loose yards per hour.

Ground Description: The stratigraphic section of this property was 15 to 20 feet of black muck over 2 to 3 feet of gravel on decomposed schist bedrock. The sluice section was the gravel and two feet of bedrock.

Mining Cuts: In 1993 the operator reported 2048 cubic yards sluiced by August. In 1994 50,000 cubic yards were sluiced.

Water Supply and Treatment: Process water was pumped approximately 2800 feet from Dominion Creek. Settling occurred in a series of settling ponds that included cuts from previous years.

Gold: The gold contained very few nuggets, but there was some chunky material. Fineness was 800.

DOMINION CREEK 115 0/10
 Ross Mining Ltd. 63°41'N 138°35'W
 Water Licence: 90-068, 93-064 1993, 1994
 Dominion Creek Map Site No. 30

Operation/Location: Ross Mining Ltd. operated at the confluence of Dominion and Gold Run Creeks. This operation employed 12 miners and three camp personnel.

Equipment/Function: One D10 and two D8L Caterpillar bulldozers, three 769B Caterpillar rock trucks, one 245 Caterpillar excavator, one PC400 Komatsu excavator, and one 988 Caterpillar loader were used to mine the site in 1993. A 992 Caterpillar loader and a D9L Caterpillar bulldozer were added in 1994. Three Terex 60 ton trucks replaced the Caterpillar rock trucks in 1994.

Wash Plant: The wash plant consisted of a screen plant which fed oscillating sluice runs. A belt feeder/conveyor was added for the 1994 mining season. A 12 inch by 14 inch pump provided

3500 igpm to process 200 loose yards of pay per hour.

Ground Description: Overburden varied in depth from 18 to 75 feet, all of which was in permafrost. The average depth of mined areas was 58 feet. From 10 to 25 feet was muck, 10 to 65 feet was gravel, and 5 to 15 feet contained considerable old works. The sluice section consisted of 5 to 15 feet of gravel and 2 to 5 feet of bedrock.

Mining Cuts: In 1993 three cuts were mined with a total surface area of 550,000 square feet. In 1994 one large "L" shaped cut was mined. This cut has a surface area of 600,000 feet square.

Water Supply and Treatment: Process water was supplied from Dominion Creek by a large recirculation/settling pond system. Approximately 400 igpm of make up water were added to the system from Dominion Creek.

Gold: The gold was very fine, although some spongy nuggets were recovered. Fineness was 850 to 855.

Comments: The Dominion Creek valley in this area is wide and flat. Reclamation has been addressed on an ongoing basis, with tailings being contoured and covered with top soil.



Ross Mining Ltd.'s wash plant on Dominion Creek in 1994.

DOMINION CREEK 115 0/15
Arthur Sailer 63°48'N 138°37'W
Licence: 90-063, 93-061, 93-062 1993, 1994
Dominion Creek Map Site No. 31, 35

Operation/Location: Ace Placer Mines employed six miners and two camp personnel who worked 10 hours per day. Mine cuts processed were located on the left limit of Dominion Creek approximately 15 miles upstream from its confluence with Sulphur Creek.

Equipment/Function: In 1993 two Caterpillar bulldozers (models D9G and D8-14A with U-blades and rippers), one D8-14A with an S-blade and winch, two 980B Caterpillar loaders, and two Caterpillar excavators (models 225 and EL300) were used to mine the site. In 1994 a D9H bulldozer with a U-blade and ripper was added, and a third 980B loader was put into use.

Wash Plant: The wash plant consisted of a 10 foot by 20 foot derocker, a 5 foot by 14 foot screen plant, a 10 foot by 10 foot sluice run with expanded metal and Nomad matting, and a 12 foot by 4 foot sluice run with 1 1/4 inch angle iron riffles. Approximately 3000 igpm of process water were provided by a Byron Jackson 12 by 14 inch pump or a Dayton Dowd 10 by 12 inch pump, each powered by a D13000 Caterpillar engine. The wash plant processed 100 loose yards of pay per hour.

Ground Description: The total depth of the bench and creek deposits mined was from 30 to 50 feet. This was comprised of 10 to 40 feet of muck over 10 to 15 feet of gravel. The sluice section consisted of 6 to 12 feet of gravel and up to five feet of bedrock. All sizes of gravel and many types of bedrock were encountered. Overburden was mechanically stripped into mined-out areas.

Mining Cuts: Three cuts were sluiced in 1993, and four cuts were sluiced in 1994. Each year the combined area was approximately 27,000 square yards, and the approximate volume of material sluiced was 85,000 cubic yards.

Water Supply and Treatment: Process water was obtained from Dominion Creek, Nevada Creek, and Champion Pup using out-of-stream reservoirs. All settling was out-of-stream.

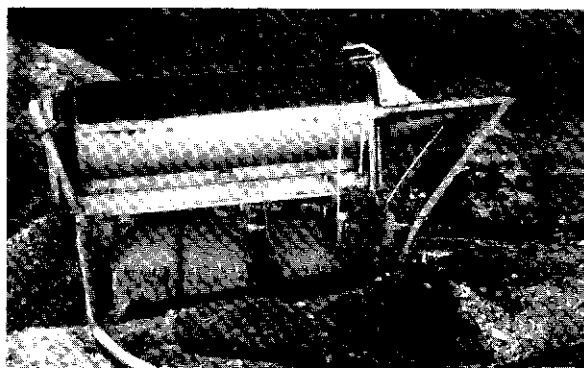
Gold: The gold was fine, flat, and flaky, with some spongy and quartz nuggets. The mesh sizes were 1% +10, 50% -10 to +60, and 49% -60. The purity was 810 to 820 fine.

DOMINION CREEK	115 0/15
J. P. Taylor	63°49'N 138°39'W
Water Licence: PM93-005	1993, 1994
Dominion Creek Map	Site No. 32

Operation/Location: Kevin and Linda McClintock and family mined at the confluence of Dominion and Portland Creeks. Mr. Taylor also had a small cut on the left limit (see separate report). In 1993, three miners and one person in camp worked two 10 hour shifts. In 1994, two miners and one person in camp worked one 10 hour shift.

Equipment/Function: In 1993 a D7E Caterpillar bulldozer was used to strip, push up pay gravels, and remove tailings. A John Deere 7900D excavator fed the wash plant, worked on drains, and stripped. A 155 Komatsu bulldozer was also used for stripping. In 1994 the Komatsu bulldozer was replaced with a D9G Caterpillar bulldozer.

Wash Plant: The wash plant consisted of a 20 foot long by 6 foot diameter trommel screening to ¾ inch. Screened material went into a boil box and then across the 3 foot wide by 6 foot long sluice runs on each side of the trommel. The runs were equipped with bar riffles. Water was supplied by a 6 by 6 inch Gorman Rupp pump powered by a 110 horsepower Hercules engine at a rate of 1200 igpm. From 80 to 100 loose yards per hour of pay were processed through the plant.



Kevin McClintock stands beside his trommel wash plant on Dominion Creek.

Ground Description: Fifteen to 20 feet of tailings were mined in 1993. In 1994 a cut on the right limit of Dominion Creek was mined. From 24 to 26 feet of black muck covered 8 to 10 feet of mixed gravel on bedrock. In 1993 the entire section was sluiced with 1 to 2 feet of fractured bedrock. In 1994, four feet of gravel and 1 to 2 feet of fractured, decomposed bedrock were sluiced.

Mining Cuts: In 1993 one cut 250 feet by 150 feet was mined on Dominion Creek. In 1994 a cut 300 feet by 170 feet was mined.

Water Supply and Treatment: Water was pumped from a small instream pond in 1993. In 1994 process water was pumped from the Portland Creek ponds. Effluent from Dominion Creek operations was settled in one to three out-of-stream settling ponds.

Gold: The gold was flat and "pounded", and it appeared to be more travelled than the Portland Creek gold. Fineness was 820 to 830.

Comments: Tusks, teeth, and bones were recovered from the site.

DOMINION CREEK	115 0/15
J. P. Taylor	63°49'N 138°39'W
Water Licence: PM93-005	1993, 1994
Dominion Creek Map	Site No. 33

Operation/Location: Mr. Taylor operated on the left limit of the Dominion Creek valley, as he had in past years. He worked completely out-of-stream, with no discharge of effluent back to Dominion Creek. Two miners worked 10 hours per day at the site.

Equipment/Function: An eight ton Komatsu excavator was used to strip and to fill the dump truck. An eight ton International dump truck was used to stockpile pay. A D8-14A Caterpillar bulldozer with a straight blade was used to strip, push up pay, and remove tailings. A 450 John Deere loader with back hoe fed the wash plant, and a 720 Bobcat loader cleared tailings.

Wash Plant: The wash plant was a 4 foot by 14 foot derocker which fed a sluice 2 feet wide by 24 feet long. The sluice was sloped at 1 ¾ inches per foot and was lined with expanded metal over Nomad matting. Process water was provided by a

3 inch Honda pump at a rate of 500 igpm, allowing a process rate of 30 to 40 loose yards per hour.

Ground Description: In 1993, 12 feet of black muck with a clay seam and 6 to 8 feet of gravel mixed with fine, sandy material were encountered. The sluice section was five feet of gravel and one foot of bedrock. In 1994, 12 feet of muck were removed from 10 feet of gravelly clay which covered six feet of gravel. The sluice section consisted of four feet of gravel and two feet of bedrock.

Mining Cuts: In each year a cut of approximately 1000 square feet was mined. About 5000 cubic yards of material were processed by Mr. Taylor each year.

Water Supply and Treatment: Seepage water from the left limit of the valley was used in a 100% recirculation/settling system, consisting of three 100 foot by 100 foot ponds. Three inch Honda pumps were used to return water to the pump pond. There was no visible return of effluent to the creek channel.

Gold: The gold was mostly flat, flaky, and minus 12 mesh. One nugget recovered from the site was said to resemble the Titanic on its side. Fineness was 820 to 830.

PORTLAND CREEK	115 0/15
J. P. Taylor	63°49'N 138°39'W
Water Licence: PM93-003	1993, 1994
Dominion Creek Map	Site No. 34

Operation/Location: Kevin and Linda McClintock and family mined this property at the confluence of Dominion and Portland Creeks. In 1993 the operation required three miners and one person in camp to work two 10 hour shifts per day. In 1994, two miners and one person in camp worked one 10 hour shift each day.

Equipment/Function: In 1993 a D7E Caterpillar bulldozer was used to strip, push up pay gravels, and pull tailings. A John Deere 7900D excavator was used to feed the wash plant, work on drains, and strip, and a 155 Komatsu bulldozer was used to strip. In 1994 the Komatsu bulldozer was replaced with a D9G Caterpillar bulldozer.

Wash Plant: The wash plant consisted of a 20 foot long by 6 foot diameter trommel screening to ¾ inch. Screened material went into a boil box and then across the 3 foot wide by 6 foot long sluice runs on each side of the trommel. The sluice runs were equipped with bar riffles. Water was supplied by a 6 by 6 inch Gorman Rupp pump powered by a 110 horsepower Hercules engine at a rate of 1200 igpm. From 80 to 100 loose yards per hour of pay were processed through the plant.

Ground Description: In 1993, 12 feet of black muck and eight feet of gravels, which were mixed with quartz near the mouth of the valley, were found on decomposed bedrock. From 3 to 4 feet of the gravels and 1 to 2 feet of the bedrock were sluiced. In 1994 only three feet of mixed gravels were under the 12 feet of black muck. The gravels and one foot of bedrock were sluiced.

Mining Cuts: The surface dimensions of the three cuts mined in 1993 were 150 by 130 feet, 150 by 100 feet, and 150 by 100 feet. In 1994 a cut 170 feet wide by 200 feet long was mined.

Water Supply and Treatment: Process water was acquired from out-of-stream recirculation/settling ponds in the Portland Creek valley.

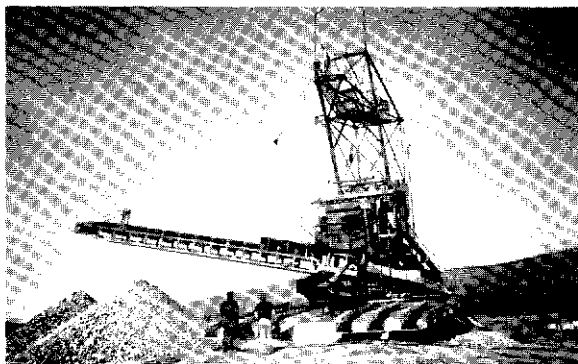
Gold: Some small nuggets were found but the gold was mostly fine, flat, and rounded. Fineness was 820 to 830.

Comments: Tusks, teeth, and bones were recovered from the site.

DOMINION CREEK	115 0/15
Favron Enterprises Ltd.	63°50'N 138°45'W
Water Licence: PM91-069	1993, 1994
Dominion Creek Map	Site No. 36

Operation/Location: Six miners and two camp workers were kept busy 12 hours per day in 1993 and 1994. Mining cuts were located at a number of different locations on the property each year.

Equipment/Function: Two 82-50 and two 82-30B Terex bulldozers were used to strip and sluice. Two 350H Bucyrus Erie 2½ yard excavators were used to dig drains and strip at the sides of cuts. A TS24B scraper stripped and hauled pay to the wash plant. A 10 by 12 inch Bingham pump powered by a 671 GM engine provided 2000 igpm of water for hydraulic stripping.



Favron Enterprises Ltd.'s wash plant on Dominion Creek. The photo was taken in the fall of 1993.

Wash Plant: From 100 to 220 cubic yards per hour were deposited into a hopper which in turn deposited on to a feeder conveyor. The pay was thus carried to a 5 foot by 10 foot shaker/screen deck which washed and classified the material. Minus $\frac{3}{4}$ inch material was distributed to six sluice runs equipped with expanded metal over Nomad matting on the upper halves, and 1 inch by 1 inch riffles over Nomad matting on the lower halves. Material over $\frac{3}{4}$ inch was fed onto a 35 foot radial stacker conveyor, which moved through a 180° horizontal range. The 2000 igpm of process water required were provided by a 10 by 12 inch Peerless pump powered by a 471 GM engine.

Ground Description: From 20 to 30 feet of frozen muck and silt must be stripped from this property. The muck layer started approximately 10 feet above water level. The mainly decomposed bedrock sloped toward the right limit. The sluice section consisted of 3 to 4 feet of gravel and one foot of bedrock.

Mining Cuts: In 1993, 436,025 cubic yards were stripped and 65,726 cubic yards were sluiced. Some of the area stripped in 1993 was not sluiced until 1994. In 1994, 221,772 cubic yards were stripped and 83,990 cubic yards were sluiced.

Water Supply and Treatment: Process water was pumped from Dominion Creek to the wash plant. Effluent from sluicing was settled in a preliminary pond near the wash plant, then went into a large instream settling pond with discharge at its upstream end. A 10 by 12 inch Worthington mud pump powered by a 671 GM engine moved

effluent to the settling pond. At the end of each season Dominion Creek flow was diverted out of the settling pond.

Gold: Some rough pieces with quartz were recovered with some smooth pieces. Most was fine and flat (-10 mesh), and fineness was 820.

Comments: Old shafts were present in all cuts. Some bones and ivory were found.

CARIBOU AND LION CREEKS	115 0/15
Jim Stuart	63°49'N 138°49'W
Water Licence: PM93-114	1994
Dominion Creek Map	Site No. 37

Operation/Location: Mr. Stuart returned to Caribou Creek in 1994 after mining other properties on Hunker and Bonanza Creeks from mid-1990 through 1993. Two miners and one camp worker put in eight hours per day.

Equipment/Function: Caterpillar bulldozers (models D9G and D8H) were used for stripping and pushing up pay gravel. A C14A Hein Werner excavator fed the wash plant, and a 1641 Volvo loader hauled tailings.

Wash Plant: A trommel 4½ feet in diameter by 30 feet long trommel classified the pay to $\frac{3}{4}$ inch minus. The pay was then washed through two sluice runs 5 feet wide by 8 feet long. The first two feet of the runs used hydraulic riffles, and the remaining six feet were lined with Nomad matting and expanded metal. An 8 by 10 inch Canada pump powered by a 150 horsepower Volvo engine delivered the 1500 igpm needed to sluice 75 to 100 cubic yards per hour.

Ground Description: The stratigraphic section consisted of 20 feet of black muck over six feet of gravel. The material had a rusty stain and would oxidize after a few days. The sluice section was six feet of gravel and one foot of bedrock.

Mining Cuts: Two cuts were mined in 1994. One measured 400 feet by 120 feet and the other was 75 feet by 200 feet. Hydraulic stripping with settling was used to remove some of the overburden.

Water Supply and Treatment: Process water was obtained from Caribou Creek. Settling occurred in existing instream ponds on Caribou Creek, with a final settling pond on the right limit of the

Dominion Creek valley. This pond was constructed under a previous licence and was 700 feet long by 300 feet wide.

Gold: Fineness varied from 820 to 850, decreasing from downstream to upstream.

DOMINION CREEK	115 0/15
J.E. Yanisiw	63°51'N 138°49'W
Water Licence: PM92-031	1993, 1994
Dominion Creek Map	Site No. 38

Operation/Location: Mr. Yanisiw worked on Dominion Creek upstream from its confluence with Caribou Pup.

Equipment/Function: A D9 Caterpillar bulldozer, a 225 Caterpillar hydraulic excavator, and a 980 Caterpillar loader were used to mine this site.

Wash Plant: As in previous years the wash plant was a Super Sluice 6. Water was provided by an 8 by 6 inch Allis Chalmers pump powered by a GM engine. The plant processed 150 loose yards per hour using 1500 igpm of water.

Ground Description: The area mined had a total depth of 25 feet. Twenty feet of solid schist bedrock overlay five feet of rusty cobbled gravel with no fibre, wood, or bones present.

Mining Cuts: Very little mining took place during the 1993 season. One cut 200 feet by 50 feet was mined in 1994. Stripping was carried out to prepare more ground for future mining.



J.E. Yanisiw's sluice set-up on Dominion Creek in July 1994.

Water Supply and Treatment: Water was pumped from Dominion Creek. A pre-settling pond was located near the wash plant. Discharge from the pre-settling pond travelled downstream to two large instream ponds at the downstream end of the property.

Gold: The gold was minus 30 mesh with a purity of 850 fine.

Comments: Large quantities of magnetite were found.

LOMBARD PUP	115 0/15
Northway Mining Inc.	63°51'N 138°52'W
Water Licence: PM92-085	1993, 1994
Dominion Creek Map	Site No. 39

Operation/Location: This operation was located on Lombard Pup, a tributary of Dominion Creek near its headwaters. The valley is narrow and has steep walls. Four miners worked 12 hours per day while stripping and 24 hours per day while sluicing.

Equipment/Function: One D9L Caterpillar bulldozer, one D8K Caterpillar bulldozer, a D7F bulldozer, a 225 Caterpillar excavator, and a 245 excavator were used at different times to mine the site.

Wash Plant: The wash plant consisted of an oscillating deck with ¾ inch punch plate and recovery by pulsating riffles. A variety of pumps provided water to process 80 loose yards of pay material per hour.

Ground Description: To mine this site 20 to 30 feet of waste material consisting of eight feet of muck at the top and a mixture of muck and shale for the balance had to be removed. The sluice section consisted of 4 to 6 feet of gravel and two feet of bedrock.

Mining Cuts: One cut was processed at this site. The surface dimensions were 40 feet wide by 1200 feet long.

Water Supply and Treatment: Water for this operation was obtained from Lombard Pup, Dominion Creek, and Discovery Pup. When sluicing the water was pumped approximately 1000 feet upstream to the plant from a small recirculation pond.

Gold: The gold varied in size from 60 mesh up to 1/2 ounce nuggets. Fineness was about 800.

DOMINION CREEK	115 O/16
Discovery Mines	63°52'N 138°52'W
Water Licence: PM92-064	1993, 1994
Dominion Creek Map	Site No. 40

Operation/Location: Ian, Edna, and Sean Hamilton put in 10 to 12 hour days at this site on Upper Dominion Creek. Mining took place in the reach just upstream from the confluence with Little Dominion Creek.

Equipment/Function: Two D8H Caterpillar bulldozers with U-blades and rippers were used for stripping, and a Koehring 466 excavator was used to load the trommel. Some hydraulic stripping with settling was utilized at this site.

Wash Plant: A trommel four feet in diameter by 16 feet long fed by an 8 foot by 8 foot hopper processed 60 yards of pay gravel per hour.

Ground Description: The 1994 cut was located at the mouth of Little Dominion Creek. The depth to bedrock varied from 30 to 40 feet. The entire section was frozen muck except the last 2 to 3 feet, which were gravel. The bottom of the cut was approximately five feet above Dominion Creek. Bedrock was flat. Two to three feet of gravel was sluiced with one foot of bedrock.

Mining Cuts: In 1993 a cut 500 feet long by 80 feet wide with a total volume of 44,400 cubic yards was mined. In 1994 a 100 foot by 100 foot exploratory cut was put in at the mouth of Little Dominion Creek. The total volume of this cut was 11,100 cubic yards. In addition, ground upstream on Upper Dominion Creek and some old tailings were processed for a total of 5000 yards sluiced.

Water Supply and Treatment: Water was obtained from an instream reservoir. The effluent was settled in a series of three instream ponds below the mining area. The final settling pond was located upstream of the confluence with Lombard Pup.

Gold: The gold was mostly rough with the odd spongy piece. The mesh sizes were 10% +8, 20% -8 to +16, 20% -16 to +20, and 10% -20 to +50. The remaining 40% was not screened but was melted. Fineness was 795.

Comments: Old shafts and some old bones have been found at the site.

DOMINION CREEK	115 O/16
John Adam	63°52'N 138°55'W
Water Licence: PM93-063	1994
Dominion Creek Map	Site No. 41

Operation/Location: J & R Placers began operations on previously mined ground at the headwaters of Dominion Creek. Two miners worked eight hour days testing this ground.

Equipment/Function: A D6 Caterpillar bulldozer and a 977 Caterpillar track loader were used to mine and to maintain the site.

Wash Plant: A small single run sluice box processed five loose yards of material every hour. A 2 inch Briggs and Stratton pump supplied the 100 igpm of water required for testing.

Ground Description: The operators sluiced tailings left by the previous miner, and cleaned the bedrock. No additional cuts were mined.

Mining Cuts: The material was from an existing excavation.

Water Supply and Treatment: Process water was pumped from Dominion Creek. Effluent was treated in existing instream ponds.

Gold: The gold ranged in size from fine to coarse. Both spongy and crystalline forms were found. The purity was 800 fine.

Comments: The operators are endeavouring to stabilize and reclaim the site as mining proceeds.

SULPHUR CREEK	115 O/10
Henry O. Kruger	63°41'N 138°45'W
Water Licence: PM93-088	1993, 1994
Dominion Creek Map	Site No. 42

Operation/Location: Mr. Kruger has been mining this site on the right limit of the Sulphur Creek valley for over 18 years. In 1993 and 1994 this was a one person operation.

Equipment/Function: A D9G Caterpillar bulldozer was used to strip and move tailings. A D7E bulldozer was used to strip thawed ground and to loosen gravel for a 120C Hough loader, which

hauled pay to the wash plant and removed tailings. A 955 Caterpillar loader was used for lifting and miscellaneous jobs. A Koehring 605 dragline maintained the drainage ditch.

Wash Plant: The wash plant was a triple run sluice with a 13 foot by 8 foot dump box tapered down to the neck in the last 3 to 4 feet. The centre run was 2½ feet wide by 24 feet long with ½ inch punch plate, 1½ inch expanded metal, and cocoa matting. The side runs were three feet in width for the first five feet, and widened to four feet for the last 19 feet. The side runs were also lined with expanded metal and cocoa matting. An 8 by 10 inch pump powered by a 671 GM engine provided 2500 igpm to the plant to process 50 loose yards per hour.

Ground Description: From 15 to 20 feet of black muck covered a gravel layer approximately 15 feet deep. The gravel and approximately one foot of bedrock were sluiced.

Mining Cuts: In each of 1993 and 1994 one cut 150 feet wide by 150 feet long by 30 feet deep was mined.

Water Supply and Treatment: Mr. Kruger sluiced for 3 to 4 hours each day using partially recycled water. Settling of effluent was accomplished using a 200 foot by 100 foot pre-settling pond which discharged to a ditch that carried the effluent across Sulphur Creek in an overhead pipeline to a final out-of-stream settling area in old dredge tailings.

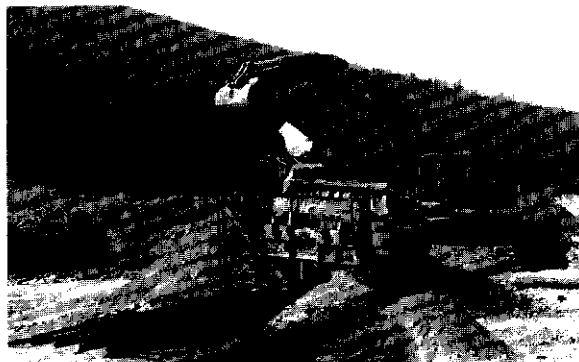
Gold: The gold was fine and flaky with a purity of 800 fine.

SULPHUR CREEK	115 O/10
Balner Enterprises Limited	63°43'N 138°49'W
Water Licence: PM92-086	1993, 1994
Dominion Creek Map	Site No. 43

Operation/Location: This operation is located on the right limit of the Sulphur Creek valley near the old dredge number 8. Gatenby Mining had a three person crew working 12 hours per day.

Equipment/Function: A D8H Caterpillar bulldozer with U-blade and ripper was used for stripping and mining. A John Deere 844 loader with a 5½ cubic yard bucket was used for mining and hauling pay gravel to the plant. An Hitachi EX200 excavator

with a 1½ yard bucket was used for stripping, ditching, mining, and feeding the plant.



Gatenby Mining's double deck screen deck on Sulphur Creek, working under Balner Enterprises Ltd.'s water use licence.

Wash Plant: An 8 by 10 inch Berkeley pump powered by a 220 Cummins engine provided 2000 igpm of water to the wash plant to process 90 loose yards per hour. A double deck screen deck classified pay gravels to one inch at the first deck and ¾ inch at the second deck. From the screen deck material went to three sluice runs 3 feet by 22 feet from a six foot long distribution section.

Ground Description: Twelve to 15 feet of sediment from an abandoned settling pond was removed. The material beneath the settling pond consisted of 5 to 8 feet of black silt containing an abundance of wood, and 4 to 6 feet of gravel. The gravel and three feet of bedrock were sluiced.

Mining Cuts: In 1993 one cut 250 feet by 270 feet was processed with 15,640 cubic yards sluiced. In 1994 the cut was 300 feet by 300 feet, with 21,000 yards sluiced.

Water Supply and Treatment: Water was obtained from a small instream reservoir in Sulphur Creek. Waste water was treated in a settling pond before flowing through a ditch and a series of beaver ponds prior to re-entering Sulphur Creek.

Gold: The gold was flat and flaky, with very few small nuggets. Less than 1% of the gold was over 10 mesh in size. Fineness was 810 to 830.

SULPHUR CREEK 115 0/10
Lance Gibson and Kris Kana 63°44'N 138°51'W
Water Licence: PM92-084 1993, 1994
Dominion Creek Map Site No. 44

Operation/Location: All mining was done on Sulphur Creek just upstream from the confluence with Brimstone Gulch. A crew of four ran the operation in 1993 and 1994.

Equipment/Function: Two D9 Caterpillar bulldozers, two 980C Caterpillar loaders, a 160 Proclaim hoe, two 3505 Koehring dump trucks, a 270 scraper, and a 14E Caterpillar grader were used to mine this property. One bulldozer stripped while the other pushed pay into a stockpile. During sluicing one loader fed the sluice plant and the other handled tailings. The hoe fed the sluice plant in 1993, and cleaned the bedrock and drains. The dump trucks were added in 1994 for hauling pay to the sluice plant and overburden out of the cut, and the grader maintained the haul roads.

Wash Plant: A conveyor 46 inches wide by 60 feet long fed a 5 foot wide by 14 foot long double deck screen plant. The ½ inch minus classified pay was sluiced in two sluice runs 4 feet wide by 20 feet long. Expanded metal and Nomad matting were used in the sluice runs. The sluice plant was capable of handling 100 cubic yards per hour. A 6 inch by 8 inch pump supplied the 2000 igpm needed for sluicing.

Ground Description: The ground averaged 38 feet deep, with 30 feet of frozen black muck and eight feet of frozen gravel. Bedrock was usually solid and blocky. The lower six feet of gravel and up to two feet of bedrock were sluiced.

Mining Cuts: One cut 300 feet wide by 250 feet long was mined during the 1993 season. A single cut 300 feet wide by 310 feet long was mined in 1994.

Water Supply and Treatment: Water for sluicing and monitoring was supplied from an out-of-stream reservoir that captured run-off from Brimstone Gulch. Initial effluent treatment was done in a large instream settling pond, and final treatment occurred in the Sulphur Creek Community Setting Pond near the mouth of Sulphur Creek.

Gold: Most of the gold was fine with a purity of 810.

SULPHUR CREEK 115 0/15
Sulphur Gold Placers Ltd. 63°47'N 138°55'W
Water Licence: PM91-068 1993, 1994
Dominion Creek Map Site No. 45

Operation/Location: Mining on Sulphur Creek continued upstream of Friday Gulch. Mark, Paul, and Bud Peirson ran the mine in 1993 and 1994.

Equipment/Function: A D8K Caterpillar bulldozer and a D7 (17A) bulldozer stripped and pushed up the pay gravels. The D8K bulldozer and a Hy hoe were used to feed the sluice plants and dig drains as needed.

Wash Plant: A triple run sluice box capable of handling between 60 and 100 cubic yards per hour was used in 1993. A trommel 5 feet in diameter by 24 feet long was used in 1994. The ½ inch minus classified pay was sluiced in two runs 32 inches wide by 12 feet long lined with expanded metal and Nomad matting. The trommel could process 50 cubic yards per hour with between 400 and 500 igpm of water.

Ground Description: The upper cuts had an average of 20 feet of black muck overlying 4 to 6 feet of mixed gravel. The bench cuts were 25 feet deep and had a large amount of slide bedrock.

Mining Cuts: A 350 foot long by 100 foot wide cut and two right limit cuts 50 feet wide by 250 feet long were mined in 1993. In 1994 two cuts 50 feet wide by 400 feet long were mined at the top of the property, along with a 60 foot wide by 240 foot long area downstream of the main camp. The bottom cut had been previously dredged.

Water Supply and Treatment: Water for sluicing and monitoring came from an out-of-stream reservoir which contained Sulphur Creek water when needed. The effluent was treated in instream settling ponds at the operation, with final treatment in the Sulphur Creek Community Settling Pond.

Gold: The gold was sharp and angular with the exception of the lower cut, which had a lot of smooth and round gold. Some small nuggets with quartz were recovered. Fineness was 800.

Comments: Mercury from oldtimers' underground workings showed up when the benches were mined. Contouring and restoration (including seeding) is ongoing at this property.

GREEN GULCH	115 O/15
Darrell Morgan	63°49'N 138°55'W
Water Licence: PM92-036	1993, 1994
Dominion Creek Map	Site No. 46

Operation/Location: Mr. Morgan continued to operate on Green Gulch, working on his own for the 1993 and 1994 seasons. Green Gulch is a left limit tributary of Sulphur Creek near its headwaters. The valley is narrow with steeply sloped sides.

Equipment/Function: A D8K Caterpillar bulldozer was used for stripping and pushing up pay to the sluice box. A Terex 72-20 loader removed tailings. A Bantam ½ yard excavator fed the sluice box.

Wash Plant: The wash plant was a triple run sluice box with a 12 foot by 20 foot dump box, a main run 3 feet wide by 24 feet long, and two side runs 2 feet wide by 10 feet long. Two inch riffles, one inch punch plate, and cocoa matting were used for recovery. The slope of the sluice box was 3 inches per foot. Process water was pumped at a rate of 3000 igpm to process 100 loose yards of pay material, using a 10 by 10 inch Gorman Rupp pump powered by a GM engine.

Ground Description: In 1993 the cut mined was at the downstream end of the area mined by Mr. Morgan over the years. The ground was 30 feet deep. Six feet of gravel were sluiced with one foot of bedrock. In 1994 the cut mined was at the upstream end of the worked area, and the ground was 40 feet deep. Again, six feet of gravel and one foot of bedrock were sluiced.

Mining Cuts: In each year the cut mined was 100 feet by 100 feet. The approximate volumes mined were 26,600 cubic yards in 1993, and 22,200 cubic yards in 1994.

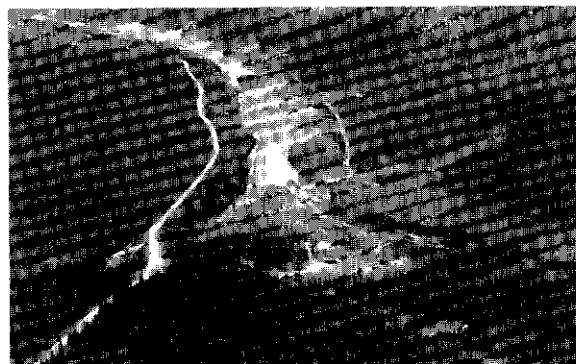
Water Supply and Treatment: Process water was acquired from an instream recirculation pond. A pre-settling pond which was regularly cleaned of heavy sediments and a second settling pond were used to treat the effluent.

Gold: Most of the gold was -60 mesh, with approximately 10% +10 mesh. The purity was 800 fine from the downstream cut, and 830 fine from the upstream cut.

SULPHUR CREEK	115 O/15
Meadow Gold Placers Ltd.	63°50'N 138°56'W
Water Licence: PM92-012	1993, 1994
Dominion Creek Map	Site No. 47

Operation/Location: Neils Sprokkreeff mined on Sulphur Creek just upstream of the confluence with Green Gulch. A crew of three ran the operation during 1993. The crew was increased to five for the 1994 season.

Equipment/Function: A D8K Caterpillar bulldozer with U-blade and ripper, and a D6C bulldozer with angle blade and ripper were used for stripping and sluicing in 1993. A 355A Komatsu bulldozer with U-blade and ripper was used for part of the 1994 season.



An aerial view of Meadow Gold Placer Ltd.'s operation on Sulphur Creek.

Wash Plant: A modified three run passive screen sluice plant was used. Pay was pushed into the top end of the dump box and washed. The one inch minus pay was diverted into two side runs 3 feet wide by 20 feet long. The first foot of the side runs used modified hydraulic riffles. The rest of the runs were lined with expanded metal over cocoa matting. A centre run 3 feet wide by 20 feet long handled the oversize pay and was lined with cocoa matting, three inch angle iron riffles, and punch plate (fish plate) with 2 by 2½ inch holes. The wash plant was capable of handling 150 cubic yards per hour. A 12 inch Caterpillar

pump powered by a 3306 engine supplied the 5500 igpm needed for sluicing.

Ground Description: An average of 45 feet of frozen black muck covered five feet of gravel and sand. The bedrock was fully decomposed with gumbo clay in areas. All gravel and sand left after monitoring was sluiced with up to four feet of bedrock.

Mining Cuts: A 150 foot wide by 250 foot long cut was mined during 1993. A 200 foot wide by 600 foot long cut was mined in 1994.

Water Supply and Treatment: Water was pumped from an instream reservoir on Sulphur Creek for either sluicing or monitoring. Due to the low flow in Sulphur Creek a system of total recycle was needed. Primary settling occurred on site with final effluent treatment at the Sulphur Creek Community Settling Pond.

Gold: The gold was fine, smooth, and rounded. Fineness was 820.

GOLD RUN CREEK	115 D/10
Teck Mining Group Limited	63°41'N 138°36'W
Water Licence: 90-042, 93-035	1993, 1994
Dominion Creek Map	Site No. 48

Operation/Location: In 1993 Teck operated on a cut from Laskey Pup to the upstream boundary of the property (Claim 51). Teck employed 17 miners and four camp personnel who worked 10 hours per day. In 1994 operations took place on the right limit of the creek approximately $\frac{3}{4}$ of a mile upstream from the confluence with Dominion Creek. This area on claims 10, 11, and part of 12 contained dredge tailings from activities in 1916 and 1917. A crew of 20 miners and four camp personnel worked two 10 hour shifts per day in 1994.

Equipment/Function: In 1993 three D9N Caterpillar bulldozers with rippers, three 637E Caterpillar scrapers, one 966 Caterpillar loader, one 235 excavator with a 2½ yard bucket, and one 760 Champion Grader were used to mine this site. In 1994 an additional 966 loader was used.

Wash Plant: Pay was processed at a rate of 180 yards per hour using 3500 igpm of water pumped by an 8 by 10 inch Cornell pump powered by a 3406 Caterpillar engine. The wash plant consisted

of a 14 by 5 foot Hewitt Roberts screen deck with $\frac{3}{4}$ inch punch plate fed by a belt feeder. An 18 by 18 foot hydraulic grizzly fed on to a feed hopper. Water was sprayed onto the screen deck and $\frac{3}{4}$ inch minus material was sluiced through nine 4 foot sluice runs. The first two runs were equipped with angle iron riffles and had a slope of three inch per foot. The next three runs had expanded metal and a two inch per foot slope. The bottom four runs also contained expanded metal and had a two inch per foot slope.

Ground Description: In 1993, 20 to 30 feet of black muck and sand covered 2 to 10 feet of creek gravel on top of decomposed bedrock. Old shafts and works were encountered at the confluence of Laskey Pup and Gold Run Creek. An area 500 feet by 150 feet was completely mined out. The bedrock grade was 2½ % and was very wavy. An average of seven feet of pay gravel and bedrock were sluiced.

In 1994, 20 to 30 feet of black muck and sand covered a layer of white channel gravel ranging (in the un-dredged area of the property) from 15 to 35 feet in depth. The upper $\frac{3}{4}$ of the white channel was oxidized to a brown stain, and the lower $\frac{1}{4}$ was a blue-green colour. Old shafts and works were encountered on the right limit. A dredge had mined to bedrock in some areas, and in others had left 10 feet of pay gravel. The bedrock sloped at 2½ % and was very wavy. The sluice section in the un-mined area averaged 25 feet, and in the dredged area it averaged six feet.

Mining Cuts: In 1993 one continuous cut was worked. A total volume of 606,280 cubic yards of waste material were stripped to sluice 293,113 cubic yards of pay gravel. In 1994 one cut 1100 feet long by 850 feet wide with an average depth of 42 feet was made for a total of 1,455,000 cubic yards mined.

Water Supply and Treatment: Water was supplied from an out-of-stream pond utilizing 100 percent recirculation.

Gold: In 1993 the gold was bright and spongy. Less than 1% consisted of nuggets. Mesh sizes were 5% +10, 90% -10 to +60, and 4% -60. The shape of gold recovered in 1994 was varied. It was described as flat, angular, round, smooth, rough, chunky, spongy, and crystalline. No nuggets were found. Mesh sizes were 5% +10,

90% -10 to +60, and 5% -60. The gold was bright with some quartz present. In both years the purity was 850 fine.

Comments: In 1993 restoration was completed on the upper claims of Teck's property.

GOLD RUN CREEK	115 O/10
D & P Mining Expl. Ltd.	63°45'N 138°43'W
Water Licence: PM91-047	1993, 1994
Dominion Creek Map	Site No. 49

Operation/Location: Daniel and Peggy Cuevas mined an area of Gold Run Creek approximately five miles upstream from its confluence with Dominion Creek. Mining took place in the valley bottom. In 1993 a four person crew worked 10 hours per day, and in 1994 the crew was reduced to two miners.

Equipment/Function: In 1993 a D9G Caterpillar bulldozer and two D8H bulldozers with U-blades and rippers were used to rip and push frozen muck overburden and dig and stockpile pay gravel. A Caterpillar 966C loader with a four cubic yard bucket fed the sluice box and removed tailings. A mobile B-31 six inch auger drill was used for testing. In 1994 one less D8H bulldozer was used.



Dan and Peggy Cuevas of D&P Mining Exploration Ltd. on Gold Run Creek.

Wash Plant: Fifty-five yards per hour were processed using a sluice box with a 10 foot by 12 foot dump box and sluice runs consisting of four sections of 4 foot by 8 foot punch plate over expanded metal and Nomad matting. The punch

plate had $\frac{3}{4}$ and $\frac{1}{2}$ inch holes. The slope used on the sluice was $2\frac{1}{2}$ inches per foot.

Ground Description: Thirty to 40 feet of muck covered 2 to 5 feet of gravel. The gravel was a frozen, uniform mix of sand, gravel, and rocks 1 to 2 feet in diameter (mostly quartz). Bedrock was wavy, fractured, and decomposed, with blue and green colouring. The sluice section averaged three feet of gravel and three feet of the decomposed bedrock.

Mining Cuts: In 1993 one cut 200 feet by 400 feet was excavated with 26,000 cubic yards sluiced. In 1994 a cut 200 feet by 200 feet was excavated with 13,500 cubic yards sluiced.

Water Supply and Treatment: A 10 by 12 inch Pump Master pump powered by a 6-cylinder Deutz engine provided water at a rate of 1000 igpm from an instream recirculation pond. Waste water was settled in old mining cuts prior to return to Gold Run Creek.

Gold: The gold had a variety of shapes. Mesh sizes were 45% +10, 50% -10 to +60, and 5% -60. Nuggets were mostly rounded and flat with some quartz inclusions. Fineness was 840.

Comments: These operators moved to this site from Glacier Creek in 1992. They have encountered old shafts with ladders in place and an occasional old bone.

EUREKA CREEK	115 O/10
Discovery Ck. Gold Placers Ltd.	63°35' 138°52'
Water Licence: 91-027, 92-026	1993, 1994
Dominion Creek Map	Site No. 50

Operation/Location: Richard Allen and two other miners worked on the left fork of Eureka Creek in 1993 and the right fork of Eureka Creek in 1994. The mine cuts were located near the top of the left fork and near the bottom of the right fork.

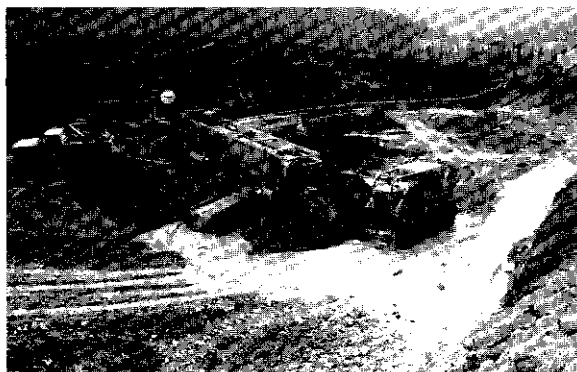
Equipment/Function: Two D8H Caterpillar bulldozers with rippers and a D9G bulldozer with ripper were used to strip the cuts. A Warner Swayse 900A hoe fed the sluice plant and the D9G bulldozer removed the tailings.

Wash Plant: A small hopper fed into a scrubber four feet in diameter. The gravel was classified to $\frac{3}{4}$ inches minus before being channelled through

a single sluice run 6 feet wide by 18 feet long. The first six feet of the sluice run was lined with one inch angle iron riffles. Nomad matting and expanded metal lined the lower 12 feet of the run. Approximately 75 cubic yards per hour was sluiced. A six inch by 8 inch Paco pump powered by a Cummins motor supplied the 2000 igpm needed for sluicing.

Ground Description: The cuts mined in 1993 averaged 30 feet to bedrock. Open cuts left by earlier miners showed a profile of mixed frozen black muck, gravel, and slide rock. The lower four feet of gravel and up to four feet of bedrock were sluiced. The depth of the ground mined on the right fork in 1994 was approximately 35 feet. An average of 25 feet of frozen black muck covered 10 feet of gravel. The lower four feet of gravel and up to six feet of bedrock were sluiced.

Mining Cuts: An area 120 feet wide by 800 feet long was mined in four separate cuts on the left fork in 1993. Five cuts were sluiced in 1994 on the right fork for a total area of 150 feet wide by 1000 feet long.



Discovery Creek Gold Placers' set-up on the Right Fork of Eureka Creek in 1994.

Water Supply and Treatment: An instream recycle system was used on the left fork. An instream water control box stored water on the right fork. The effluent was treated in a large instream settling pond located downstream at the main forks.

Gold: The gold recovered in 1993 was fine and spongy with a purity of 710 fine. The gold was

fine on the right fork, but the purity dropped to 690 fine.

GORING CREEK	116 B/2
Norcon Holdings	64°00'N 138°54'W
Water Licence: PM93-091	1994
Bonanza-Hunker Creek Map	Site No. 51

Operation/Location: Murray Conners ran this operation for one year near the top of Goring Creek on a left limit bench. A crew of two ran the mine in 1994.

Equipment/Function: A D9N Caterpillar bulldozer with U-blade and ripper stripped the cuts and stockpiled the pay gravels. A 966D Caterpillar bulldozer fed the sluice plant.

Wash Plant: A 200 Ross Box with 3 foot wide by 20 foot long sluice runs was used. Expanded metal, 2½ inch angle iron riffles, and ⅝ inch punch plate was used. The wash plant was capable of handling up to 250 cubic yards per hour. Water for sluicing was delivered to the bench by a 6 by 8 inch Cornell pump and a 5 by 6 inch Mission pump. Approximately 3000 igpm was needed for sluicing.

Ground Description: The oldtimers had previously mined the rim of this left limit bench deposit approximately 200 feet above Goring Creek. The intention was to continue back into the face along the rim. The total depth varied from 15 to 65 feet (at the back of the last cut). The stratigraphic section was made up of several thawed layers of coarse and fine gravels along with seams of clay. Bedrock was decomposed and wavy. The lower six feet of gravel was sluiced with four feet of bedrock.

Mining Cuts: Two cuts (100 feet by 150 feet and 150 feet by 240 feet) were mined in 1994.

Water Supply and Treatment: Water was pumped from an instream reservoir on Goring Creek to the sluice plant. The effluent was treated in out-of-stream settling ponds located on the bench and next to Goring Creek. Discharge occurred back to Goring Creek upstream of the reservoir. Total recirculation was necessary.

Gold: The gold was extremely fine. Fineness was 730.

Comments: Numerous old shafts and drifts were found. 1994 was the first and last year for Murray Connors at this location. The pay was too lean and the depth too great for this operation to be viable. All restoration work was completed.

HATTIE GULCH	116 B/3
Sunrise Placer	64°02'N 139°08'W
Water Licence: PM92-071	1993, 1994
Bonanza-Hunker Creek Map	Site No. 52

Operation/Location: Dave Brickner and Cam Arkenstall mined on Hattie Gulch, a right limit tributary to Hunker Creek in 1993 and in the spring of 1994.

Equipment/Function: An 8250 Terex bulldozer was used for stripping and stockpiling the gravels for sluicing. A 90 Hough loader fed the sluice plant.

Wash Plant: A hopper fed into a trommel 7 feet in diameter by 48 feet long. The ½ inch minus classified pay was sluiced in four oscillating runs 4 feet wide by 11 feet long, lined with expanded metal and astro turf matting. All of the gold was recovered in the first three feet, so the matting and expanded metal was removed in the lower portion of the runs. A single run 4 feet wide by 26 feet long collected the slurry off each top run. The lower run was lined with three inch angle iron riffles and various matting. A 10 by 12 inch Paco pump supplied the 1000 igpm needed to process approximately 170 cubic yards per hour.

Ground Description: Hattie Gulch flows off Australian Hill, which is a large White Channel deposit. The depth increased as mining progressed into each limit. The 1993 and 1994 cuts averaged 40 feet deep with two feet of red clay/gravel mixture overlying 38 feet of White Channel gravel. Bedrock was decomposed and wavy. All the gravels were sluiced and some of the better values occurred near the surface. The bedrock did not contain gold. Up to three feet of the wavy bedrock was processed to ensure all the gravels were sluiced.

Mining Cuts: A cut approximately 240 feet by 150 feet and ¾ of another cut 300 feet by 60 feet were sluiced in 1993. The second cut was finished in the spring of 1994.

Water Supply and Treatment: Make-up water was pumped from an instream reservoir on Hunker

Creek to recycle ponds on Hattie Gulch. The water was used in a full recycle system with no discharge. Make-up water was required for about four hours once a week. Run-off water from the spring melt was used for sluicing in 1994.

Gold: Ninety five percent of the gold was smaller than 30 mesh. It was angular with sharp edges when viewed under magnification. Fineness varied from 770 at the surface, to 710 near bedrock.

HUNKER CREEK	116 B/3
Streight Investments Ltd.	64°02'N 139°08'W
Water Licence: PM93-074	1993, 1994
Bonanza-Hunker Creek Map	Site No. 53

Operation/Location: This operation was located along the left limit of Hunker Creek approximately 2000 feet downstream from Henry Gulch. In 1993 Don Streight mined with Colin Mayes at the upstream end of a left limit cut that had been mined over the last 15 years. Don Streight and one employee mined a small cut in the same area in the spring of 1994.

Equipment/Function: A D9H Caterpillar bulldozer was used for stripping, sluicing, and settling pond construction. Another D9 was rented in the spring of 1994 to strip.

Wash Plant: A Pearson sluice plant was used in 1993. A single run sluice box was used in the spring of 1994.

Ground Description: An outcropping of the left limit hillside was partially mined in 1993 and 1994. A deep frozen black muck layer covered approximately eight feet of gravel. Most of the gravel and up to two feet of the bedrock were sluiced.

Mining Cuts: One cut was mined in 1993 and another smaller cut was mined in 1994.

Water Supply and Treatment: Water was pumped from an instream reservoir on Hunker Creek. Effluent was settled in either two or three out-of-stream settling ponds prior to discharge back to Hunker Creek.

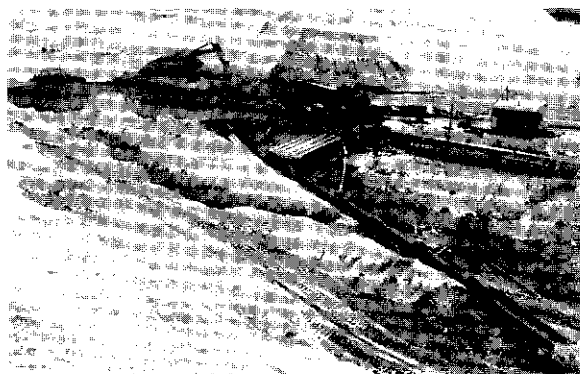
Gold: Most of the gold taken from this site has been fine with 50% between 60 and 80 screen. Fineness was 740.

HUNKER CREEK 116 B/3
Roland Berglund 64°02'N 139°09'W
Water Licence: PM93-074 1994
Bonanza-Hunker Creek Map Site No. 54

Operation/Location: Roland Berglund ran a small one person operation along the left limit of Hunker Creek downstream of Henry Gulch. Tailings produced over the last few years by other operators were re-slued.

Equipment/Function: A D8H Caterpillar bulldozer was used for breaking apart the old tailing piles. A 966 Caterpillar loader fed the sluice plant and carried the tailings away.

Wash Plant: The wash plant consisted of a grizzly dump box 12 feet wide by 8 feet long. The grizzly classified to approximately one inch minus. A conveyor fed a shuffle plate and then a trommel 46 inches in diameter by 20 feet long. The pay was further classified to ½ inch minus and sluiced in two 4 foot wide by 8 foot long runs. The sluice runs used rubber matting and pulsating riffles. Approximately 60 cubic yards per hour was sluiced. A 6 inch pump supplied the 800 to 1000 igpm needed for sluicing.



Trommel wash plant used by Roland Berglund to re-slue tailings from previous operations.

Ground Description: Only tailings were sluiced at this site. No new cuts were mined. The tailings were rich enough to warrant further work in 1995.

Mining Cuts: An estimated 8000 cubic yards of tailings were sluiced.

Water Supply and Treatment: Water was recirculated from an old out-of-stream mine cut. The effluent was returned to the cut and no discharge occurred.

Gold: The gold ranged from very fine to ¼ ounce nuggets. Fineness varied from 700 to 710.

HUNKER CREEK 116 B/3
J & C Holdings Ltd. 64°02'N 139°08'W
Water Licence: PM90-113 1993
Bonanza-Hunker Creek Map Site No. 55

Operation/Location: This operation was located along the left limit of Hunker Creek, approximately 2000 feet downstream of Henry Gulch. The 1993 mining was done at the upstream end of the hillside cut which has been mined over the last fifteen years. Colin Mayes decided to stop mining after the 1993 season.

Equipment/Function: A D9H Caterpillar bulldozer was used for stripping and sluicing. A UH 20 Hitachi hoe was also available.

Wash Plant: A Pearson sluice plant was used. The pay gravel was washed in a 12 foot wide by 20 foot long dump box lined with ¾ inch punch plate. The slurry was sluiced in two side runs 4 feet wide by 20 feet long and one centre run 3 feet wide by 20 feet long. Various combinations of punch plate, angle iron riffles, expanded metal, and Nomad matting were used. The box was capable of processing between 120 and 150 cubic yards per hour. A 10 inch by 12 inch Peerless pump supplied the 4500 igpm needed for sluicing.

Ground Description: The 1993 cut was not as deep as recent ones. A deep black muck layer covered eight feet of gravel. The lower six feet of gravel and up to three feet of bedrock were sluiced.

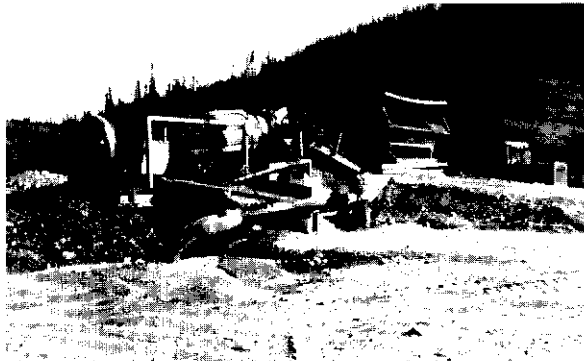
Mining Cuts: One cut was stripped and sluiced in 1993.

Water Supply and Treatment: Water was pumped from an instream reservoir on Hunker Creek. The effluent was settled in three long settling ponds before discharging into Hunker Creek at the downstream end of the property.

Gold: Most of the gold was fine with 50% between 60 and 80 mesh. Fineness was 740.

HUNKER CREEK	116 D/3
Miben Mining 1976	64°01'N 139°08'W
Water Licence: PM92-033	1993, 1994
Bonanza-Hunker Creek Map	Site No. 56

Operation/Location: Benny Warmsby and Mike Stutter ran this operation on Dago Hill, a left limit bench of Hunker Creek between Henry Gulch and Last Chance Creek. A deep cut was stripped from 1991 until the spring of 1994, when sluicing began. A crew of five was employed.



The MIBEN Mining 1976 sluice plant processing hard won pay gravels in 1994.

Equipment/Function: A D9 Caterpillar bulldozer and a D8 bulldozer stripped the ground and pushed up the pay gravels for sluicing. Both bulldozers were equipped with U-blades and rippers. The sluice plant was fed with an Hitachi excavator that also removed pay gravel at the edge of the cut prior to slumping. A cable operated scraper was available but was not used much.

Wash Plant: A hopper 10 feet wide by 14 feet long lead onto a conveyor and into a trommel 74 inches in diameter by 30 feet long. The last six feet of the trommel classified the pay to ½ inch minus. Oversize material was carried to the rim by a conveyor belt. The classified pay was sluiced in three runs 3 feet wide by 8 feet long which were lined with one inch angle iron riffles and matting. These runs channelled the pay into a run 16 feet wide by 18 feet long that was divided into five separate runs. Expanded metal and matting was used in the lower section. Effluent from the sluice plant was collected in a long sluice run and carried away to the bedrock drain. A 12 by 14 inch Peerless pump supplied the 3000 igpm needed for

sluicing approximately 150 cubic yards per hour on Dago Hill.

Ground Description: The cut averaged 135 feet in depth. Part of the cut was covered by waste gravel from previous mining. The natural strata was made up of 10 feet of fine brown gravel at the surface over 80 to 90 feet of White Channel gravel. The final 15 feet was made up of altered White Channel gravel which contained gold throughout. Bedrock was slightly wavy and compact. Much of the ground was frozen although sections were thawed. The surface layer became a quagmire during wet periods due to the high clay content in the lower White Channel gravel. The lower 15 feet of gravel was sluiced.

Mining Cuts: A single cut measuring 400 feet by 400 feet was mined from 1991 to 1994. Approximately 90,000 cubic yards were sluiced in 1994.

Water Supply and Treatment: Water was pumped from an instream reservoir on Hunker Creek to the permanent sluice plant on Dago Hill. Effluent passed through a bedrock drain to out-of-stream settling facilities in the main Hunker Creek valley upstream of the pump pond. Discharge occurred back to Hunker Creek by seepage.

Gold: The gold was flat and rough, with 7% +10, 90% -10 to +60, and 3% -60 screen. Some of the rare crystalline and dendritic gold was recovered. Fineness ranged from 760 to 825.

HUNKER CREEK	115 O/14
Tamarack Inc.	64°00'N 139°05'W
Water Licence: PM92-010	1993, 1994
Bonanza-Hunker Creek Map	Site No. 57

Operation/Location: This operation continued to mine on Paradise Hill, a left limit Hunker Creek bench upstream of 80 Pup. A crew of 13 (including property manager Frank Short and camp staff) ran the operation.

Equipment/Function: A D10L Caterpillar bulldozer was used for stripping, and two D9H bulldozers fed the sluice plant. Four 657 and four 641 Caterpillar scrapers were used to strip and haul pay to sluice plant, and a D9G bulldozer pushed the loaded scrapers. A 560 International loader and two 966 Caterpillar loaders were also available. Tamarack defined the pay zone on

Paradise hill with a mobile auger drill and a churn drill.

Wash Plant: A 90 cubic yard hopper with a 4 foot by 16 foot apron feeder loaded pay gravel onto a variable speed conveyor 4 feet wide by 50 feet long. The conveyor fed a trommel 8 feet in diameter by 60 feet long. The last six feet of the trommel classified the pay to ¾ inch minus. The classified pay ran down a 2 foot wide by 45 foot long shoot to a distributor that divided the slurry into six oscillating sluice runs 3 feet wide by 20 feet long. Expanded metal and Nomad matting lined the runs, which were sloped at 1 ½ inches per foot. An 8 by 10 inch Crane Demming pump powered by a D398 Caterpillar engine lifted water 350 feet onto Paradise Hill for sluicing. Approximately 3000 igpm was required to process 350 cubic yards per hour.

Ground Description: Paradise Hill is a White Channel gravel deposit approximately 100 feet deep. About 65 feet of waste gravel was stripped off and the remaining 35 feet of gravel was sluiced. Reefs and domes in the bedrock have resulted in considerable variation in the depth over the years. Bedrock was decomposed and did not contain pay values.

Mining Cuts: One cut was mined in 1994, totalling 670,000 cubic yards sluiced. Tamarack had a similar season in 1993.

Water Supply and Treatment: Water was pumped onto Paradise Hill for sluicing from a huge out-of-stream settling pond system located in the Hunker valley. The water returned to the settling pond upstream of the pump pond and was recycled. Discharge occurred through dredge tailings to the ground only.

Gold: The gold was round and rough with 3% larger than 10 mesh, and 97% between 10 and 60 mesh. It was brightly coloured, and few nuggets were found. The purity ranged from 810 to 840 fine.

INDEPENDENCE CREEK	115 0/14
Peter Gould	63°59'N 139°02'W
Water Licence: PM92-074	1993, 1994
Bonanza-Hunker Creek Map	Site No. 58

Operation/Location: Peter Gould mined on Nugget Hill in 1993 and 1994. Nugget Hill is a left limit

bench of Hunker Creek between Independence Creek and Hester Creek. Peter Gould and one employee ran a single shift.

Equipment/Function: A D7F Caterpillar bulldozer was used for stripping, stockpiling pay gravel, and clearing tailings away during sluicing. A 930 Caterpillar loader fed the sluice plant and removed coarse tailings.

Wash Plant: A hopper fed into a scrubber (trommel) 4 feet in diameter by 30 feet long. The one inch minus classified pay was sluiced in two 4 foot wide by 20 foot long oscillating runs. Nomad matting, expanded metal, and some riffles lined the sluice runs. Approximately 50 cubic yards per hour could be sluiced. A Cornell 6 by 8 inch pump supplied the 1000 igpm needed for sluicing.



Peter Gould sluicing on Nugget Hill, a left limit bench of Hunker Creek.

Ground Description: Nugget Hill is a White Channel gravel deposit. The overall depth decreased at the end of 1994 from an average of 25 feet to 5 feet due to a sharp rise in the bedrock. Most of the gravel was sluiced with up to one foot of the decomposed bedrock.

Mining Cuts: Approximately 8000 cubic yards were sluiced in 1993, and 33,400 cubic yards were sluiced in 1994.

Water Supply and Treatment: All water for sluicing came from a 2 ½ mile ditch bringing natural run-off from Independence Creek. The ditch was originally built around 1905 by Peter Gould's grandfather. Water was recycled through a series of storage

ponds built on previously mined ground. No discharge occurred back to any creek.

Gold: Most of the gold was rough and larger than 16 screen. Fineness was 820.

INDEPENDENCE CREEK	115 O/14
Anton and David Kosuta	63°59'N 139°02'W
Water Licence: PM93-066	1993, 1994
Bonanza-Hunker Creek Map	Site No. 59

Operation/Location: Tony Kosuta continued to mine at the mouth of Independence Creek, a left limit tributary of Hunker Creek. Tony Kosuta mined by himself in 1993. David Kosuta mined with his father in 1994.

Equipment/Function: A 941 Caterpillar loader was used for stripping, and a 930 loader fed the sluice plant. Tailings were ramped off with an old D5 size bulldozer, or carried away with the 941 loader. A large bulldozer was hired in 1994 to do some heavy stripping work.

Wash Plant: An end dump box 8 feet by 10 feet and tapering to 2 feet fed into a single sluice run 2 feet wide by 36 feet long. The first section of the run was lined with matting, angle iron riffles, and stepped down sections of punch plate. Most of the run used matting and angle iron riffles. The last 10 feet used matting, angle iron riffles, and punch plate. An old 8 by 6 inch Y.C.G.C. pump supplied the water needed for sluicing.

Ground Description: The ground averaged 25 feet deep but appeared to be getting shallower. A thin vegetative layer covered a mixture of gravel, muck, and silt. The mixed layer was found from the surface to bedrock. Bedrock was fully decomposed and soft. Gold was found throughout the profile so everything was sluiced along with 2 to 3 feet of bedrock.

Mining Cuts: An area 80 feet by 150 feet was mined in 1993, and an area 100 feet by 140 feet was mined in 1994.

Water Supply and Treatment: All water came from seepage inflow into the mine cut. It was sometimes difficult to keep the cut dry even when using the inflow for regular sluicing. The effluent was treated in an area of old dredge tailings with discharge to Hunker Creek by seepage.

Gold: The gold was rough, rounded, and not really fine. Fineness ranged from 775 to 790.

HUNKER CREEK	115 O/14
Dalwyn Fry	63°58'N 139°00'W
Water Licence: PM94-030	1994
Bonanza-Hunker Creek Map	Site No. 60

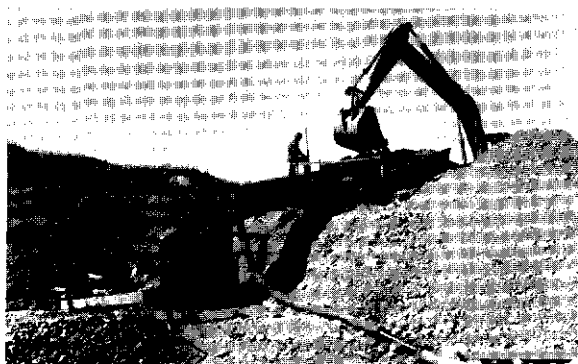
Operation/Location: Dalwyn Fry began mining on the right limit side of Hunker Creek opposite Colorado Creek in 1994. Very little sluicing was done. Water was pumped from Hunker Creek to the sluice plant and the effluent was contained in out-of-stream settling ponds. Further details were not obtained. The 1995 season will be the first full mining season.

HUNKER CREEK	115 O/15
David Gould	63°58'N 139°00'W
Water Licence: 93-098, 90-064	1993, 1994
Bonanza-Hunker Creek Map	Site No. 61

Operation/Location: Dave and Allen Gould mined at three separate locations in 1993 and 1994. Most of the mining in 1993 was done along the right limit of Hunker Creek just upstream from 54 Pup, and at the base of Nugget Hill. The operation moved upstream in the fall of 1993 to a location between the left limit tributaries Colorado Creek and Not Much Gold Creek.

Equipment/Function: The equipment consisted of a 950B Caterpillar loader, a PC220 Caterpillar hoe, and a D3 Caterpillar bulldozer. The loader was primarily used for sluicing but was also used for stripping. The hoe was used for stripping and sluicing.

Wash Plant: A dump box fed into a 12 foot long sluice run. The washed gravel ran over a grizzly before channelling through another 12 feet of sluice run. The upper sluice run used 1½ inch angle iron riffles and nomad matting while the lower sluice run was lined with expanded metal and Nomad matting. The sluice plant was estimated to handle approximately 30 cubic yards per hour. A Gorman Rupp 6 inch pump supplied the 1000 igpm needed for sluicing.



Allen Gould taking his shift as boxtender while David Gould feeds the sluice plant.

Ground Description: Mining in 1993 was done at three separate locations. A cut at the base of Nugget Hill was started but was found to have been mined out by the oldtimers' underground workings. Gravel was sluiced from the last 1992 cut and then the operation moved upstream to where mining occurred in 1989 and 1990. The area of the 1993/1994 mine cut was dredged in approximately 1919. The profile was altered significantly by the dredge and does not show the original strata. A layer of coarse tailings 12 feet deep covered a 10 foot layer of sand and 12 feet of mud. The top 2 to 3 feet of bedrock and any gravels missed by the dredge were sluiced.

Mining Cuts: A small cut was sluiced at the base of Nugget Hill and the 1992 cut was finished in 1993. Very little sluicing was done in 1993. A cut approximately 100 feet by 180 feet was sluiced in 1994.

Water Supply and Treatment: A full recirculation system utilizing out-of-stream dredge ponds was used in both 1993 and 1994. Discharge was by ground seepage only.

Gold: Most of the gold was fine and fairly flat. The purity was 820 fine.

HUNKER CREEK	115 0/15
Jack & Ian Fraser	63°58'N 138°57'W
Water Licence: PM93-075	1993, 1994
Bonanza-Hunker Creek Map	Site No. 62

Operation/Location: Jack and Ian Fraser ran this operation with their families. Most of the mining

occurred on Temperance Hill, a left limit bench of Hunker Creek downstream from the mouth of Gold Bottom Creek. Dredge tailings below Temperance Hill were sluiced late in the 1994 season.

Equipment/Function: A D8 Caterpillar bulldozer was used to strip waste gravel and stockpile pay gravel. A 950 Caterpillar loader fed the sluice plant and removed tailings. A D6 bulldozer was available for smaller jobs when needed. All three pieces of equipment were used for restoration work.

Wash Plant: A 5 foot by 14 foot double deck screen plant classified the pay to one inch minus. The pay was spread into an 8 foot by 22 foot sluice box divided into four runs. The first four feet of the run used 1 ¼ inch angle iron riffles, the next 12 feet was lined with heavy expanded metal, and the last six feet used the 1 ¼ inch angle iron riffles. Nomad matting lined all the sluice runs. A six inch high pressure pump supplied 600 igpm to the reservoirs on Temperance Hill. Another six inch pump was used for recirculation on the bench. Approximately 40 cubic yards per hour was sluiced using 1200 igpm.

Ground Description: The cuts on Temperance Hill were not frozen. A typical cut had a layer of organic reddish silt/clay at the surface with several layers of fine and coarse gravels above the bedrock. Bedrock was decomposed for a depth of 6 inches to 5 feet. The overall depth varied from 15 feet deep at the rim to 38 feet deep at the back of the cut (150 feet from the rim). The lower 4 to 5 feet of gravel and one foot of bedrock was sluiced.

Mining Cuts: Cuts on Temperance Hill averaged 400 feet long by 100 feet wide. One cut and part of another were mined in 1993, and a cut was mined in 1994 before moving into the valley to try the historic dredge tailings. After 37 hours of sluicing the tailings were not considered viable at that location.

Water Supply and Treatment: Water was pumped from an instream pump pond on Hunker Creek to Temperance Hill, a lift of 300 feet. The water was then recirculated in a series of 3 to five settling ponds. Make-up water was required about 35% of the sluicing time once the ponds were full. No effluent discharge occurred from Temperance Hill. An instream reservoir was used for sluicing the dredge tailings late in 1994. The effluent was

treated in out-of-stream settling ponds with all discharge by seepage through the dredge tailings.

Gold: The gold was very fine with less than 1% greater than 12 screen. Most of the gold was between 40 mesh and 100 mesh, and was very flat and smooth. Fineness varied from 800 to 810.

HUNKER CREEK	115 0/15
Ace Placer Mines Ltd.	63°57'N 138°55'W
Water Licence: PM92-079	1994
Bonanza-Hunker Creek Map	Site No. 63

Operation/Location: A crew of six miners and two camp employees ran this operation for 10 hours each day. The mine site was located on Hunker Creek immediately downstream of Rogers Gulch, and the camp was located on Dominion Creek. Art Sailer had this ground partially stripped a couple of years ago but sluicing did not begin until the fall of 1994.

Equipment/Function: Two Caterpillar D9 bulldozers, two D8 bulldozers, three 980 Caterpillar loaders, a 225 Caterpillar excavator, and an EL300 Caterpillar excavator were available for mining this property.

Wash Plant: The pay gravels were classified with a 5 foot by 14 foot screen plant. The classified pay was fed through a 4 foot wide by 12 foot long sluice run utilizing 1 1/4 inch angle iron riffles and a 10 foot by 10 foot sluice run with expanded metal and Nomad carpet. Approximately 100 loose cubic yards per hour was sluiced. Either a 12 by 14 inch Byron Jackson pump or a 10 by 12 inch Dayton Dowd pump was used to supply 3000 igpm water to the sluice plant. Both pumps were powered by Caterpillar engines.

Ground Description: The ground mined varied from 20 to 30 feet deep. This portion of Hunker Creek was previously dredged which altered the profile. Between 10 and 20 feet of muck and tailings covered 5 to 10 feet of gravel.

Mining Cuts: One cut approximately 2200 square yards in size was sluiced. The operator estimated that 7500 cubic yards were sluiced during 1994.

Water Supply and Treatment: Water was pumped from an instream reservoir utilizing water from both Hunker Creek and Rogers Gulch. An out-of-stream settling pond downstream of the sluice

plant treated the effluent prior to discharge to Hunker Creek.

Gold: The gold was reasonably coarse with some small nuggets. The fineness is expected to be around 820.

HUNKER CREEK	115 0/15
John Erickson	63°56'N 138°53'N
Water Licence: PM91-090	1993, 1994
Bonanza-Hunker Creek Map	Site No. 64

Operation/Location: John and Sharon Erickson mined on Hunker Creek in the Mint Gulch area during 1993 and 1994. All work was done on creek ground except for one bench cut that was sluiced in 1994. The bench cut is located immediately upstream of 6 Below Pup along the right limit of Hunker Creek.

Equipment/Function: A D8 Caterpillar bulldozer was used for stripping and stockpiling the pay gravels for sluicing. Either a 988 Caterpillar loader or a 966 loader fed the sluice plant and handled tailings.

Wash Plant: A dump box fed a conventional single run sluice box 3 feet wide by 20 feet long. Nomad matting and 1 1/2 inch angle iron riffles were used. A screening plant was used on the right limit bench of Hunker Creek. Fifty to 60 cubic yards per hour could be sluiced. A 10 by 12 inch Dayton pump supplied the 1500 igpm needed for sluicing. An 8 by 8 inch Perkins pump was also used for sluicing on the bench.

Ground Description: Most of 1993 was spent mining coarse dredge tailings and gravel excavated from the left limit drain immediately above Mint Gulch. Dredged ground does not generally show the original strata. A cut from the left limit of Hunker had approximately 20 feet of frozen black muck and four feet of creek gravel. The total depth increased as the cut worked into the hillside. The lower 2 to 3 feet of gravel and two feet of bedrock were sluiced.

Mining Cuts: An estimated 15,000 cubic yards of dredge tailings were sluiced in 1993. A right limit bench cut 600 feet long by 100 feet wide was mined in the first half of 1994. Old workings and the bedrock were sluiced. Due to the depth and decreasing pay values the bench cut was not considered viable for further mining. A cut

measuring 550 feet long by 30 feet wide was also sluiced along the left limit of Hunker Creek upstream of Mint Gulch in 1994.

Water Supply and Treatment: Water from instream reservoirs on Hunker Creek was used for sluicing and monitoring. Water that was pumped onto the right limit bench was recirculated. No direct discharge to Hunker Creek occurred from the bench operation. Effluent from mining in the creek bottom was treated in several out-of-stream settling ponds.

Gold: Gold recovered from the dredge tailings ranged from an average of 30 mesh to a maximum of three ounces. Gold from the bench was very fine. Up to ½ ounce nuggets were recovered from the left limit cut upstream of Mint Gulch. Fineness from all locations was 820.

HUNKER CREEK	115 O/15
Paul Mahoney	63°55'N 138°53'W
Water Licence: PM91-032	1993, 1994
Bonanza-Hunker Creek Map	Site No. 65

Operation/Location: This small sized operation was located near the mouth of the left fork of Hunker Creek. Paul Mahoney hired a single employee for 1993 but mined by himself in 1994.

Equipment/Function: A TD18A International bulldozer was used for stripping, stockpiling pay, and handling tailings. A Bantam dragline fed the sluice plant.

Wash Plant: A single sluice run 2 feet wide by 8 feet long was used in 1993 and 1994. The first four feet of the run was lined with ⅝ punch plate and rubber conveyor belt. The lower four feet was lined with expanded metal and indoor/outdoor carpet. A grizzly was added in 1994 to increase production. The sluice plant was capable of handling 15 cubic yards per hour. A 3 inch Honda pump and gravity water supplied the 250 igpm needed for sluicing.

Ground Description: An average of eight feet of frozen black muck covered 2 to 7 feet of gravel. Bedrock was blocky and solid. Most of the gravel and one foot of the bedrock were sluiced.

Mining Cuts: Two cuts 20 feet wide by 40 feet long were sluiced in 1993. One cut of a similar size was mined during 1994.

Water Supply and Treatment: Water for sluicing was obtained from an instream reservoir on the left fork of Hunker Creek. The water was delivered to the sluice plant by gravity and by a small pump. The effluent was treated in an out-of-stream settling pond before being discharged back to Hunker Creek.

Gold: Most of the gold was rough and flat. The purity was 820 fine.

24 PUP (HUNKER CREEK)	115 O/16
Gerald and Elizabeth Ahnert	63°53'N 138°56'W
Water Licence: PM92-020	1993, 1994
Bonanza-Hunker Creek Map	Site No. 66

Operation/Location: Gerald and Elizabeth Ahnert continued to mine on 24 Pup, a left limit tributary of the Right Fork of Hunker Creek. The mining was done in a downstream direction from the last cut in 1992.

Equipment/Function: A John Deere 400 loader/backhoe was used for stripping, stockpiling pay, and feeding the sluice box.



Gerald Ahnert proudly displaying his improved sluice plant.

Wash Plant: A ½ cubic yard dump box fed a single run sluice box in 1993. Eight feet of expanded metal and eight feet of one inch riffles covered Nomad matting. A wet screen shaker was added for the 1994 season. The 3 foot by 6 foot screen classified the pay to two inch minus before feeding it through the sluice run. A 3 inch Honda pump supplied the 125 igpm needed for sluicing in 1993. A second 3 inch Honda pump was added in

1994 to supply the extra 175 igpm needed to operate the wet screen shaker. Production increased from three cubic yards per hour in 1993 to 10 cubic yards per hour in 1994.

Ground Description: In 1993 the stratigraphic section averaged 15 feet, with 13 feet of frozen black muck and two feet of gravel. All of the gravel and up to two feet of bedrock were sluiced. The bedrock tended to vary from hard and blocky to decomposed. The valley profile differed in 1994. The frozen black muck layer was only eight feet deep, and six feet of reddish gravel was found underneath. Bedrock was hard and solid. All of the gravel and up to two feet of the bedrock were sluiced. Coarse gold was found in pockets throughout the gravel layer.

Mining Cuts: A single cut 60 feet long by 40 feet wide was sluiced in 1993. A smaller cut measuring 60 feet long by 20 feet wide was sluiced in 1994, but production increased because of the thicker layer of gravel and the introduction of the wet screen shaker.

Water Supply and Treatment: 24 Pup is almost dry for most of the summer so total recirculation was required. Water was pumped from an instream reservoir to the sluice plant. The effluent was settled in a pre-settling pond and returned to the instream reservoir.

Gold: This creek produces several types of gold, including the rare dendritic and crystalline gold. The gold was coarse with some nuggets weighing as much as 2½ ounces. Fineness ranged from 830 to 845.

Comments: Since the gold was coarse and was deposited in pockets a metal detector proved useful in locating the pay streak.

HUNKER CREEK	116 B/3
Wolreid WGR Mining Ltd.	64°01'N 139°07'W
Water Licence: 93-057, 94-023	1993, 1994
Bonanza-Hunker Creek Map	Site No. 67

Operation/Location: An unnamed left limit tributary near the mouth of Last Chance Creek was mined in 1993, and Dago Gulch, a left limit tributary of Hunker Creek, was mined in 1994. Bob Cattermole employed a crew of four miners and one camp person.



Wolreid WGR Mining Ltd.'s operation on Dago Gulch, a left limit tributary of Hunker Creek.

Equipment/Function: A D9H Caterpillar bulldozer was used for stripping and contouring work. A 980C Caterpillar loader fed the sluice plant. A 235 Caterpillar excavator was added in 1994 to assist with stripping. Two 641 Caterpillar scrapers were acquired in 1994 for carrying the pay out of Dago Gulch to a stockpile near the sluice plant. A 22B Pysiris dragline was used for reservoir maintenance and lifting a sump pump into the cut for drainage.

Wash Plant: A derocker 10 feet wide by 16 feet long classified the pay gravels to one inch minus and fed a single run sluice 4 feet wide by 20 feet long. Various combinations of expanded metal, angle iron riffles, punch plate, and Nomad matting lined the run. A 6 by 8 inch Berckley pump powered by a 671 GMC motor supplied the 1500 igpm needed to process approximately 75 cubic yards per hour.

Ground Description: The unnamed tributary of Last Chance Creek was mined by oldtimers, so the stratigraphic profile was altered. The depth averaged 15 feet to bedrock. All the ground was worked and covered with tailings from Dago Hill. The bedrock was solid with deep cracks which contained much of the recovered gold. All the material above bedrock and up to 15 feet of bedrock was sluiced. Dago Gulch ranged from 45 feet deep in the centre to 75 feet deep on the left limit.

Mining Cuts: A cut 200 feet wide by 600 feet long was sluiced in 1993. Bulk testing was done in 1994 on Dago Hill before moving to Dago

Gulch. A cut averaging 75 feet wide by 1500 feet long was mined in 1994.

Water Supply and Treatment: Water was pumped from instream reservoirs on Last Chance Creek or Hunker Creek. The effluent was treated in out-of-stream settling ponds along the left limit of Hunker Creek. During periods of low flow in Last Chance Creek the effluent was returned to the pump pond to be recirculated.

Gold: In 1993 the gold was fine, flat, and smooth. Fineness increased from 650 to 790 as mining progressed up the unnamed gulch. The gold on Dago Gulch was coarser. Numerous ¼ ounce nuggets and a 1 ½ ounce nugget were recovered. Fineness decreased from 920 at the top of the gulch to 780 near the bottom.

DISCOVERY PUP/LAST CHANCE CK. 115 O/14
Peter I. Erickson 63°39'N 139°05'W
Water Licence: PM92-027 1993, 1994
Bonanza-Hunker Creek Map Site No. 68

Operation/Location: Two miners worked eight hours each day at this site on Discovery Pup, upstream of the confluence with Last Chance Creek.

Equipment/Function: A D8 Caterpillar bulldozer and a D6 bulldozer were used to mine this site. A Caterpillar excavator was hired for sluicing.



Peter Erickson's operation on Discovery Pup, a left limit tributary of Last Chance Creek.

Wash Plant: A 6 inch Worthington pump powered by a GMC supplied 1000 igpm of water to a Ross

type sluice box which processed 45 yards per hour.

Ground Description: The stratigraphic section at this site was comprised of 35 to 40 feet of frozen black muck overburden on bedrock. The bedrock was generally flat and was easy to dig with a bulldozer.

Mining Cuts: In 1993 a cut with surface dimensions of 300 feet by 50 feet was mined. A similar cut was taken in 1994.

Water Supply and Treatment: Water was pumped from an instream recycle pond in Last Chance Creek. Effluent was settled in a long U-shaped settling pond with a retention time of approximately two hours. Effluent leaving the settling pond is carried by ditch to the recycle pond.

Gold: The gold contained small nuggets up to six pennyweight in size.

LAST CHANCE CREEK 115 O/14
Lokey Mining Services Ltd. 63°58'N 139°07'W
Water Licence: PM93-107 1993, 1994
Bonanza-Hunker Creek Map Site No. 69

Operation/Location: During the 1993 mining season Last Chance Creek Placers Ltd. operated under Lokey Mining Services Ltd.'s water licence on 15 A/D Pup, a left limit tributary of Last Chance Creek. In 1994 they operated on Gumbo Hill, a left limit bench of Last Chance Creek upstream from 8 A/D Pup.

Equipment/Function: In 1993 a D8H Caterpillar bulldozer was used to rip and push frozen muck when dry stripping, and to rip and push muck to the monitor when hydraulicking, as well as to remove tailings. A 235 Caterpillar excavator stacked dry muck and fed the wash plant. When hydraulic stripping 1500 igpm of water was provided by a 6 by 4 inch Cornell pump, powered by a 4-cylinder Perkins diesel.

In 1994 A D8H Caterpillar bulldozer was used to strip off brush, push pay gravel to the excavator, and remove tailings. A 235 Caterpillar excavator was used to construct and maintain the recirculation pond, and to feed the wash plant.

Wash Plant: The wash plant was a New Zealand trommel powered by a 2-cylinder diesel. The trommel had a three foot drum with sluice trays 6 feet wide by 5½ feet in length, lined with one inch angle iron riffles and Nomad matting. The slope was 2½ inches to the foot. In 1993 a 6 by 4 inch Cornell pump powered by a 4-cylinder Perkins diesel engine provided 800 igpm to the wash plant to process 35 loose yards per hour. In 1994 water was supplied by an Ajax 6 by 6 inch pump powered by a 4-cylinder Nissan diesel engine at a rate of 800 igpm, processing 25 to 30 loose yards per hour. It was necessary to feed the plant more slowly to ensure thorough washing of sticky bedrock.

Ground Description: The stratigraphic section on 15 Pup was 50 feet of frozen black muck over five feet of angular gravels and cobbles. The gravel and three feet of schist bedrock were sluiced. In 1994 the operators sluiced the 8 Pup rim portion of Gumbo Hill, and the ditch Joe Boyle's Canadian Klondike Mining Company used from 1910-1916 to hydraulic the bench (later used by Ian Bremner until 1991). There was an average of one foot of gravels on the rim with no overburden, and approximately eight feet of gravels at the ditch. The gravels and two feet of bedrock were sluiced. The waste section for the bench consisted of vegetation only.

Mining Cuts: In 1993 one cut 220 feet long by 50 feet wide was mined, in addition to an area of bedrock 150 feet long by 50 feet wide which the previous miner had stripped but could not mine because it was frozen. In 1994 three cuts each averaging 40,000 square feet were mined.

Water Supply and Treatment: In 1993 process water was obtained from a 30 foot by 30 foot out-of-stream pond which accomplished approximately 50% recycling of the water. Effluent was transported to the pond by a trestle constructed from tailings produced by previous mining activity. In 1994 process water for the Gumbo Hill operation was obtained from two sources. One was 8 Pup by an existing ditch (circa 1900) to the recirculation pond, and the other was Last Chance Creek. Effluent from the Gumbo Hill operation was treated in a 60 foot by 300 foot recirculation pond located on the bench.

Gold: The 15 Pup gold was dendritic in nature, blocky, and easy to catch, with little quartz

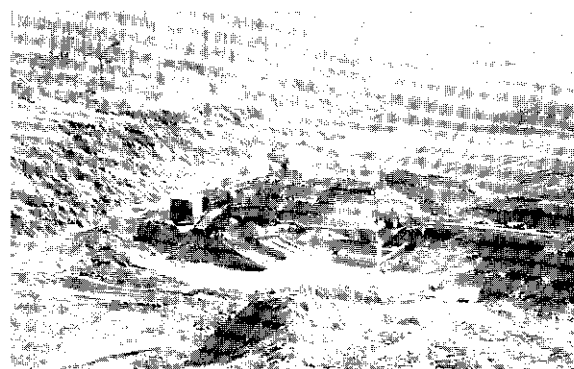
present. Purity was 675 fine. The Gumbo Hill gold was chunky with 5% +4 mesh and 50 % +20 mesh. Fineness was 690, but the gold was bright due to silver that leached from the surface.

Comments: A discovery of palaeontological significance was made in 1993. A specimen of *equus lambei* (a species of horse) which carbon dating determined to be 26,600 years old was found on 15 A/D Pup (see article on Page 143). In 1994 antique jewellery and steam scrapers were discovered at the site.

LAST CHANCE CREEK	115 0/14
Murray Crockett	63°58'N 139°08'W
Water Licence: PM92-089	1993, 1994
Bonanza-Hunker Creek Map	Site No. 70

Operation/Location: Four miners worked 10 to 12 hour shifts. The mining cuts were located between 8 Above Pup and 15 Above Pup on Last Chance Creek.

Equipment/Function: A D9L Caterpillar bulldozer was used to strip, and a D9G bulldozer was used to sluice. An EL300 Caterpillar excavator fed the plant and dug drains, and a 980C Caterpillar loader cleaned settling ponds and removed tailings.



Murray Crockett's El-Russ screen deck set up on Last Chance Creek.

Wash Plant: From 150 to 200 yards per hour were processed through a wash plant consisting of a 5 foot by 16 foot El-Russ screen deck equipped with punch plate. The punch plate had one inch holes on the upper eight feet and ¾ inch holes on the lower eight feet. The operator plans to replace the ¾ inch plate with one inch. Both 1½ inch riffles

and expanded metal were used in a 4 foot by 8 foot sluice section leading from the plant hopper to a 5 foot by 8 foot distribution section above two sluice runs 4 feet wide by 12 feet long. Un-backed Nomad matting was used through most of the recovery system.

Ground Description: The area mined in 1993 was covered with tailings from an adjacent hill. Underneath were 12 to 15 feet of thawed muck which lay over 6 to 10 feet of gravel on bedrock. The bedrock varied from blocky to very fine black graphite. In 1994 the upper claims had 5 to 20 feet of hill tailings over 10 to 30 feet of muck. The ground was frozen except for the sections under tailings. The bedrock was erratic in elevation and composition. The sluice section was from 6 to 7 feet deep.

Mining Cuts: In 1993, five cuts from 150 to 200 feet wide and 300 feet long were processed. In 1994, three cuts 200 feet wide by 300 feet long and one cut 250 to 300 feet wide by 395 feet long were processed.

Water Supply and Treatment: A 10 by 10 inch Worthington pump powered by a 671 GM engine pumped 2500 igpm from a recycle pond. Effluent was settled in previously mined cuts.

Gold: In 1993 the gold was fine with a small amount of 8 and 10 mesh. In 1994 the gold was very fine with a small amount of 8 and 6 mesh. Fineness ranged from 680 to 720.

Comments: The valley is narrow with steeply sloped sides in the area of mining. A channel was constructed on the right limit of the working area around the mined out cuts, which have been utilized for settling.

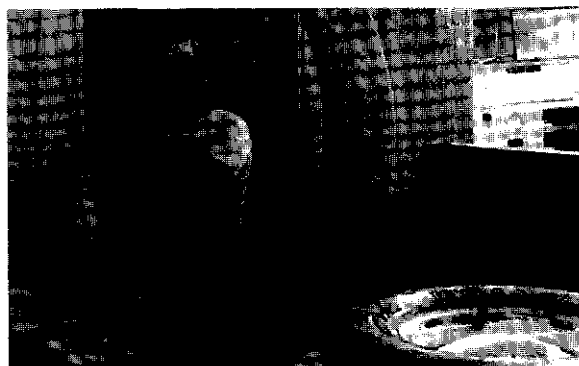
HESTER CREEK	115 O/14
Emile Levesque	63°59'N 139°03'W
Water Licence: PM93-039	1993, 1994
Bonanza-Hunker Creek Map	Site No. 71

Operation/Location: This operation was located on Hester Creek, a left limit tributary of Hunker Creek. Emile Levesque ran the operation by himself for most of 1993 and 1994.

Equipment/Function: A D6 Caterpillar bulldozer was used to strip during 1993, and a D9G bulldozer was acquired for stripping in 1994. A

966 Caterpillar loader and a 950 loader were available for sluicing and settling pond maintenance.

Wash Plant: A hopper fed a screen plant 5 feet wide by 12 feet long. The 1¼ inch minus classified pay was sluiced in a 15 foot long run which tapered from 33 inches to 24 inches wide. The slurry was then spread out over three oscillating sluice runs four feet wide by eight feet long. The upper run was lined with two inch angle iron riffles. The oscillating runs were lined with heavy expanded metal and Nomad matting. An 8 by 6 inch Fairbanks pump supplied the water needed to sluice approximately 120 cubic yards per hour. A 12 inch Morris pump was used for monitoring the thick black muck overburden layer.



Emile "Red" Levesque posing with a large tusk he recovered on Hester Creek.

Ground Description: Ground mined on Hester Creek in 1993 varied from 70 to 80 feet deep. A 20 foot layer of White Channel tailings covered 50 to 60 feet of frozen black muck and eight feet of gravel. The bedrock was decomposed. A left limit draw of Hester Creek was mined during part of 1993 and 1994. Old tailings covered six feet of frozen muck and a mixture of gravels. Both decomposed and solid bedrock were encountered. The amount of bedrock sluiced depended on which type was found.

Mining Cuts: A 150 foot wide by 100 foot long cut on Hester Creek and a 100 foot wide by 200 foot long cut on a left limit draw were mined in 1993. Mining continued up the draw in 1994 until the pay tapered off in the fall.

Water Supply and Treatment: Water for sluicing and monitoring was pumped from an out-of-stream reservoir near the mouth of Hester Creek in the Hunker valley. Make-up water came through a gravity ditch from Hunker Creek. The effluent was treated in a large out-of-stream settling facility with discharge back to Hunker Creek.

Gold: Most of the gold was fine and flat, although some small nuggets were recovered. The purity varied between 740 and 820 fine. There appeared to be two or three local sources for the gold recovered.

HESTER CREEK 115 0/14
Tony Fritz 63°59'N 139°04'W
Water Licence: 90-094, 94-035 1993, 1994
Bonanza-Hunker Creek Map Site No. 72

Operation/Location: Tony Fritz ran a small hobby-sized operation on an unnamed left limit tributary of Hester Creek. Hester Creek is a left limit tributary of Hunker Creek.

Equipment/Function: Two older bulldozers and a small track loader were available for the various stages of mining.

Wash Plant: A one piece hopper/shaker fed the pay into a single run sluice box 2 feet wide by 10 feet long. Expanded metal and Nomad matting was used in most of the sluice run. The top of the sluice run also used angle iron riffles as a nugget trap. The sluice plant will process approximately 15 cubic yards per hour.

Ground Description: Bedrock has not been reached yet at this location by mining. Drilling work indicated the ground was 37 feet deep with 32 feet of frozen black muck and five feet of gravel.

Mining Cuts: A large area has been partially stripped but no gravel was exposed. No sluicing was done in 1993 or 1994.

Water Supply and Treatment: Water will be diverted from an instream pond on Hester Creek to the out-of-stream pump pond. Effluent will be treated in out-of-stream settling ponds at the mouth of the unnamed creek.

Gold: Very little gold has been recovered at this site. Purity is expected to be around 800 fine.

GOLD BOTTOM CREEK 115 0/15
Mogul Gold Mining 63°57'N 138°58'W
Water Licence: PM93-059 1993, 1994
Bonanza-Hunker Creek Map Site No. 73

Operation/Location: David Millar and two employees ran this operation on Gold Bottom Creek, a left limit tributary to Hunker Creek.

Equipment/Function: Two D8H Caterpillar bulldozers were used for stripping and pushing tailings away. A 966C Caterpillar loader fed the sluice plant and stacked tailings.

Wash Plant: During 1993 an elliptic screening plant was used. The pay was classified to one inch minus and sluiced in one run divided into two sections. The first section was 8 feet wide by 8 feet long and was lined with expanded metal and matting. The second section was 4 feet wide by 8 feet long and was lined with one inch angle iron riffles and matting. Four feet of slick plate separated the two sections. This sluice plant was capable of processing 50 cubic yards per hour. A 100 Ross box was used during 1994 due to problems with the screening plant. Production increased to between 60 and 70 cubic yards per hour. A 10 by 12 inch Dayton Dowd pump supplied the water needed for sluicing.



A typical 100 Ross box used by Mogul Gold Mining on Gold Bottom Creek in 1994.

Ground Description: The depth of each cut varied from the centre of the valley towards each limit. On average a 15 foot layer of black muck overlay a 10 foot layer of gravel. Bedrock varied from chunky and solid to fully decomposed. The lower

two feet of gravel and one foot of bedrock were sluiced.

Mining Cuts: One cut totalling 35,000 bedrock square feet was mined in 1993. Two cuts were mined in 1994, with production increasing to 80,000 bedrock square feet.

Water Supply and Treatment: Water was pumped from an instream reservoir to the sluice plant. The effluent was treated in out-of-stream settling ponds located downstream from the sluicing operation. All discharge was back into Gold Bottom Creek. The water needed to be recycled up to 60% of the time.

Gold: Much of the gold was round, smooth, and coarse. Fineness was 790.

GOLD BOTTOM CREEK	115 O/15
Bert Oud	63°53'N 138°59'W
Water Licence: 92-065, 94-042	1993, 1994
Bonanza-Hunker Creek Map	Site No. 74

Operation/Location: Bert Oud and his two sons mined on Gold Bottom Creek in 1993. The operation was moved to Soap Creek, a tributary near the top of Gold Bottom Creek, at the end of the 1994 season.

Equipment/Function: A 355 Komatsu bulldozer (U-blade and ripper) was used for the stripping along with a D8H Caterpillar bulldozer (U-blade and ripper). The D8H handled tailings while sluicing. A UH 07 Hitachi excavator fed the sluice plant and dug drains when needed.

Wash Plant: A hopper fed a 4 foot wide by 12 foot long Tyler screen plant. The pay was classified to ½ inch minus and then sluiced in four oscillating runs 4 feet wide by 8 feet long. The runs were lined with heavy Nomad matting and expanded metal. Approximately 100 cubic yards per hour could be processed. An 8 by 6 inch Monarch pump supplied the water for sluicing.

Ground Description: The ground varied in depth from 15 feet to 30 feet. Half was usually black muck and the other half gravel. Up to three foot boulders were encountered in the gravel layer. Bedrock was found to be wavy. The lower four feet of gravel and first two feet of bedrock were normally sluiced.



Sluicing pay gravels at Bert Oud's mining operation on Gold Bottom Creek.

Mining Cuts: Two cuts (50 feet wide by 500 feet long, and 30 feet wide by 700 feet long) were sluiced in 1993. Three cuts (40 feet wide by 650 feet long, 25 feet wide by 700 feet long, and 40 feet wide by 800 feet long) and approximately 10,000 cubic yards of tailings were sluiced in 1994.

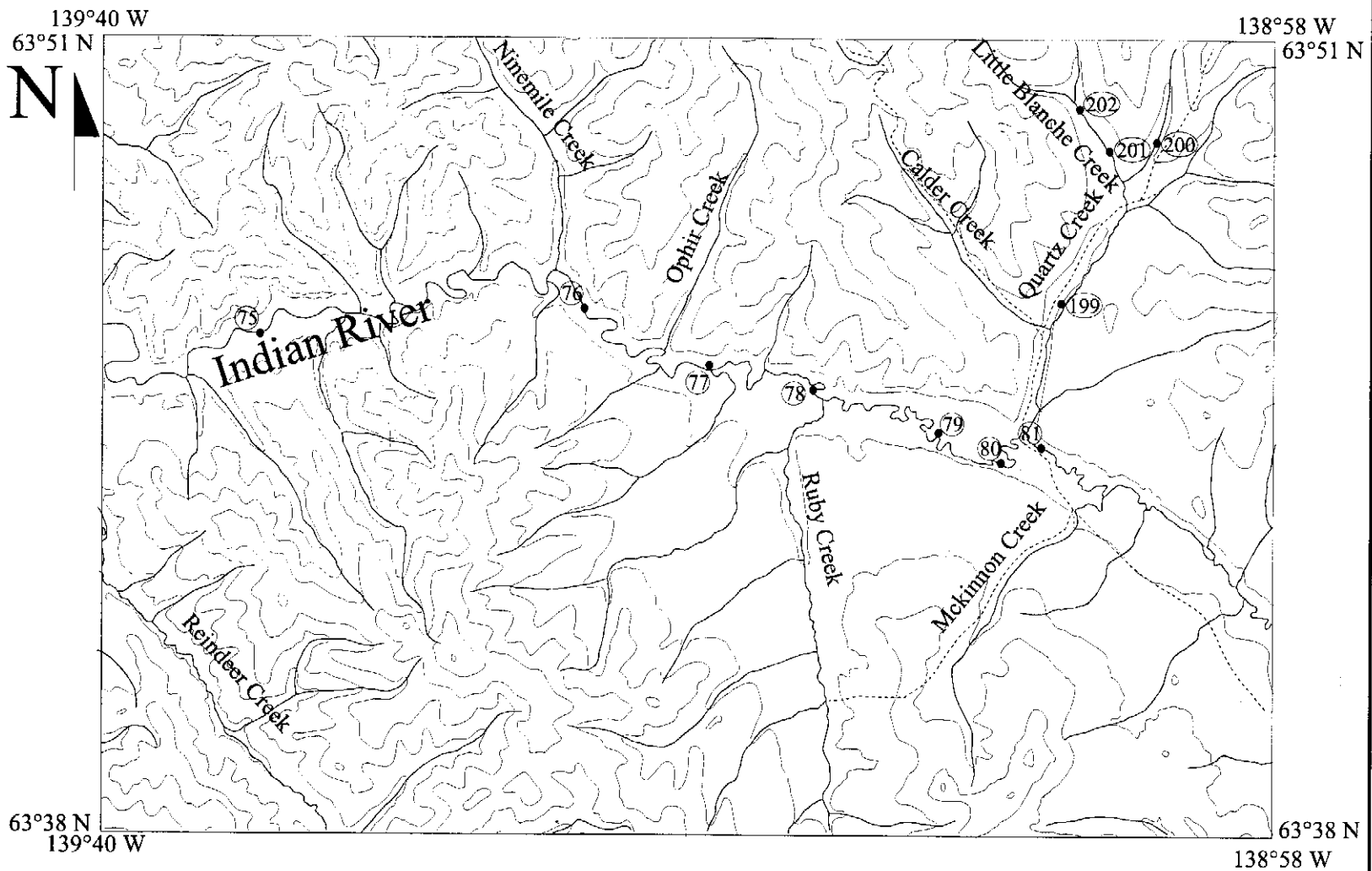
Water Supply and Treatment: Water was pumped from an instream reservoir on Gold Bottom Creek. The effluent was treated in downstream settling ponds before returning to the sluice plant. The water needed to be recycled up to 50% of the time due to low flows for most of the season.

Gold: Most of the gold was rounded with approximately 10% larger than 10 screen. Purity was 800 fine.

INDIAN RIVER	115 O/13
David McBirney	63°47'N 139°35'W
Water Licence: PM94-011	1994
Indian River Map	Site No. 75

Operation/Location: David McBirney ran a one person operation on the right limit of the Indian River downstream from Bertha Creek at the location previously occupied by Eric Mayes.

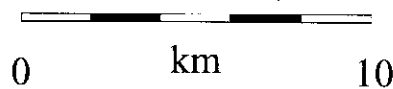
Equipment/Function: One Caterpillar D9G bulldozer was used for stripping and pushing gravel. An Hitachi EX200 backhoe fed the wash plant.



Indian River Placer Area

-  Secondary roads
-  Major roads
-  Rivers

Yukon Territory



-  Contours
-  Placer Operations

Wash Plant: A trommel 5 feet in diameter and 15 feet long classified to one inch minus with oversize loaded onto a conveyor belt. Undersize fell onto two sluice runs. The first sluice was 10 feet wide by 6 feet long with hydraulic riffles. The material then passed through a boil box and onto the second sluice which was 10 feet wide by 6 feet long with hydraulic riffles in the top half and expanded metal riffles in the bottom half.

Ground Description: There was 5 to 6 feet of black muck over 3 to 10 feet of mixed gravels on top of bedrock. Red, rusty coloured gravels contained better pay; deeper gravels had clay and muck seams and the pay was more average. All gravels were sluiced and 1 to 2 feet of fractured bedrock.

Mining Cuts: One cut 500 feet long by 180 feet wide was mined in 1994.

Water Supply and Treatment: Water was pumped from the Indian River and was settled in three out-of-stream ponds in old mining cuts.

Gold: The gold was smooth, flattened, and round, with fineness of 820.

INDIAN RIVER	115 0/14
Midas Rex Mining & Expl. Ltd.	63°45' 139°15'
Water Licence: PM93-093	1993, 1994
Indian River Map	Site No. 76

Operation/Location: Stuart Schmidt ran a conventional placer mining operation with stationary sluice box near the mouth of Ruby Creek. Ruby Creek is a left limit tributary to the Indian River, downstream from Quartz Creek.

Equipment/Function: One Caterpillar D10N bulldozer was used to dig bulk sampling trenches, strip organic overburden and waste gravel, dig and push pay gravel, feed the wash plant, and remove tailings.

Wash Plant: A dump box 14 feet by 20 feet was followed by five parallel sluice runs. The dump box was lined with ½ inch and ¾ inch punch plate. Approximately 200 cubic yards per hour were processed using 3000 igpm of water supplied by a 10 by 12 inch Morris pump, powered by a Caterpillar 3408 diesel engine.

Ground Description: Frozen overburden composed of sand, silt, clay, and mud was 10 to 14 feet deep. It covered gravel layers 8 to 12 feet deep. The bottom 4 to 6 feet of gravel plus up to three feet of bedrock were sluiced.

Mining Cuts: One cut approximately 500 feet long by 250 feet wide was completed in 1993. Two cuts, totalling 300,000 square feet, were completed in 1994.

Water Supply and Treatment: Water was pumped from a diversion ditch from Ruby Creek. Settling ponds were located in old mining cuts with discharge back to the Indian River.

Gold: Fine and coarse gold were recovered. Fineness was 780.

INDIAN RIVER	115 0/14
6495 Yukon Ltd.	63°45' N 139°21' W
Water Licence: PM89-188	1993, 1994
Indian River Map	Site No. 77

Operation/Location: Dennis and Ken Foy subcontracted a four person operation in the Indian River valley bottom, upstream from Ophir Creek. The valley is about one kilometre wide and flat in this area.

Equipment/Function: One Caterpillar D10N bulldozer was used to strip overburden, dig gravel, and feed the wash plant. A Fiat HD31 bulldozer was used to remove and stack tailings. A Michigan 475 loader was acquired in 1994 to be used next season.

Wash Plant: A dump box 24 feet by 15 feet and lined with ½ inch punch plate was followed by three sluice runs, lined with angle iron riffles set at approximately 15 degrees. A Morris 10 inch by 12 inch pump delivered 3000 igpm of water which was used to sluice 150 cubic yards per hour.

Ground Description: Organic overburden was about four feet deep near the middle of the valley bottom, on top of 7 to 11 feet of reddish gravel. Bedrock was sandstone and shale in some areas and schist in other areas. The bottom seven feet of gravel plus up to three feet of bedrock were sluiced.

Mining Cuts: In 1993 approximately 400,000 square feet of bedrock were mined. In 1994, 600,000 bedrock feet were mined.

Water Supply and Treatment: Water was recycled from old mining cuts in the middle of the Indian River valley, with make-up and discharge by seepage only.

Gold: The gold was fine, with 95% minus 35 mesh. Fineness was 800.

INDIAN RIVER 115 O/14
Midas Rex Mining & Expl. Ltd. 63°46' 139°23'
Water Licence: PM93-093 1993, 1994
Indian River Map Site No. 78

Operation/Location: Stuart Schmidt employed a crew of 12 miners at two locations in the Indian River valley. One operation worked upstream from Nine Mile Creek, mining the bottom of the Indian River valley from rim to rim with a floating wash plant. A second operation was located near the mouth of Ruby Creek. There were also three workers at the camp, located on Quartz Creek at the mouth of Calder Creek.

Equipment/Function: One Caterpillar D10N bulldozer was used to strip overburden and prepare the ground for mining. A Caterpillar 235D excavator was used to dig pay gravel at the front edge of the flooded mining cut and feed it into the floating wash plant.

Wash Plant: The wash plant, referred to as a New Zealand dredge, floated on a barge within the flooded mining cut. Pay gravels were loaded into a hopper which fed a trommel eight feet in diameter. Six sluice runs four feet wide were mounted underneath the trommel, on the floating barge. A tailings conveyor belt 36 inches wide by 40 feet long backfilled the pond with tailings behind the wash plant. Up to 300 cubic yards per hour were processed using 3000 igpm of water, supplied by a 10 by 12 inch Morris pump, powered by a Caterpillar 3306 diesel engine.

Ground Description: The overburden was 10 to 14 feet deep, and consisted of silt, clay, mud, and sand in the Indian River valley bottom. Gravel layers up to 10 feet deep covered irregular bedrock. The bottom four feet of gravel plus up to three feet of bedrock were sluiced.

Mining Cuts: The wash plant was floated within a mining cut which averaged 150 feet wide by 50 feet long. Mining progressed back and forth in an upstream direction, in the fashion of the old dredging operations. Approximately two million square feet of surface area was mined by this method.

Water Supply and Treatment: Water was recycled within the mining cut, with make up water supplied by seepage or pumped from the river. Discharge was by seepage only.

Gold: Only fine gold was recovered. Fineness was 790.

INDIAN RIVER 115 O/14
Kodiak Gold 63°45'N 139°11'W
Water Licence: PM91-056 1993, 1994
Indian River Map Site No. 79

Operation/Location: Pat Hipskind ran a seven person operation in the Indian River valley, about 1½ kilometres downstream from Quartz Creek. The camp was located on the right limit bench, immediately below the confluence with Quartz Creek. Mining occurred in the middle of the Indian River valley bottom in a wide, flat part of the valley.

Equipment/Function: Two Caterpillar D9L bulldozers were used for stripping overburden, digging and stockpiling gravel, and removing tailings. One Koehring excavator with a seven yard bucket fed the wash plant.

Wash Plant: A Ross box 18 feet wide by 45 feet long lined with ½ inch punch plate, was followed by three sluice runs 4 feet wide by 16 feet long, lined with expanded metal riffles over Nomad carpet. About 300 cubic yards per hour were sluiced using 5000 igpm of water supplied by a 14 inch Guild pump, powered by a Caterpillar 3408 diesel engine.

Ground Description: Six feet of black muck overburden covered 2 to 3 feet of reddish gravels. Beneath this was about four feet of grey gravel over fractured, wavy bedrock. The bottom four feet of gravel plus 2 to 3 feet of bedrock were sluiced. Overburden and waste gravel layers were shallower toward the centre of the valley.

Mining Cuts: Three cuts were completed in 1993 with a total of 235,000 cubic yards sluiced. In 1994 a total of 320,000 cubic yards were sluiced from two cuts.



Pat Hipskind's operation on the Indian River. This three run sluice is being fed by a large hoe, with tailings being removed by a D9L bulldozer.

Water Supply and Treatment: Water was recycled in an old mining cut approximately 400 feet wide by 900 feet long, out-of-stream in the Indian River valley. Make up water was pumped from the Indian River when necessary, and discharge was by seepage only.

Gold: The fine gold, 80% minus 20 mesh, was flat and smooth. Coarse gold was round with quartz attached. Fineness was 790 to 800.

INDIAN RIVER	115 0/14
6496 Yukon Ltd.	63°44'N 139°09'W
Water Licence: PM93-001	1993, 1994
Indian River Map	Site No. 80

Operation/Location: Pete Risby ran an eight person operation in the Indian River valley, downstream from Quartz Creek. Mining occurred in the middle of the wide valley bottom, and on the left limit bench, upstream from Ruby Creek.

Equipment/Function: Two Caterpillar bulldozers, one D9L and one D10N, were used for stripping overburden, ripping and digging frozen gravel and bedrock, and stockpiling pay gravel. A Fiat HD31 bulldozer fed the wash plant and the D9L also removed and stacked tailings.

Wash Plant: A combination Pearson/Ross box with a dump box 24 feet long by 16 feet wide was lined with ½ inch punch plate, and followed by triple sluice runs. The centre run, lined with angle iron riffles, was 4 feet wide by 16 feet long. Both side runs were 6 feet wide by 16 feet long. About 150 cubic yards per hour were processed using 3000 igpm of water delivered by a 10 inch pump, powered by a Caterpillar 3408 diesel engine.

Ground Description: In the middle of the valley bottom overburden was about four feet deep, on top of reddish brown gravels approximately 14 feet deep. Below this was a 4½ foot layer of grey silica-based gravels which were the remnant of white channel gravels. On the left limit bench frozen overburden was up to 30 feet deep, on top of a layer of reddish brown gravels about 14 feet deep. Below this was about five feet of grey silica-based gravel. The bottom five feet of gravel plus about two feet of bedrock were sluiced.

Mining Cuts: In 1993 a total of 300,000 cubic yards were processed from six mining cuts, four in the valley bottom and two on the left limit bench. In 1994 a total of 560,000 cubic yards were processed from seven mining cuts, each approximately 400 feet wide by 400 feet long each.

Water Supply and Treatment: Water was recycled in old mining cuts with discharge by seepage only. Make up water was pumped from the river when necessary. Most mined out cuts were flooded with groundwater seepage.

Gold: Two types of gold were recovered. One consisted of flat, smooth flakes; the other round and chunky pieces, some with quartz attached. Fineness averaged 760 in the valley bottom and 840 on the left limit bench.

Comments: Mercury contamination was common on gold found near oldtimers' workings.

INDIAN RIVER	115 0/14
Estabrook Mining	63°45'N 139°07'W
Water Licence: PM93-058	1993, 1994
Indian River Map	Site No. 81

Operation/Location: Dennis Estabrook ran a 10 person operation. The camp was located in the Quartz Creek valley, downstream from Calder Creek. In 1993 mining proceeded upstream, in the

middle of the Indian River valley at the mouth of Quartz Creek. In 1994, mining occurred above the confluence with the Quartz Creek valley.

Equipment/Function: Two D9 Caterpillar bulldozers were used to strip overburden and dig and stockpile pay gravels. One Caterpillar 980C loader fed the wash plant and a 966F loader removed tailings.

Wash Plant: A 20 foot long dump box with $\frac{5}{8}$ inch punch plate in the main throat area fed three sluice runs. The middle run was 4 feet wide by 20 feet long with punch plate over expanded metal riffles on Nomad carpet. The side runs were 4 feet wide by 20 feet long with expanded metal riffles over Nomad carpet. About 180 cubic yards per hour were sluiced using 5000 igpm of water supplied by a 10 by 12 inch Morris pump.

Ground Description: Overburden in the Indian River valley was 5 to 8 feet deep, on top of 3 to 4 feet of red gravel mixed with mud. Below this was a darker layer of coarse gravel 2 to 3 feet deep, on top of bedrock. The bottom three feet of gravel plus about two feet of bedrock were processed. Overburden near the mouth of Quartz Creek was from 15 to 20 feet deep. Several mammoth tusks were found. Overburden near the right side of the Indian River valley, upstream of Quartz Creek, was about six feet deep. Gravel sections were similar at all locations.

Mining Cuts: Approximately 330,000 cubic yards were mined from 10 cuts in 1993, and approximately 400,000 cubic yards were mined from 10 cuts in 1994. The cuts averaged about 400 feet by 400 feet.

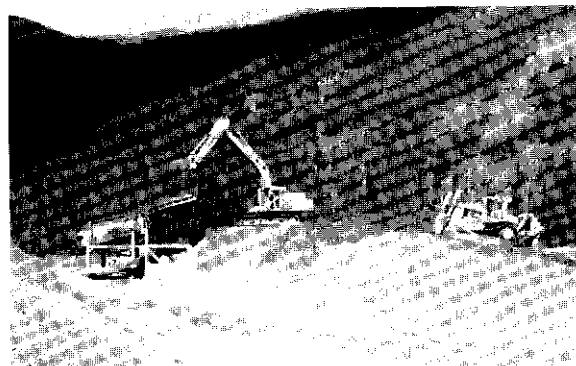
Water Supply and Treatment: Water was recycled in out-of-stream ponds in worked out mining cuts. Make up water was pumped from the Indian River and discharge was by seepage only.

Gold: Fine gold was flat and smooth. Some small, round, angular nuggets had quartz attached. Fineness was around 820.

INDIAN RIVER	115 0/10
Tamarack Inc.	63°38'N 138°55'W
Water Licence: PM93-002	1994
Dominion Creek Map	Site No. 82

Operation/Location: Aurion Placers mined this site on the Indian River one mile upstream from the confluence with Eureka Creek. The valley is wide and flat and the river channel meanders along the right limit. A crew of three miners worked 12 hours each day.

Equipment/Function: A D10 Caterpillar bulldozer and a D9L bulldozer were used for stripping, pushing up pay, and stacking tailings. Both were equipped with U-blades and rippers. An EL300 Caterpillar excavator equipped with either a one cubic yard frost bucket or a 1 $\frac{3}{4}$ yard clean up bucket was used to feed the wash plant and to dig ditches and drains.



Aurion Placers' wash plant on the Indian River near Eureka Creek.

Wash Plant: The plant, which processed 175 yards per hour, consisted of a 4 foot by 16 foot El-Rus incline shaker screen deck with four sluice runs 4 feet by 16 feet sloped at 1 $\frac{1}{2}$ inches per foot. Recovery was by expanded metal on un-backed Nomad matting and one 3 foot section of one inch Hungarian riffles midway down each sluice run. A combination of a two hutch jig leading into a long tom was used for clean ups.

Ground Description: About six feet of black muck covered a layer of silt and waste gravel averaging four feet in depth, over a pay layer with an average depth of five feet. The black muck was frozen for approximately $\frac{3}{4}$ of its depth and varied

from 2 to 10 feet. The silt and waste gravel layer varied from 2 to 6 feet. The pay layer varied from 3 to 8 feet and was mostly small uniform rock with very few large boulders.

Mining Cuts: Five pits were mined in 1994. The surface dimensions of the pits in order of completion were 394 by 300 feet, 525 by 388 feet, 500 by 394 feet, 485 by 435 feet, and 267 by 475 feet. A total of 240,000 cubic yards were stripped and 135,000 cubic yards were sluiced.

Water Supply and Treatment: A 10 by 8 inch Morris pump powered by a 3306 Caterpillar engine provided 2000 igpm of water from an out-of-stream recycle pond on the left limit of the Indian River. This operation recycled all of its water. A berm at the downstream end of the operation was opened at the end of the season to release impounded water.

Gold: The shape of the gold varied with 70% flat, 20% angular, and 10% round. The size of the gold was 5% +10, 85% -10 to +60, and 10% -60. The gold was bright with no stain, and the fineness was 820.

Comments: Reclamation has been performed on an ongoing basis as each pit is stripped and sluiced.

Eureka Creek/Indian River	115 O/10
AMT Resources Ltd.	63°37'N 138°48'W
Water Licence: PM94-002	1994
Dominion Creek Map	Site No. 83

Operation/Location: Phil Cash ran this operation on the left limit of the Indian River upstream of Eureka Creek. A cut near the mouth of Eureka Creek was partially stripped late in the fall. Seven miners and one camp person were employed.

Equipment/Function: Two D10N Caterpillar bulldozers stripped the mine cuts and stockpiled the pay gravel. Two 966E Caterpillar loaders were used for sluicing, one feeding the sluice plant and one handling the tailings. A 235C Caterpillar excavator was available where needed. Roads were maintained with a 740A grader.

Wash Plant: A conveyor 36 inches wide by 100 feet long fed the hopper, which lead onto a 5 foot by 16 foot wet screen deck. The classified pay was sluiced through four 4 foot wide by 16 foot long oscillating runs. The processing rate varied

from 100 to as much as 275 cubic yards per hour. A 6 by 4 inch John Deere pump supplied the 1500 igpm needed for sluicing.

Ground Description: The depth of overburden varied from location to location. Each cut had a frozen black muck layer with 4 to 9 feet of gravel. Bedrock tended to be solid and wavy.

Mining Cuts: Three cuts (800 feet by 300 feet, 800 feet by 250 feet, 280 feet by 665 feet) were mined during the 1994 season. A single large cut was partially stripped on Eureka Creek.

Water Supply and Treatment: Water for sluicing was recirculated from mine pits after the pay was removed. Make-up water came from an abandoned meander of the Indian River and from unnamed left limit tributaries. No effluent discharge occurred.

Gold: A wide range of size was reported, from 400 mesh to small nuggets. The purity was 850 fine.

INDIAN RIVER	115 O/10
Airgold Ltd.	63°38'N 138°41'W
Water Licence: PM92-093	1993, 1994
Dominion Creek Map	Site No. 84

Operation/Location: This operation was located on the Indian River between the confluence of Dominion and Sulphur Creeks and Scribner Gulch. In 1993 12 miners worked two shifts totalling 20 hours per day. In 1994 12 miners worked two shifts totalling 22 hours per day. The camp was located near the old dredge number 6.

Equipment/Function: Two 455 Komatsu bulldozers with rippers, one D9L Caterpillar bulldozer with ripper, one 631 Caterpillar scraper, two 966 Caterpillar loaders with four yard buckets, and one 235 Caterpillar excavator were used to mine the site.

Wash Plant: Two triple run Pearson sluice boxes were used. One was fed by bulldozer and the other was fed by loader. Two Cornel 10 by 10 inch pumps powered by 3306 Caterpillar engines provided 4000 igpm to the boxes. The processing rate of each plant was 120 yards per hour.

Ground Description: The stratigraphic section consisted of 6 to 8 feet of frozen organic muck over 6 to 8 feet of waste river gravel and 6 to 8

feet of sedimentary gravel. Ice lenses were encountered in the muck layer. All of the sedimentary gravel was sluiced.

Mining Cuts: The cuts were 1200 to 1400 feet long by 250 to 350 feet wide. Approximately 1,290,000 cubic yards were excavated in 1993. The yardage in 1994 was approximately 1,150,000 from another four cuts.

Water Supply and Treatment: Seepage water was used at this site. It was recycled and treated in a series of settling ponds from which there was no visible discharge.

Gold: The gold was very fine, and flaky or granular. Mesh sizes were 3 % +10, 60% -10 to +60, and 37% -60. The gold was bright with some quartz on larger pieces. Fineness was 840.

Comments: Mercury was encountered but very rarely. Re-contouring and site restoration and stabilization was performed in 1994 on Tamarack's claims at the downstream end of the property.

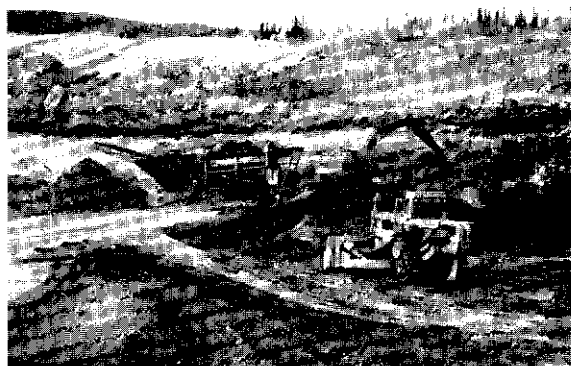
QUARTZ CREEK	115 D/14
Newcan Placers	63°47'N 139°08'W
Water Licence: PM93-037	1993, 1994
Indian River Map	Site No. 199

Operation/Location: Bruce Cowan ran a three person operation on the right limit of Quartz Creek, upstream from Calder Creek. A low bench deposit of white channel gravel was mined in 1993, and the right limit of the wide valley bottom was mined in 1994. Stripping was carried out 24 hours per day in two 12 hour shifts, and sluicing occurred in one 12 hour shift.

Equipment/Function: A Caterpillar D10N bulldozer and a Komatsu 155 bulldozer were used to strip overburden and waste gravel, and to remove tailings. One Hitachi UH143 excavator with 1 ½ yard bucket was used to dig pay gravel and feed the wash plant, and one Hitachi EX200 excavator with a one yard bucket was used to dig pay gravel, remove tailings, and dig drains.

Wash Plant: A trommel five feet in diameter classified to minus ½ inch. A single sluice run 12 feet wide by 8 feet long had hydraulic riffles for the first 2 ½ feet, then three feet of expanded metal riffles over Nomad carpet, followed by one

inch angle iron riffles. A 35 foot long conveyor belt stacked tailings. About 100 cubic yards per hour were processed using 700 igpm of water supplied by an Ajax 6 by 6 inch diesel powered pump.



A D10N bulldozer pushing up pay gravels to an Hitachi excavator feeding a five foot trommel at Newcan Placers' operation on Quartz Creek.

Ground Description: A low bench deposit on the right limit of Quartz Creek, immediately upstream from Calder Creek, had been previously stripped of overburden. Thirty feet of frozen white channel gravel covered clay bedrock. The bottom six feet of gravel plus six inches of bedrock were sluiced in 1993. The ground worked in 1994 was at the base of the right side of the valley bottom. Thirty feet of frozen black muck overburden covered three feet of sand over 4 to 5 feet of gravel on top of decomposed, fractured bedrock. All gravels plus two feet of bedrock were sluiced.

Mining Cuts: In 1993, one cut 400 feet wide by 480 feet long was excavated in white channel gravel. In 1994, three 25,000 square foot cuts were excavated between the old dredge tailings in the valley bottom and the base of the right limit hill side.

Water Supply and Treatment: Water was recycled in an out-of-stream tailing pond in the Quartz Creek valley.

Gold: The gold was flat and mostly fine with a few small nuggets. Fineness of the white channel gold was 740, and the valley bottom gold was 760.

Comments: Several mammoth tusks were recovered from the frozen overburden in 1994.



Elaine, Kimber the family dog, Hayden and Bruce Cowan sit between 10 tusks recovered from their mining operation on Quartz Creek.

LITTLE BLANCHE CK. & QUARTZ CK. 115 0/14
Tatlow Placer Mines Ltd. 63°49'N 139°04'W
Water Licence: PM92-075 1993, 1994
Indian River Map Site No. 200

Operation/Location: Kevin and Gary Tatlow ran a 10 person operation with two camp workers in 1993, and a six person operation with one camp worker in 1994. Mining occurred in the narrow, steep sided canyon of upper Quartz Creek, above Mack Fork, in the middle of the valley bottom, and on the right limit bench of Quartz Creek, below its confluence with Little Blanche Creek.

Equipment/Function: Two Caterpillar bulldozers, one D9L and one D10L, were used to strip overburden, dig and push pay gravel, feed the dump box/wash plant, and remove tailings. One Caterpillar 330L excavator was used to feed the shaker/wash plant and dig drains.

Wash Plant: Two wash plants were operated. A wash plant on upper Quartz Creek had a dump box 12 feet wide by 16 feet long, which was washed with a monitor nozzle and spray bar into three sluice runs 4 feet wide by 16 feet long. The middle run had angle iron riffles for the first eight feet, then eight feet of ½ inch punch plate over expanded metal riffles. Both side runs had expanded metal riffles for their full length. About 200 cubic yards per hour were processed using 2100 igpm of water supplied by a 12 by 12 inch

Morris pump, powered by a Caterpillar 3408 diesel engine.

The wash plant on the right limit bench below Little Blanche Creek had a hopper 8 feet by 12 feet, feeding a shaker screen deck 6 feet wide by 20 feet long which classified to ¾ inch and ½ inch. It was followed by three sluice runs with expanded metal riffles.

Ground Description: Upper Quartz Creek above Mack Fork had 40 feet of frozen black muck overburden on top of six feet of gravel. Bedrock was decomposed and fractured. All gravel plus three feet of bedrock were sluiced. The right limit bench of Quartz Creek, below Little Blanche Creek, had 3 to 5 feet of organic overburden on top of 50 feet of coarse, reddish gravels, covering 12 feet of white channel gravel. The bottom 12 feet of white channel gravel plus up to 3 feet of bedrock were sluiced.

Mining Cuts: In upper Quartz Creek 150,000 square feet of bedrock were mined in 1993, and 350,000 square feet in 1994. On the right limit bench 120,000 square feet of bedrock were mined in 1993 and 135,000 square feet in 1994.

Water Supply and Treatment: Water was recycled from an old mining cut about 250 feet wide by 600 feet long, instream in upper Quartz Creek at the mouth of Mack Fork. Water was also pumped from an instream reservoir in Little Blanche Creek, and settled in an out-of-stream pond about 350 feet wide by 750 feet long in the Quartz Creek valley.



Kevin Tatlow beside a new shaker wash plant on Quartz Creek.

Gold: Gold from upper Quartz Creek, above Mack Fork, was round and chunky, with fineness about 750. Gold from the right limit bench deposit was coarse and chunky, with fineness about 780.

LITTLE BLANCHE CREEK	115 O/14
Harvey Miller	63°48'N 139°05'W
Water Licence: PM92-058	1993, 1994
Indian River Map	Site No. 201

Operation/Location: Harvey Miller continued mining on Little Blanche Creek, a right limit tributary to upper Quartz Creek. This site was located in the middle of the wide valley bottom, about 1 ½ kilometres upstream from Quartz Creek.

Equipment/Function: A Caterpillar D8 bulldozer with a U-blade was used for stripping overburden, digging gravel, feeding the wash plant, and removing tailings. One P&H dragline with a 1 ¼ yard bucket was used to dig drains and clean out settling ponds. In 1994 an International loader with a three yard bucket fed the wash plant.

Wash Plant: A dump box 18 feet long by 8 feet wide was washed with a monitor nozzle and fed a single sluice run 36 inches wide by 25 feet long. The top three feet were lined with 1 ½ inch angle iron riffles. The next four feet were lined with ¾ inch punch plate. Another four feet of angle iron riffles were followed by six feet of punch plate, three feet of riffles, and finally five feet of punch plate. The entire run was lined with cocoa matting. Thirty cubic yards per hour were processed using 1000 igpm of water supplied by a 6 by 6 inch Gould trash pump, powered by a GM 252 diesel. In 1994 the processing rate was increased to 50 cubic yards per hour.

Ground Description: Mining occurred near the middle of the wide valley bottom at the confluence of the original Little Blanche Creek channel and an unnamed right limit tributary. Overburden upstream of the tributary was about 10 feet deep and below the tributary about 20 feet deep. Gravel was 1 to 4 feet deep and bedrock was fractured and decomposed. All gravel plus up to three feet of bedrock were sluiced.

Mining Cuts: After working the same cut for several years, Mr. Miller had exposed approximately 10,000 square feet of bedrock.

Water Supply and Treatment: Water was pumped from an instream reservoir on Little Blanche Creek and was settled in two out-of-stream ponds. Effluent was discharged into Little Blanche Creek. The settling ponds were 200 feet long by 20 feet wide.

Gold: The gold was coarse and angular, and contaminated with mercury from previous miners. Fineness ranged from 690 to 714.

LITTLE BLANCHE CREEK	115 O/14
Irvin Nafziger	63°49'N 139°06'W
Water Licence: PM94-004	1993, 1994
Indian River Map	Site No. 202

Operation/Location: Irvin Nafziger ran a three person operation on Little Blanche Creek, below the forks, about six kilometres upstream from Quartz Creek. The valley averages about 200 feet wide in this area, and the sides are not steep.

Equipment/Function: Two D8 Caterpillar bulldozers were used to strip overburden, dig and push pay gravel, and remove tailings. An excavator with a two cubic yard bucket fed the wash plant.

Wash Plant: The wash plant was a Super Sluice IV. Materials were fed into a 10 foot by 10 foot hopper through a one inch grizzly. Two sluice runs 3 feet wide by 6 feet long were lined with angle iron riffles. These were followed by four feet of slick plate and two more sluice runs, 6 feet wide by 12 feet long, lined with expanded metal riffles over Nomad mat. About 85 cubic yards per hour were sluiced using 1500 igpm of water supplied by an 8 inch pump, powered by a GM 371 diesel engine.

Ground Description: Black muck 10 feet deep covered 4 to 6 feet of gravel. Some muck seams were mixed in with the gravel layer. All gravel plus 2 feet of bedrock were sluiced.

Mining Cuts: One cut 200 feet wide by 500 feet long was mined each year.

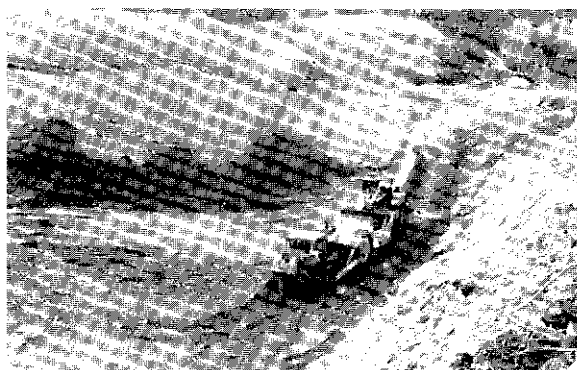
Water Supply and Treatment: Water was stored in an instream reservoir on Little Blanche Creek and was recycled from settling ponds in old mining cuts, out-of-stream.

Gold: The gold was flat and fine. Eighty percent was minus 20 mesh. Fineness was 630.

KLONDIKE RIVER	116 B/3
Torfinn Djukastein	64°03'N 139°25'W
Water Licence: PM92-066	1993, 1994
Bonanza-Hunker Creek Map	Site No. 85

Operation/Location: Torfinn Djukastein ran an operation on the Klondike River, upstream from the old Dawson City boundary, with eight workers in 1993 and four workers in 1994. The mining cut was located on the right limit bench, next to the new Dome Road. Pay gravels were hauled by truck to the wash plant down in the valley. Sluice water was recycled in dredge ponds adjacent to the Klondike Highway, about 1000 feet away from the river.

Equipment/Function: One Komatsu D375A bulldozer and one Caterpillar D9H bulldozer were used to strip overburden and to dig and stockpile gravel. One D7 bulldozer was used for finishing work. A Caterpillar bottom loading scraper, with 25 cubic yard capacity, was used to strip and stockpile waste gravel. A Caterpillar 980B loader was used to load pay gravel into dump trucks, a 966C loader fed pay gravel into the wash plant, and a 980B loader removed tailings.



A belly scraper loading gravel with the aid of a D9 bulldozer in Torfinn Djukastein's Klondike River bench mining cut.

Wash Plant: A derocker 10 feet wide by 20 feet long fed a single sluice run 5 feet wide by 24 feet long, lined with ½ inch punch plate over expanded metal on Nomad carpet for the first 12 feet, and two inch angle iron riffles for the last 12 feet. About 100 cubic yards per hour were sluiced using 1500 igpm of water supplied by a Paco 8 by

10 inch pump, powered by a GM471 diesel engine.

Ground Description: The organic overburden layer was 10 to 15 feet deep on top of 15 to 25 feet of waste gravel, which was coarse and contained a high percentage of ice. The bottom one foot of gravel plus 2 to 5 feet of hard Klondike bedrock were sluiced.

Mining Cuts: A large mining cut on the uphill side of the new Dome Road, below the municipal dump site, was begun in 1993 and continued in 1994. Approximately 240,000 cubic yards of waste gravel was stripped and stockpiled in 1993, and 72,000 cubic yards in 1994. Approximately 60,000 cubic yards of pay gravel were sluiced in 1993 and 18,000 cubic yards in 1994.

Water Supply and Treatment: Water was pumped from a dredge pond on the north side of the Klondike Highway, about 1000 feet from the Klondike River. Sluice water was discharged to another dredge pond, adjacent to the pump pond, and recirculation occurred by seepage through the dredge tailings. There was no discharge to the Klondike River or to any dredge ponds on the south side of the highway.

Gold: Coarse fines, flakes, and some small nuggets with quartz attached were recovered. Purity was 810 fine.

KLONDIKE RIVER	116 B/3
Don Sandberg	64°02'N 139°26'W
Unlicensed	1993, 1994
Bonanza-Hunker Creek Map	Site No. 86

Operation/Location: Don Sandberg ran a three person operation on the Lousetown Bench, above the left limit of the Klondike River, about ½ kilometres upstream from its confluence with the Yukon River.

Equipment/Function: Two Caterpillar D9L bulldozers were used to strip overburden, and to dig and stockpile gravel. One Caterpillar 245 excavator fed the wash plant and a Caterpillar 980C loader removed tailings. The excavator and loader were also used for cleaning out settling ponds.

Wash Plant: A hopper 12 feet wide by 18 feet long fitted with grizzly bars fed a shaker screen

deck which classified down to minus ¾ inch. A conveyor belt fed the classified material to a trommel 5 feet in diameter with two vibrating sluice runs. The sluice runs had boil boxes to trap nuggets at the top end, then angle iron riffles, then expanded metal riffles. About 100 cubic yards per hour were sluiced using 3000 igpm of water supplied by an 8 by 10 inch Paco pump, powered by a GM471 diesel engine.

Ground Description: Organic overburden was only 2 or 3 feet deep on top of gravel layers from 10 to 12 feet deep. The bottom five feet of gravel plus two feet of bedrock were sluiced.

Mining Cuts: In 1993 one mining cut about 125 feet wide by 250 feet long was completed, and stripping started on a second cut about 275 feet wide by 800 feet long. In 1994 one mining cut about 200 feet wide by 300 feet long was completed.

Water Supply and Treatment: Water was recycled from settling ponds in mined-out cuts on the bench. Make up water was pumped from the Klondike River.

Gold: The gold was small and smooth, with fineness around 800.

QUIGLEY GULCH	116 B/3
Coulee Resources	64°02'N 139°16'W
Water Licence: PM94-032	1994
Bonanza-Hunker Creek Map	Site No. 87

Operation/Location: Joel White ran a three person operation in the Klondike River valley at the mouth of Quigley Gulch in 1994. Mining occurred along the left limit of the Klondike valley bottom, downstream from Quigley Gulch.

Equipment/Function: A Komatsu 455 bulldozer was used to strip overburden and to dig and stockpile pay gravel. An Hitachi EX200 excavator was used to dig pay gravel, load a Kenworth dump truck, and feed the wash plant. The dump truck, with 12 yard capacity, hauled pay gravel to a stockpile. A Caterpillar 980B loader removed and stacked tailings.

Wash Plant: A large trommel 7 feet in diameter by 30 feet long classified down to minus ¾ inch. Two oscillating sluice runs 4 feet wide by 25 feet long were lined with expanded metal riffles.

About 120 cubic yards per hour were processed using 1200 igpm of water delivered by a 6 inch Gorman Rupp pump, powered by a Deutz, 4-cylinder diesel engine.



An aerial view of Coulee Resources' mining cut at the mouth of Quigley Gulch on the left limit of the Klondike valley.

Ground Description: An average of five feet of frozen black muck overburden covered frozen gravel layers up to 35 feet deep. The bottom six feet of gravel plus about one foot of bedrock were sluiced.

Mining Cuts: A cut 750 feet long by 300 feet wide was excavated and stockpiled in 1994. It was necessary to de-water this pit during the excavation, using a 6 inch pump. During the fall, at the end of the 1994 season, the excavation was allowed to flood with natural ground water seepage and the stockpiled pay gravels were sluiced back into the mining cut.

Water Supply and Treatment: Water was recycled in the mining cut. Quigley Gulch was bypassed during the summer.

Gold: Fine gold, coarse gold with small flakes, and some crystal gold was recovered.

QUIGLEY GULCH	116 B/3
Jim Conklin	64°02'N 139°20'W
Water Licence: PM93-103	1993, 1994
Bonanza-Hunker Creek Map	Site No. 88

Operation/Location: Jim Conklin ran a one person operation on the left limit bench of Quigley Gulch

part time in 1993 and 1994. Quigley Gulch is a left limit tributary to the Klondike River.

Equipment/Function: One Caterpillar D6 bulldozer was used to strip overburden and dig and push gravel. A Michigan 175B loader with a 6½ yard bucket fed the wash plant and removed tailings.

Wash Plant: A dump box 4 feet wide by 18 feet long fed a screen deck 4 feet wide by 8 feet long. This was followed by a single sluice run lined with angle iron riffles over Nomad carpet. A 6 inch Jaeger pump supplied 450 igpm of water which was used to process about 65 cubic yards per hour.

Ground Description: Overburden two feet deep covered six feet of gravel. All gravel plus about six inches of bedrock were sluiced.

Mining Cuts: Two narrow cuts were completed for testing purposes.

Water Supply and Treatment: Water from spring snow melt was stored in a 50 foot by 80 foot pond on the bench, and recycled.

Gold: The gold was fine, round, and smooth.

MINNIE BELL CREEK	115 O/15
Wheelton's Exploration	63°54'N 138°35'W
Water Licence: PM93-083	1993, 1994
Klondike Placer Area Map	Site No. 89

Operation/Location: In 1993 John Wheelton continued to strip ground on Minnie Bell Creek, a left limit tributary of Flat Creek. A left limit tributary of Minnie Bell Creek was partially stripped during 1994.

Equipment/Function: A D8 Caterpillar bulldozer and a 46A bulldozer were used for stripping.

Wash Plant: A single run sluice box was brought on site but was not used.

Ground Description: Between 15 and 20 feet of frozen black muck covered 10 feet of thawed gravels.

Mining Cuts: A large area on Minnie Bell Creek has been stripped over the last several years along with the left limit tributary of Minnie Bell Creek.

Some test sluicing was done on the upper gravels in the main creek in 1993.

Water Supply and Treatment: Minnie Bell Creek was diverted into a series of out-of-stream swamps along the left limit of Flat Creek. The swamps have provided effluent treatment for the instream workings on Minnie Bell Creek. Discharge was by seepage through the swamps and into Flat Creek from several points.

Gold: No gold was recovered.

MONTANA CREEK	115 O/10
Terry Tosczak	63°38'N 139°00'W
Water Licence: PM90-038	1993
Klondike Placer Area Map	Site No. 90

Operation/Location: In 1993 Terry Tosczak and two employees mined on the left limit of Montana Creek just upstream of Stowe Creek.

Equipment/Function: Two D8H Caterpillar bulldozers were used for stripping and sluicing.

Wash Plant: The wash plant consisted of a side push dump box feeding a triple run sluice box. The 4 foot wide by 16 foot long centre run was lined with angle iron riffles and combinations of Nomad matting and astro turf. A four foot section of punch plate was used at the top of the run. The side runs were 2 feet wide by 12 feet long, and lined with Nomad matting and expanded metal. Approximately 50 cubic yards per hour were sluiced.

Ground Description: The depth increased from the front to the back of the cut. An average of two feet of black muck overlay eight feet of gravel when mining started. Six feet of black muck covered 12 feet of gravel at the back of the cut. The lower four feet of gravel resembled a grey White Channel gravel and contained all the pay. The bedrock was undulating and fully decomposed. The lower four feet of gravel and 3 to 6 feet of the bedrock were sluiced.

Mining Cuts: A single cut roughly 300 feet by 600 feet was mined in 1993.



Aerial view of mining done by Terry Toszczak in 1993 on the left limit of Montana Creek.

Water Supply and Treatment: Water was diverted from Stowe Creek into a series of out-of-stream recycle/settling ponds located on the swamps next to Montana Creek. No surface discharge occurred.

Gold: The gold was flat and flaky, with the majority between 20 and 30 screen. The purity was 790 fine.

MONTANA CREEK	115 0/11
V. Matkovich & M. O'Connell	63°37' 139°01'
Water Licence: Unlicensed	1993
Klondike Placer Area Map	Site No. 91

Operation/Location: This operation was located on a left limit bench of Montana Creek downstream from the confluence with Steel Creek. The valley is about 3500 feet wide at this point. Bedrock was six feet above the creek level in the area mined. Two miners worked 10 hours per day in 1993.

Equipment/Function: A 125 Michigan loader with a three cubic yard bucket and a D7 Caterpillar bulldozer were used to mine the ground.

Wash Plant: The wash plant was a 3 foot by 10 foot duplex, screening to 5/8 inch minus. This fed a sluice run 8 feet long by 32 inches wide equipped with riffles, which in turn fed two runs 8 feet long by 24 inches wide equipped with expanded metal. A 6 inch Monarch pump powered by a GM engine provided 800 igpm to sluice from 30 to 50 loose yards per hour.

Ground Description: The stratigraphic section consisted of 3 to 7 feet of black muck over 3 to 4 feet of reddish brown gravel on top of 2 to 3 feet of greenish brown gravel. Green chlorotic schist bedrock varied from decayed to hard, and was silicified with a wavy texture. The sluice section was two feet of gravel and two feet of bedrock.

Mining Cuts: An area 200 feet by 250 feet was mined. A total of 1500 yards were sluiced.

Water Supply and Treatment: Process water was obtained by utilizing 100% recirculation of seepage water. The effluent was treated in two recirculation ponds 200 feet long by 75 feet wide by 8 feet deep. There was no visible discharge to the creek channel.

Gold: The gold varied from flat and flaky to rounded and coarse. The mesh sizes were 10% +10, 80% -10 to +60, and 10% -60. Fineness was 790.

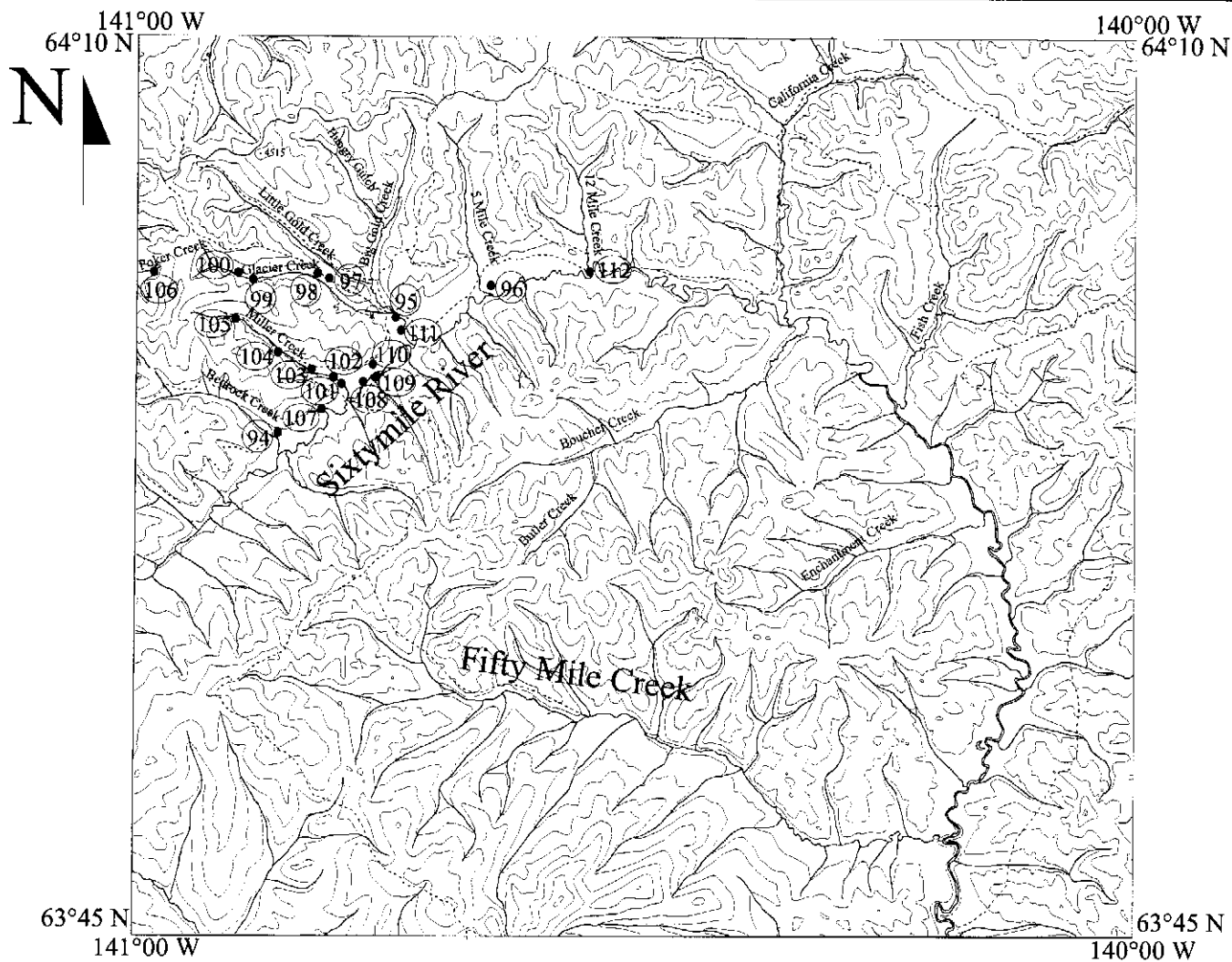
TEN MILE CREEK	115 0/12
Jonathan M. Ganter	63°32'N 139°56'W
Water Licence: PM93-024	1994
Klondike Placer Area Map	Site No. 92

Operation/Location: Jonathan Ganter ran this operation with a crew of four miners and one person in camp. Various locations on Ten Mile Creek were mined or tested during the 1994 season.

Equipment/Function: A D9H Caterpillar bulldozer and a D8K bulldozer were used for stripping and stockpiling pay gravels. A 966D Caterpillar loader was used for the sluicing.

Wash Plant: A 10 foot wide derocker lead into a single sluice run 4 feet wide by 37 feet long. The run was lined with one inch angle iron riffles and Nomad matting. The run was built with a 2 inch gap between the matting and riffles. The sluice plant processed 80 cubic yards per hour. A 10 by 12 inch Paco pump supplied the 5000 igpm needed for sluicing.

Ground Description: The ground varied from 6 to 25 feet deep. An average cut was about 10 feet deep. Most cuts had a black muck surface layer with several layers of gravel and sand beneath. A thin clay layer containing gold was usually encountered just above bedrock. Bedrock varied



Sixtymile Placer Area

Yukon Territory

0 km 10

Secondary roads
Major roads

Rivers

Contours

Placer Operations

from hard and flat near the top of Ten Mile Creek to soft and wavy near the mouth. An average of three feet of material was sluiced.

Mining Cuts: The 1994 season was the first year for this operation. Two cuts (465 feet by 100 feet and 300 feet by 150 feet) were mined.

Water Supply and Treatment: Water was pumped from instream reservoirs/recycle ponds on Ten Mile Creek. The effluent treatment occurred in both instream and out-of-stream settling ponds.

Gold: Ten percent of the gold was greater than 10 mesh, 85% was -10 to +60, and 5% was less than 60 mesh. Nuggets were usually smooth and either round or flat. Fineness was 840.

THIRTEEN MILE CREEK	115 O/12
Jardin Financial Group Inc.	63°33'N 139°58'W
Water Licence: PM93-108	1994
Klondike Placer Area Map	Site No. 93

Operation/Location: Jardin Financial Group conducted a testing operation at several locations on Thirteen Mile Creek. No sluicing was done. The operation was moved to Ten Mile Creek at mid-season.

Ground Description: Only testing was done. Information on the depth of ground and stratigraphic profile was not available.

Mining Cuts: No sluicing was done.

Gold: No gold was recovered.

BEDROCK CREEK	115 N/15
Steve Prohaszka	63°59'N 140°53'W
Water Licence: PM92-045	1993, 1994
Sixtymile River Map	Site No. 94

Operation/Location: This property was located on Bedrock Creek in the Sixty Mile area. Mining was performed by Graham Ventures. In 1993 three miners worked 10 hours each day. In 1994 there were three miners for one month and two for the rest of the season.

Equipment/Function: A D9H Caterpillar bulldozer was used to strip and push pay to the sluice box. A D8H bulldozer moved tailings.

Wash Plant: The wash plant was a 300 cubic yard Ross box with three runs 3 feet wide by 20 feet long. The main run had 8 feet of riffles and 12 feet of punch plate over expanded metal. The side runs had expanded metal for the full 20 feet. Water was supplied by a 12 by 10 inch Cornel pump powered by a 3406 Caterpillar engine at a rate of 2000 igpm. The plant processed 250 loose yards of material per hour.

Ground Description: In 1993, three feet of black muck and 3 to 10 feet of mixed gravel covered decomposed bedrock with clay. The sluice section was 1 to 2 feet of gravel and two feet of bedrock. In 1994, three feet of black muck and 8 to 10 feet of gravel were found on decomposed and fractured bedrock. The sluice section was 1 ½ feet of gravel and three feet of bedrock.

Mining Cuts: In 1993, the three cuts mined were 300 feet by 400 feet, 100 feet by 300 feet, and 150 feet by 300 feet. The surface dimensions of the three cuts mined in 1994 were 60 feet by 200 feet, 300 feet by 400 feet, and 250 feet by 400 feet.

Water Supply and Treatment: Process water was obtained from a small instream reservoir in Bedrock Creek. Water was not recycled. The settling pond in 1993 was 600 feet long by 400 feet wide, and in 1994 the settling pond was 800 feet long by 200 feet wide.

Gold: The gold was flat and smooth with some chunky pieces. The purity was 830 fine.

Comments: Some ivory was discovered at the site. Mercury was found in the gold although none was used by the operators.

BIG GOLD CREEK	116 C/2
Steve Prohaszka	64°01'N 140°44'W
Water Licence: PM92-046	1993, 1994
Sixtymile River Map	Site No. 95

Operation/Location: This operation was located in the Big Gold Creek valley between Big Gold and Glacier Creeks. Three miners worked one 10 hour shift each day at this site.

Equipment/Function: Two Caterpillar loaders, models 980 and 988, were used for sluicing and hauling tailings. Three Caterpillar bulldozers,

models D9G, D9H and D8K, were used for stripping and pushing up pay gravel.

Wash Plant: The processing plant was a 24 foot long by 6½ foot diameter trommel, which screened to ¾ inch. Two sluice runs 16 feet wide by 38 feet long with 12 feet of expanded metal on the lower portion and 2 by 2 inch angle iron riffles on the upper portion were used for recovery. Water was furnished by a 6 inch submersible pump powered by a 6-cylinder Lister engine at a rate of 1600 igpm. One hundred to 120 loose yards per hour of pay gravel were processed.



Steve Prohaszka's trommel on Big Gold Creek in the Sixty Mile River area.

Ground Description: The waste section was 14 feet of muck covering four feet of frozen gravel. The sluice section was 2½ feet of pay gravel and five feet of bedrock.

Mining Cuts: One cut measuring 300 feet by 200 feet was processed in both 1993 and 1994.

Water Supply and Treatment: Process water was pumped from Big Gold Creek. Pre-settling of effluent occurred in a pond immediately downstream from the sluice plant, with final settling in mined-out cuts in the Sixty Mile River valley prior to discharge to Big Gold Creek.

Gold: The gold was bright, and no nuggets were found. The purity was 844 fine.

Comments: In 1993 and 1994 preparatory stripping was performed on the right limit of Glacier Creek near the cuts being sluiced. The right limit material was not processed.

SIXTY MILE RIVER	116 C/2
Eldorado Placers Ltd.	64°02'N 140°39'W
Water Licence: PM93-072	1993, 1994
Sixtymile River Map	Site No. 96

Operation/Location: This operation was located on the left limit of the Sixty Mile River near Five Mile Creek. Six equipment operators, a foreperson, cook, and mine manager worked two 12 hour shifts, seven days per week for eight months of the year.

Equipment/Function: Two D9L Caterpillar bulldozers, a D8H bulldozer, a 245 Caterpillar excavator, and 3306 Caterpillar engines powering two 10 by 12 inch pumps were used to mine this property.

Wash Plant: Prior to August 1993 the plant described in the *Yukon Placer Mining Industry 1991-1992* report was used. After August a new wash plant was employed. It consisted of a 5 foot by 18 foot double deck vibrating screen deck with 1½ inch square holes in rubber perforated plate on the top deck, and ¾ inch holes in polyvarthane on the second deck. Recovery was aided by 8 feet of 1 inch by 1 inch riffles 6 feet wide, and 12 feet of 5 pound grating 12 feet wide. The operation utilized 2200 igpm of water to process 220 bank cubic yards per hour, for 2000 hours per season.

Ground Description: Up to 24 feet of muck (average six feet) covered 6 to 15 feet of gravel. Virtually all of the material was frozen. The sluice section averaged 7½ feet. Three feet was bedrock and the rest was gravel. The bedrock had a maximum 15 foot depth and was pocketed. The average depth of the pockets was 4½ feet.

Mining Cuts: In 1993, 10 cuts were mined. An area of 127,029 square yards was worked, resulting in 317,573 cubic yards sluiced. Eight cuts were taken at this site in 1994. About 425,000 cubic yards were sluiced from an area of 170,000 square yards.

Water Supply and Treatment: Process water was recirculated at all times. Make up water was supplied from Five Mile Creek. Effluent was treated in a series of three settling ponds before discharge to the Sixty Mile River downstream from the Five Mile Creek valley.



Looking downstream on the Sixty Mile River near Eldorado Placer Ltd.'s mining operation.

Gold: The gold was flat with little quartz present, and coarse material was not common. Fineness was 840.

Comments: Contouring of tailings piles has been addressed on an ongoing basis at this site. Some of the contoured tailings have been covered with black muck to promote revegetation.

GLACIER CREEK	116 C/2
Henry and Barbara Hanulik	64°02'N 140°49'W
Water Licence: 90-086, 93-073	1993, 1994
Sixtymile River Map	Site No. 97

Operation/Location: As in previous years this small family operation was located on the left limit of Glacier Creek. Two miners worked "when the mood strikes" during the summer mining season.

Equipment/Function: A 955 Caterpillar track loader with a two yard bucket was used to strip the cut, transport pay gravels to the wash plant, and haul tailings away.

Wash Plant: The sluice box consisted of a dump box with punch plate, expanded metal, and matting, which fed a 30 foot by 2 foot sluice run with two inch riffles and expanded metal on Nomad matting. The sluice box used 1400 igpm of water provided by a 6 by 6 inch pump powered by a 4-cylinder Ford diesel engine to process 20 to 30 loose yards per hour of pay gravel. A long tom was used for clean-ups.

Ground Description: Left limit side pay was mined by these operators. The stratigraphic section was

1 to 2 feet of old tailings over moss, and 15 feet of mud and gravel. The material was partially thawed above creek level. Old workings were found in the cut. Approximately five feet of gravel was sluiced.

Mining Cuts: Small mining cuts were made in 1993 and 1994 upstream of previous years' work.

Water Supply and Treatment: Process water was obtained from seepage through old dredge tailings to an out-of-stream reservoir on the left limit of Glacier Creek. Make-up water was taken from Glacier Creek to the reservoir by a culvert under the Glacier Creek road. Settling occurred in two large out-of-stream settling ponds.

Gold: The gold was generally fine, with a black stain. Fineness was 820 to 830.

GLACIER CREEK	116 C/2
Glacier Creek Gold Co.	64°02'N 140°49'W
Water Licence: PM92-037	1994
Sixtymile River Map	Site No. 98

Operation/Location: In 1994 K-1 Mining Services Ltd. mined this property for Glacier Creek Gold Company. A crew of three miners worked 14 hours per day. The mining cut was located on the right limit of Glacier Creek approximately 2½ miles from the Sixty Mile access road.

Equipment/Function: Two D8 Caterpillar bulldozers were used to push pay to the sluice box and to push away tailings. A 966C Caterpillar loader fed the box. The ground had been prepared prior to 1991 by Glacier Creek Gold Company.

Wash Plant: The wash plant consisted of a sluice box with one side run. The dump box was 12 feet by 6 feet with ¾ inch punch plate. The main run was 3 feet wide by 22 feet long with 1 by 1 inch angle iron riffles. The side run was 2¾ inches wide by 20 feet long. A 6 by 8 inch Peerless pump powered by a 471 GM diesel provided the plant with 1600 igpm of water to process 50 yards per hour of pay gravels.

Ground Description: When the ground was stripped the operators encountered approximately four feet of muck overburden near the centre of the valley and about 30 feet at the right limit of the cut. Beneath that was six feet of gravel. Two feet of that was waste material which was used

to stabilize the stockpiled muck. The remaining four feet of gravel was sluiced with three feet of bedrock.

Mining Cuts: One cut 250 feet by 90 to 100 feet in area was mined, with 5000 loose yards sluiced.

Water Supply and Treatment: Water was pumped to the sluice box from the second in a series of three recycle/settling ponds. The primary pond was out-of-stream while the second and third ponds were instream.

Gold: The gold was predominantly fine and granular, although some coarse material with a dark stain was found. Fineness was 830.

Comments: Extensive old workings which appeared to have been fire thawed were discovered at this site.

GLACIER CREEK	116 C/2
Coulee Resources Ltd.	64°02'N 140°52'W
Water Licence: PM94-010	1994
Sixtymile River Map	Site No. 99

Operation/Location: In 1994 Coulee Resources returned to mine a left limit bench of Glacier Creek which they began prior to 1993. Work was performed by four miners around the clock with one camp worker also employed.

Equipment/Function: A D8L Caterpillar bulldozer, a 980B Caterpillar loader, and an EX200 Hitachi excavator were used to mine the site.

Wash Plant: The wash plant was a 10 foot by 20 foot derocker used in previous years at this site and at the mouth of Big Gold Creek. Two sluice runs were added to the plant. The new runs were equipped with the same one inch Hungarian riffles and un-backed Nomad matting used in the original run. Water was supplied by a 10 inch by 12 inch Caterpillar pump powered by a 3406 Caterpillar engine at a rate of 1800 igpm. The process rate was 100 loose yards per hour.

Ground Description: The total depth of the ground on the bench was 16 feet. The miners removed two feet of muck, 12 feet of talus material, and ½ foot of gravel to reach the 1 ½ feet of pay gravel. The pay gravel and one foot of bedrock were sluiced.

Mining Cuts: One cut 700 feet by 50 feet by 16 feet deep was processed.

Water Supply and Treatment: Process water was pumped from Glacier Creek. The effluent was settled in an out-of-stream pond prior to discharge back to the creek.

Gold: The gold was coarse with an average size of 28 mesh. Fifteen percent was 12 mesh or larger, and a nugget weighing 1.15 ounces was recovered. The purity was 830 fine.

Comments: The operator reported that reclamation work at the site had commenced and that the stream channel had been stabilized.

GLACIER CREEK	116 C/2
Altak Mining & Expl. Ltd.	64°03'N 140°52'W
Water Licence: 92-095, 93-110	1993, 1994
Sixtymile River Map	Site No. 100

Operation/Location: The operator mined on the upper reaches of Glacier Creek. In 1993 mining activity was on a left limit bench in an area where bedrock was approximately 40 feet above the water course. In 1994 activity was in the valley bottom on the right limit of the creek. A crew of four miners and one camp worker put in 10 hours a day.

Equipment/Function: A D7 Caterpillar bulldozer with a straight blade was used to strip and push up pay dirt. An Insley excavator with a one cubic yard bucket fed the trommel. A 636 Leyland loader with a two yard bucket moved tailings. In 1994 a D8H bulldozer replaced the D7, and an 850 Case loader and excavator replaced the Insley.

Wash Plant: A 42 inch by 24 inch trommel fed a 24 inch by 24 foot sluice run. The sluice was equipped with one inch angle iron riffles and #4 stretch metal and Nomad matting. The slope of the sluice run was 1 ½ to 2 ½ inches per foot. The concentrator was a 48 inch double hutch impulse jig. Water was supplied by a 6 by 4 inch Monarch pump at a rate of 800 igpm, to process 40 to 50 loose yards per hour.

Ground Description: The depth to bedrock in 1993 averaged 5 to 8 feet. From 1 to 2 feet were black muck, 2 to 3 feet were mixed mud and boulders 1 to 1 ½ feet in size, and 2 to 3 feet were shale and

rock ½ to 10 inches in size. The material was frozen throughout. The sluice section was one foot of gravel and two feet of bedrock. In 1994 tailings from previous operations were reworked.

Mining Cuts: Three cuts 50 feet by 75 feet were mined in 1993.

Water Supply and Treatment: An out-of-stream pond off Glacier Creek supplied the operation in 1993. Effluent was settled in ponds on the bench, with a discharge ditch to Glacier Creek. Approximately 20% of the water was recirculated. In 1994 a small out-of-stream reservoir on the left limit of the creek provided water. Effluent was treated in out-of-stream ponds on the right limit of the creek.

Gold: The gold was mostly worn, but some round pieces were found. The colour was dull with some pieces having a black stain. Mesh sizes were 5% +10, 80% -10 to +60, and 15% -60. In 1994 a red stain was noted as well as the black stain. Mesh sizes were 80% -10 to +60, and 20% -60. Fineness was 830.

Comments: Mercury was found on some of the gold.

MILLER CREEK	115 N/15
Jayce Haynes	64°00'N 140°48'W
Water Licence: PM91-108	1993, 1994
Sixty Mile River Map	Site No. 101

Operation/Location: This operation was located in the narrow valley bottom of Miller Creek, approximately 3500 feet upstream from the confluence with the Sixty Mile River. The mining cuts were upstream of the Bedrock Creek access road crossing of Miller Creek, while the settling ponds were downstream of the crossing. Two miners worked 10 hours per day at this site.

Equipment/Function: A TD25 International bulldozer was used to strip and push up pay gravels. A five cubic yard EIMCO scoop was used to haul tailings and strip. A ¾ cubic yard P&H excavator was used to dig drains and feed the sluice box.

Wash Plant: The wash plant consisted of a 4 foot by 12 foot single screen deck with ½ inch steel punch plate. The top of the sluice was two feet wide and expanded to eight feet. The single sluice

run was 24 feet long with expanded metal and riffles in the top eight feet and expanded metal over Nomad matting in the bottom 16 feet. The wash plant used 1200 igpm to process 70 loose yards per hour of pay gravel.



Jayce Haynes' sluice set-up on Miller Creek.

Ground Description: From 2 to 15 feet of black muck covered 8 to 12 feet of mixed gravel. The material was partially frozen. All the gravel was sluiced with 3 to 4 feet of bedrock.

Mining Cuts: In 1993 a cut 75 feet wide by 300 feet long was mined. The 1994 cut was 75 feet wide by 150 feet long.

Water Supply and Treatment: Process water was obtained from a 50 foot by 150 foot out-of-stream recirculation pond which accomplished approximately 50% recycling of the water.

Gold: The gold was flat and smooth. One percent was +10 mesh, 35% -10 to +25 mesh, 60% -25 to +60 mesh, and 4% -60 mesh. Fineness varied from 780 to 810.

MILLER CREEK	116 C/2
Phil Jenner	64°00'N 140°49'W
Water Licence: PM93-117	1994
Sixty Mile River Map	Site No. 102

Operation/Location: Two miners worked this property on the right limit of Miller Creek. The valley at this location is much steeper on the right limit than the left.

Equipment/Function: One D7E Caterpillar bulldozer was used to prepare ground. A Hough 80 loader fed the wash plant and removed tailings.

Wash Plant: Recovery was accomplished using a 2 foot by 8 foot double deck screen deck, screening to two inches on the upper deck and ½ inch on the lower deck. A 5 foot by 10 foot dump box with ¼ inch punch plate over indoor/outdoor green matting fed two 2 foot by 20 foot sluice runs with four 2 foot by 4 foot sections of expanded metal followed by riffles. Pay gravels were processed at a rate of 20 yards per hour for a limited number of sluicing hours during the mining season.

Ground Description: The stratigraphic section consisted of 2 to 4 feet of black muck over 2 to 3 feet of clay, covering 6 to 8 feet of mixed material from boulders to fine gravels. This material was thawed where the overburden had been removed by previous operators. Bedrock was approximately 10 feet below creek level. The sluice section was 2 to 4 feet of gravel and 6 to 8 feet of decomposed bedrock.



Phil Jenner's double run sluice set-up on Miller Creek in 1994.

Mining Cuts: One cut 40 feet wide by 100 feet long by 10 feet deep was processed this season. Another cut 50 feet wide by 300 feet long by 8 feet deep was stripped for processing in 1995.

Water Supply and Treatment: Water was obtained from a mined-out pit with settling in an out-of-stream pond prior to return to Miller Creek.

Gold: The gold was flat and very fine, with no nuggets. The texture was rough and the finish was dull with a brownish black stain. The fineness had not been determined.

MILLER CREEK 116 C/2
Sixty Mile Enterprises Ltd. 64°02'N 140°53'W
Water Licence: PM92-104 1993, 1994
Sixtymile River Map Site No. 103, 104, 105

Operation/Location: Sixty Mile Enterprises worked on Miller Creek, a tributary of the Sixty Mile River. An upstream site was mined on the right limit of the creek, as well as two sites in the area of the camp on the left limit of the creek. One site was upstream and one immediately downstream of the camp.

Equipment/Function: A D8L Caterpillar bulldozer, a 980C Caterpillar loader, and a 966 loader were used to mine this site.

Wash Plant: One wash plant used on the property was a trommel 4 feet in diameter by 20 feet long, from which material went into a 3 foot by 8 foot run of pulsating riffles with a small nugget trap. The trommel used 1500 igpm of water to process 70 loose yards per hour of material. At the downstream site another plant was used. A shaker with a hopper over a 4 foot by 8 foot screen deck fed a 2 foot by 10 foot sluice run followed by a 9 foot wide by 16 foot long run equipped with expanded metal. The shaker plant used 1200 igpm of water to process 45 loose yards per hour.

Ground Description: The depth of the uppermost area was 5 to 75 feet, of which up to five feet was muck and the rest slide rock gravel. Mining took place on the steep right limit slope. The depth of the ground at the site upstream from camp was 30 to 75 feet, approximately 30 feet of which was black muck. Downstream from camp the depth was 80 to 110 feet, approximately 40 feet of which was black muck.

Mining Cuts: In 1993 a total of 42,130 cubic yards of material were moved at the uppermost site. A total of 14,815 cubic yards were mined at the site upstream from camp, and 11,852 cubic yards were moved at the site downstream from camp. In 1994 approximately 14,000 cubic yards were sluiced at the upstream cut, 6000 at the cut upstream from camp, and 4800 at the downstream cut.

Water Supply and Treatment: At the downstream sites an out-of-stream reservoir pond on the left limit of Miller Creek was used for water supply. Effluent for the site downstream from camp was treated in two out-of-stream ponds which were also on the left limit of the creek. At the upstream site water was pumped from an instream reservoir/recycle pond up to the wash plant on the right limit hillside. Primary effluent treatment was in an instream settling pond downstream from the sluicing area. The treated water was then pumped upstream from the settling pond to the reservoir.

Gold: The gold was rough with some red and black stain. The purity was 827 to 855 fine.

SIXTY MILE RIVER	115 N/15, 116 C/2
K-1 Mining & Services	64°00'N 140°45'W
Water Licence: PM91-026	1993
Sixtymile River Map	Site No. 107

Operation/Location: This operation was located on the right limit of the Sixty Mile River on claim P1409. The Sixty Mile valley in this area is wide and flat. Two miners worked 14 hours each day at this operation.

Equipment/Function: Two D8 Caterpillar bulldozers were used to strip, sluice, and push tailings.

Wash Plant: A 12 foot by 6 foot dump box, equipped with ¾ inch punch plate, led to a 3 foot by 22 foot sluice run, and a 23¾ inch by 20 foot sluice run.

Ground Description: The operators removed 4 to 5 feet of muck to uncover 8 to 10 feet of gravel which was mostly fine. The gravel lay on fractured, andesite-rich bedrock. The sluice section consisted of 4 feet of gravel and up to six feet of bedrock.

Mining Cuts: Two cuts were mined in 1993. The total surface area of the cuts was 250 feet by 330 feet. Approximately 10,000 cubic yards per cut were processed.

Water Supply and Treatment: Process water was obtained from a pond off the Sixty Mile River. Waste water was treated in two ponds. One was 500 feet long by 100 feet wide, and the other was 400 feet long by 100 feet wide.

Gold: Three types of gold were recovered from this property. One was fine, flaky and clean; another was coarse with a red stain; and the last was coarse with a black stain. Fineness was 840.

Comments: Mining was completed on this claim in 1993 with reclamation addressed at the end of the 1994 mining season.

SIXTY MILE RIVER	115 N/15
Larry Haner	64°00'N 140°46'W
Water Licence: PM92-092	1993, 1994
Sixtymile River Map	Site No. 108

Operation/Location: This operation was located on the left limit of the Sixty Mile river downstream from Miller Creek, in the vicinity of the old abandoned Holbrook dredge. The Sixty Mile valley is wide and relatively flat in this area. Mining was performed in previously dredged ground. Three miners worked 11 hours per day at this site.

Equipment/Function: A D9H Caterpillar bulldozer equipped with a U-blade and ripper was used to strip. A 980B Caterpillar loader was used to strip and haul tailings, and a 966C loader fed the wash plant. An Insley 3500 excavator with a 2½ yard bucket was used to strip and dig bedrock.

Wash Plant: The wash plant consisted of a 10 foot by 20 foot derocker with two inch classification leading to a 5 foot by 24 foot sluice run. One and one half inch riffles angled at 15° with 2½ inch spacing and a combination of backed and unbacked Nomad matting lined the sluice run, which was set at a slope of 2½ inches per foot. A Paco 10 by 12 inch pump powered by a 3208 Caterpillar engine provided the 1800 igpm used to process 80 loose yards per hour.

Ground Description: An average of 12 feet of dredge tailings were removed to expose bedrock. The bedrock ranged from soft decomposed, to slabby, to blocky, to boulders. Boulder reefs were quite frequent, and normally ran across the valley. The sluice section consisted of 1½ to 3 feet of bedrock.

Mining Cuts: Each year six small cuts approximately 90 feet by 150 feet each were mined. The average depth of the material sluiced was two feet.

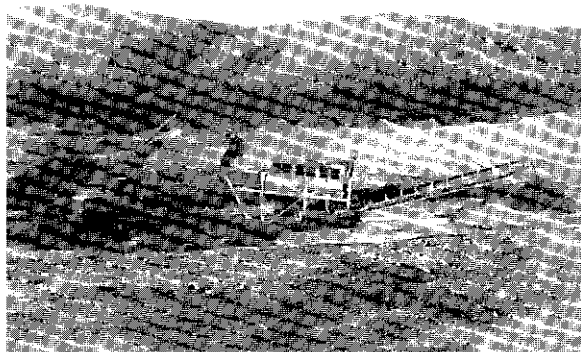
Water Supply and Treatment: Process water was pumped from the Sixty Mile River. Waste water was treated in mined-out cuts and downstream ponds prior to discharge to the Sixty Mile River.

Gold: The gold was mostly flat and angular, and had some discolouration. Purity was 830 fine.

Comments: Restoration was addressed on an ongoing basis, with cuts being backfilled as the next ones were stripped. When mining the dredge tailings, fine material which had been under coarse rock was moved to the surface of the reclaimed cuts.

SIXTY MILE RIVER	115 N/15
Frank and Karen Hawker	63°59'N 140°46'W
Water Licence: 91-025, 92-092	1993, 1994
Sixtymile River Map	Site No. 108, 109

Operation/Location: In 1993 Frank and Karen Hawker worked under a licence held by Larry Haner. In 1994 they worked at various sites under both Haner's and K-1 Mining & Services' licenses. Work was performed on both the right and left limits of the Sixty Mile River at sites between the Holbrook dredge and the mouth of Miller Creek. In 1993 the crew consisted of three miners working one 12 hour shift per day. In 1994 the crew increased to four miners who worked two 12 hour shifts.



Frank and Karen Hawker's trommel with stacker-conveyor on the Sixty Mile River in 1994.

Equipment/Function: A UH07 Hitachi excavator was used for stripping and sluicing, and a 966C Caterpillar loader removed tailings.

Wash Plant: A trommel five feet in diameter trommel screened material to ½ inch. Sluice runs were located on both sides of the trommel. Each sluice section was 7 feet wide by 7 feet long and equipped with hydraulic riffles. A tailings stacker/conveyor 3 feet wide by 35 feet long which moved through a 60° range from left to right was added for the 1994 mining season.

Ground Description: In 1993 three bulk tests were done on the left limit of the valley, and virgin ground was sluiced. On the right limit another cut of virgin ground was mined. On the left limit 12 feet of mixed gravels and muck from a previously mined cut covered four feet of river gravels on bedrock. On the right limit eight feet of mixed muck and gravels from a previously mined cut lay over four feet of river gravels on bedrock. The sluice section on the left limit was four feet of river gravels plus three feet of fractured bedrock. On the right limit the sluice section was four feet of river gravels and 2 to 3 feet of fractured bedrock.

In 1994 two cuts which had been previously dredged were mined. These dredge tailings were 12 feet deep. Another seven cuts were mined which had 2 to 8 feet of muck over 4 to 6 feet of river gravels on bedrock. The sluice section for the first two cuts consisted of two feet of bedrock. The sluice section for the other seven cuts consisted of two feet of gravel plus three feet of fractured bedrock.

Mining Cuts: In 1993, 32,500 cubic yards were sluiced and in 1994 66,000 cubic yards were sluiced.

Water Supply and Treatment: Process water was acquired from existing drains in the Sixty Mile River area. Effluent was treated in old cuts and 50% to 90% of the waste water was recirculated.

Gold: The gold was rough and porous, although fine material was flaky. The purity was 830 fine.

SIXTY MILE RIVER	115 N/15
K-1 Mining & Services Ltd.	63°58'N 140°50'W
Water Licence: PM91-099	1993
Sixtymile River Map	Site No. 109

Operation/Location: This operation was located on the left limit of the Sixty Mile River upstream from its confluence with Miller Creek, and downstream

from its confluence with Bedrock Creek. The Sixty Mile Valley is wide and relatively flat at this location. Two miners worked one 14 hour shift each day.

Equipment/Function: Two D8 Caterpillar bulldozers were used to strip ground, sluice, and push up tailings. A 966C Caterpillar loader was used to build settling pond berms.

Wash Plant: The wash plant consisted of a 12 foot by 6 foot dump box with $\frac{3}{4}$ inch punch plate which led to a 36 inch wide by 22 foot long sluice run and an extra sluice run 23 $\frac{1}{4}$ inches wide by 20 feet long. A 6 by 8 inch Peerless pump powered by a 471 GM diesel engine provided 1600 igpm to the wash plant to process 75 loose yards per hour.

Ground Description: The stratigraphic section consisted of one foot of moss and three feet of silt over 8 to 12 feet of gravel. The gravel particles varied in size from sand to coarse cobbles. The bedrock was partially competent and partially decomposed schist. Approximately six feet of gravel and two feet of bedrock were sluiced.

Mining Cuts: One cut was processed in 1993 with a total volume of 8800 loose yards.

Water Supply and Treatment: Water was obtained from an out-of-stream reservoir pond which was filled by a ditch from the Sixty Mile River. Effluent was treated in two out-of-stream settling ponds prior to return to the Sixty Mile River. The pre-settling pond was 50 feet by 80 feet by 4 feet deep, and the settling pond was 250 feet long by 100 feet wide by 4 feet deep.

Gold: The gold was bright with a flat, flaky shape. Fineness was 840.

Comments: Waste and overburden piles were contoured on completion of mining.

SIXTY MILE RIVER	116 C/2
Aardvark Placer	64°00'N 140°45'W
Water Licence: PM92-013	1993
Sixtymile River Map	Site No. 110

Operation/Location: Chuck and Lynn McDougall operated on a left limit bench of the Sixty Mile River, midway between Miller Creek and Glacier

Creek. The site was worked by three miners working one 10 hour shift.

Equipment/Function: A D8H Caterpillar bulldozer was used for stripping and sluicing. Frozen muck was stripped using hydraulic methods with settling of the effluent in old workings on the Sixty Mile flats.

Wash Plant: The wash plant consisted of a 17 foot by 6 foot dump box with a 33 foot long run and two 6 foot by 6 foot undercurrents. Recovery was accomplished using astroturf matting under $\frac{1}{2}$ inch punch plate. This system used 1700 igpm to process 75 cubic yards per hour.

Ground Description: Twenty-five feet of frozen muck covered eight feet of brown gravel containing a few large boulders. The bedrock was wavy and rotten. The sluice section was five feet of the gravel and six inches of bedrock.

Mining Cuts: An area of 4840 square yards was mined.

Water Supply and Treatment: A 6 by 8 inch Berkeley pump powered by a GMC engine supplied water from a small pond next to the Sixty Mile ditch. Effluent was settled in old mining cuts.

Gold: The gold was flat, bright, and fine. No nuggets were found. Purity was 830 fine.

Comments: Some bones and one old shaft were discovered at the site during the 1993 season.

SIXTY MILE RIVER	116 C/2
Coulee Resources Ltd.	64°01'N 140°42'W
Water Licence: 92-011, 94-033	1993, 1994
Sixtymile River Map	Site No. 111

Operation/Location: Operations took place at the mouth of the Big Gold Creek valley on the left limit of the Sixty Mile River. Six miners and two camp personnel were employed at this site.

Equipment/Function: One D8L and one D9H Caterpillar bulldozer, a Komatsu PC400 excavator, and two 980B Caterpillar loaders were used to mine this site.

Wash Plant: In 1993 the wash plant was a 10 foot by 20 foot derocker which screened material to minus 2 inches, with a single 3 foot by 25 foot

sluice run equipped with one inch Hungarian riffles and un-backed Nomad matting. Process water was provided by a 10 by 12 inch Gorman Rupp pump powered by a 3406 Caterpillar engine at a rate of 2700 igpm. Material was processed at 100 loose yards per hour.

In 1994 Coulee Resources switched to a Super Sluice wash plant which screened material to minus 1 inch. Screened material went to two 4 foot by 20 foot sluice runs equipped with 8 feet of 1 inch by 1 inch riffles and 12 feet of expanded metal and Nomad matting. Process water was supplied by a 12 by 12 inch Caterpillar pump powered by a 3608 Caterpillar engine at a rate of 3000 igpm. The process rate was 150 loose yards per hour.

Ground Description: Ten feet of black muck and two feet of overburden were removed to reach gravel. In 1993 there were 13 feet of gravel which increased to 14 feet in 1994. The sluice section each year was four feet of gravel and three feet of bedrock.

Mining Cuts: Six cuts with dimensions of 300 feet by 250 feet were mined in 1993. Three cuts were mined in 1994.

Water Supply and Treatment: Process water was obtained from the Sixty Mile River in 1993. In 1994 water was pumped from either the Sixty Mile River or Big Gold Creek. Effluent was treated in out-of-stream settling ponds.

Gold: Most of the gold was fine grained, with 90% less than 28 mesh in 1993, and only 5% over 12 mesh in 1994. The purity was 830 fine.

Comments: Significant concentrations of galena made the gold cleaning more time consuming. In 1994 the operator reported that re-contouring with a six inch cover of black muck had been 80% completed.

SIXTY MILE RIVER	116 C/2
R.J. Daem	64°03'N 140°34'W
Water Licence: PM92-080	1994
Sixtymile River Map	Site No. 112

Operation/Location: This operation was located on the left limit of the Sixty Mile River immediately upstream from its confluence with the Twelve Mile River.

Equipment/Function: A D9 Caterpillar bulldozer and a Caterpillar loader were used to mine the site.

Wash Plant: A trommel mounted on a flat deck trailer processed pay gravels.

Ground Description: The ground mined in 1994 had a total depth of 12 feet.

Mining Cuts: One cut 300 feet by 120 feet was mined in 1994. In addition a cut 300 feet by 150 feet by 3 feet was stripped.

Water Supply and Treatment: Water was pumped from the Sixty Mile River. Effluent was treated on the bench with no surface discharge back to the river.

Gold: Gold in this area is 830 fine.

Comments: Mining equipment and the processing plant were removed from the site at the end of the season.

BROWNS CREEK	116 C/7
C. Neuser	64°20'N 140°52'W
Water Licence: PM91-004	1993
Fortymile River Map	Site No. 113

Operation/Location: Ed Neuser ran a two person operation on Browns Creek, a right limit tributary to the Forty Mile River. Located four miles upstream from the mouth of the creek, mining was completed in 1993.

Equipment/Function: One Caterpillar D9 bulldozer was used to strip overburden, dig pay gravel, and remove tailings. A Caterpillar 235 excavator fed the wash plant.

Wash Plant: A screen deck 4 feet by 6 feet classified to minus ¾ inch. It was followed by double sluice runs 4 feet wide by 6 feet long each, lined by New Zealand hydraulic riffles. Thirty 30 cubic yards per hour were sluiced using approximately 300 igpm of water supplied by a 6 inch Gorman Rupp pump.

Ground Description: Frozen overburden four feet deep covered gravels 4 to 6 feet deep. All gravel plus about two feet of decomposed bedrock were sluiced.

Mining Cuts: One cut 300 feet long by 250 feet wide by 10 feet deep was completed in 1993.

Water Supply and Treatment: Water was recycled in out-of-stream ponds built in old mining cuts. Discharge was by seepage only.

Gold: Fine gold was recovered, with no nuggets. Fineness was 800.

FORTY MILE RIVER	116 C/7
Forty Mile Placers	64°21'N 140°49'W
Water Licence: PM91-123	1994
Fortymile River Map	Site No. 114

Operation/Location: Leslie Chapman and Bill Claxton mined a bench on the left limit of the Forty Mile River, 15 miles upstream from its confluence with the Yukon River and about ½ mile upstream from Marten Creek.

Equipment/Function: An Hitachi UH10 excavator was used to dig pay gravel and to feed the wash plant. A Caterpillar D6 bulldozer was used for stripping and for restoration work. One Caterpillar 920 loader was used for general support.

Wash Plant: A hopper with grizzly bars 7 inches apart fed a trommel 4 feet in diameter by 12 feet long, with ¼ inch screen deck. This was followed by two sluice runs 6 feet wide by 6 feet long with hydraulic riffles, and then by two more sluice runs 4 feet wide by 8 feet long lined with expanded metal riffles. Tailings were stacked by a conveyor 24 inches wide by 32 feet long. The wash plant was mounted on a floating barge 16 feet wide by 28 feet long which was anchored and positioned by winch cables. A Flygt submersible 4 inch pump powered by a 13 horsepower electric motor supplied the 700 igpm used to process 100 cubic yards per hour.

Ground Description: Mining occurred on a bench plateau along the left limit of the Forty Mile River, 100 vertical feet above river level. Two feet of frozen black muck overburden was stripped from 15 feet of frozen gravel. All gravel plus two feet of decomposed bedrock were sluiced.

Mining Cuts: One cut was completed in 1994. It measured 75 feet wide by 250 feet long by 20 feet deep.

Water Supply and Treatment: Make up water was pumped up to the mining cut from the Forty Mile River, and sluice water was recycled within the mining cut. Keeping the cut flooded not only allowed the wash plant to be floated within it, but also helped to thaw the frozen face of the cut as it was being excavated.

Gold: All the gold was fine, screening less than 60 mesh. Fineness was 830.

FORTY MILE RIVER	116 C/7
Forty Mile Placers	64°23'N 140°39'W
Water Licence: PM91-063	1993
Fortymile River Map	Site No. 115

Operation/Location: Leslie Chapman and Bill Claxton mined on an island in the middle of the Forty Mile River, five miles upstream from its confluence with the Yukon River. Mining occurred on a wide gravel bar on the island. The wash plant was floated within the mining cut and protective berms were maintained between the mining cut and the river. Work began in 1992 and was completed in 1993.

Equipment/Function: See the description for Site No. 114.

Wash Plant: See the description for Site No. 114.

Ground Description: The vegetated area of the island was not disturbed and no overburden was removed. The mining cut was located on the exposed gravel bar, during low water only. Gravel averaged 15 feet deep. All gravel plus two feet of bedrock were sluiced.

Mining Cuts: The cut in 1993 was 240 feet wide by 500 feet long.

Water Supply and Treatment: Water was recycled within the flooded mining cut by a submersible pump mounted on the floating barge. Inflow was by seepage only and no discharge occurred.

Gold: Only fine gold less than 60 mesh was recovered. Fineness was 840.

Comments: Restoration work was completed at the end of each season. Tailings piles were flattened and contoured to the original shape of the bar.

Fortymile Placer Area

Yukon Territory



0 km 10



Secondary roads
Major roads

Rivers



Contours

• 21 Placer Operations

FORTY MILE RIVER	116 C/7
Forty Mile Placers	64°21'N 140°49'W
Water Licence: PM91-064	1994
Fortymile River Map	Site No. 116

Operation/Location: Leslie Chapman and Bill Claxton mined on a gravel bar along the left limit of the Forty Mile River, 15 miles upstream from its confluence with the Yukon River, and ½ mile upstream from Marten Creek. The mining cut was excavated during low water and was separated from the river by protective berms. The wash plant floated within the mining cut which was flooded by groundwater seepage.

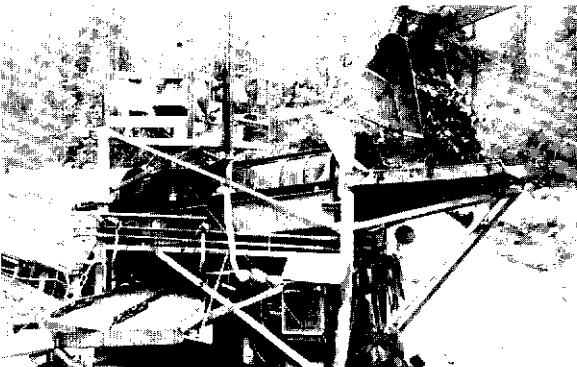
Equipment/Function: See the description for Site No. 114.

Wash Plant: See the description for Site No. 114.

Ground Description: Mining occurred on a gravel bar which was exposed during low water. Large rocks and coarse river gravels from the surface of the bar were stockpiled for restoration. River gravels averaged 15 feet deep. All gravel was sluiced with 2 to 3 feet of decomposed bedrock.

Mining Cuts: One cut was completed in 1994, measuring 120 feet wide by 600 feet long by 15 to 20 feet deep.

Water Supply and Treatment: The mining cut was flooded by groundwater seepage. Effluent was discharged into the cut and the water was recycled. There was no discharge to the river.



Leslie Chapman at the controls of a floating wash plant mounted on a barge in a flooded mining cut on the Forty Mile River.

Gold: All gold was fine grained and minus 60 mesh. Fineness was 840.

Comments: Seasonal restoration work included flattening tailings and contouring them to the original slope of the bar, and spreading the stockpiled coarse materials on the restored bar surface.

MOOSE CREEK	116 C/2
Ronald E. McMillan	64°12'N 140°54'W
Water Licence: PM92-108	1993, 1994
Fortymile River Map	Site No. 117

Operation/Location: Ron McMillan continued his two person operation on Moose Creek, four miles upstream from the Alaska border. Moose Creek is a right limit tributary to the Forty Mile River.

Equipment/Function: One Caterpillar D6 bulldozer was used to strip overburden, dig gravel, and push tailings. An Hitachi UH14 excavator was used to dig pay gravel, feed the wash plant, and clean drains and ponds.

Wash Plant: A dump box 8 feet wide by 24 feet long lined with punch plate was followed by a single sluice run 3 feet wide by 40 feet long, lined with angle iron riffles. About 60 cubic yards per hour were processed using gravity fed water, ditched from an instream reservoir in Moose Creek. In 1994 a new trommel was brought on site but was not used.

Ground Description: Frozen overburden was 4 to 6 feet deep over gravel layers up to eight feet deep. All gravel was sluiced with two feet of decomposed bedrock.

Mining Cuts: One cut 100 feet by 100 feet was mined in 1993. In 1994 ground was prepared but no mining occurred.

Water Supply and Treatment: Water was ditched from an instream reservoir in Moose Creek and was settled in two long and narrow settling ponds in old mining cuts, out-of-stream.

Gold: Coarse gold and small nuggets with quartz attached were recovered. Fineness was 850.

MOOSE CREEK	116 C/2
Robert Young	64°11'N 140°54'W
Water Licence: PM93-096	1993, 1994
Fortymile River Map	Site No. 118

Operation/Location: Robert Young ran a three person operation on Moose Creek, approximately eight miles upstream from the Alaska Border. Moose Creek joins the Forty Mile River in Alaska, less than one mile upstream from the Yukon/Alaska Border. The mining occurred in a narrow part of the valley bottom.

Equipment/Function: One Caterpillar D9 bulldozer was used for stripping and pushing gravel. A Caterpillar 235 excavator was used to dig pay gravel and feed the wash plant. A 988 loader removed tailings.

Wash Plant: A hopper 12 feet square with hydraulic vibrator fed a double barrel trommel 10 feet in diameter by 20 feet long with 1 ½ inch punch plate and reversing spiral vanes between barrels. This was followed by a single sluice run 6 feet wide by 14 feet long with angle iron riffles. Oversized tailings were stacked by a conveyor belt 4 feet wide by 70 feet long. Sluiced tailings were discharged by a jet pump and mixed with the conveyor belt tailings. A 10 inch Cornell pump, powered by a Detroit 871 diesel engine, delivered the 3000 igpm of water used to process 300 cubic yards per hour.

Ground Description: Organic overburden was up to 15 feet deep on top of 6 to 10 feet of gravel. The gravel layer was frozen and seamed with sand and also contained large boulders, up to five feet in diameter. The bottom five feet of gravel plus 3 to 4 feet of decomposed bedrock was sluiced.

Mining Cuts: In 1993 a cut 70 feet wide by 800 feet long was completed in 100 foot sections. In 1994 a cut 50 feet wide by 100 feet long was completed in three sections 30 to 35 feet long.

Water Supply and Treatment: A portable pump mounted on a truck supplied water from an instream reservoir. Settling occurred in three out-of-stream settling ponds. There was a stream bypass channel on the right limit of the valley.

Gold: Nuggets with quartz and large, flat, round flakes were recovered. There were very few fines. Purity was 840 to 850 fine.

POKER CREEK	116 O/2
Duane K. Payne	64°04'N 140°59'W
Water Licence: PM93-029	1994
Sixtymile River Map	Site No. 106

Operation/Location: Duane K. Payne ran a one person operation on Poker Creek, less than one mile upstream from the Alaska/Yukon border. Mining occurred in the steep, narrow valley bottom, near the head of Poker Creek. Poker Creek is a tributary to the Forty Mile River.

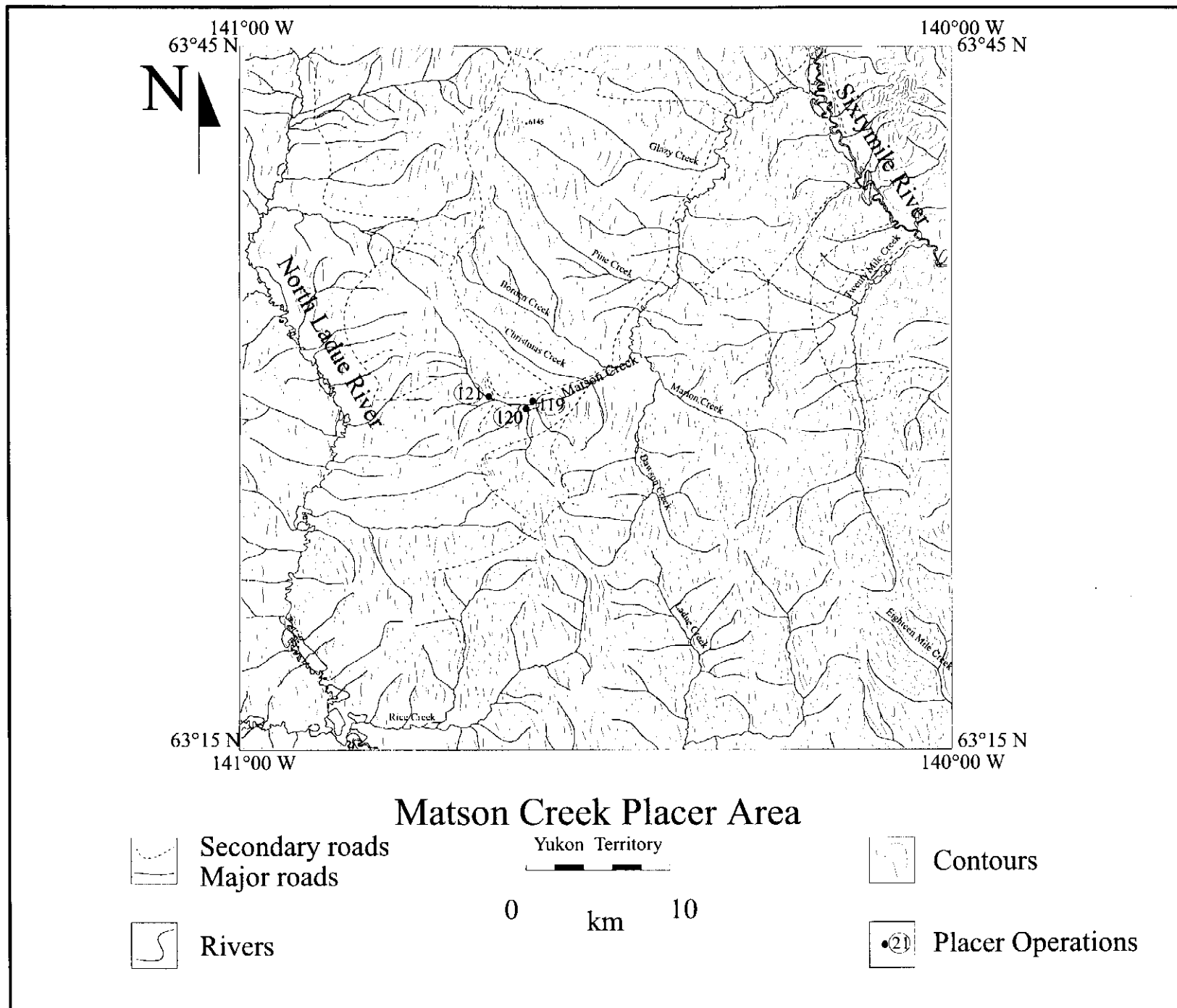
Equipment/Function: An Allis Chalmers HD6 bulldozer with a nine foot wide blade and ripper was used to strip overburden and dig and stockpile gravel. One Hine Werner C14 excavator with a one cubic yard bucket fed the wash plant, and one Case W80 loader with a one yard bucket removed tailings.

Wash Plant: A shaker screen deck 5 feet wide by 9 feet long classified down to 1 ¼ inch minus. This was followed by a single sluice run 24 inches wide by 8 feet long, with 3 inch sawtooth riffles over shovel matting, sloped at 2 ¼ inches per foot. About 15 cubic yards per hour were processed using 600 igpm of water supplied by a Homelite 4 inch pump, powered by a Briggs & Stratton engine.

Ground Description: Overburden varied from 2 to 6 feet deep in the centre of the valley bottom. Gravels averaged 4 to 6 feet deep and were mostly thawed, reddish and sandy, with no clay. Bedrock was flat. All gravels were processed.

Mining Cuts: Four mining cuts were completed in 1994. They were approximately 20 feet wide by 20 feet long and averaged six feet deep.

Water Supply and Treatment: Water was obtained from an instream reservoir and recycled in four out-of-stream settling ponds.



Gold: The gold was rough, angular, fine, and reddish and dull coloured. Ninety eight percent was less than 10 mesh and greater than 60 mesh. Fineness was 873.

MATSON CREEK	115 N/9
Gene Fowler	63°30'N 140°35'W
Water Licence: PM91-041	1993, 1994
Matson Creek Map	Site No. 119

Operation/Location: Gene Fowler mined just downstream of an unnamed right limit tributary, near the area locally known as Val D'Or. The cuts for 1993 and 1994 were in the centre of the valley below John Matson's grave site. A crew of five worked a single 12 hour shift.

Equipment/Function: Two D9G Caterpillar bulldozers were used to strip the ground and stockpile pay gravels. The sluice plant was fed by an Insley hoe with a 1 ¼ cubic yard bucket. A 72-71 Terex handled tailings.

Wash Plant: The sluice plant consisted of a grizzly over a hopper box that lead onto a conveyor feed. The pay was fed at a constant rate through two screening decks. The classified pay was sluiced in two oscillating sluice runs. Oversize tailings were stacked away from the plant with a conveyor. A 6 inch Cornell pump supplied the 1000 igpm needed for sluicing approximately 100 cubic yards per hour.

Ground Description: The cuts averaged 30 feet in depth with 20 feet of frozen black muck and 10 feet of gravel. The lower one foot of gravel and the first three feet of bedrock were sluiced.

Mining Cuts: A single cut measuring 300 feet by 400 feet was mined during 1993. Cuts of 200 feet by 300 feet and 250 feet by 400 feet were mined in 1994.

Water Supply and Treatment: Water was pumped from an instream reservoir on Matson Creek. Settling occurred in the out-of-stream mined-out cuts. No discharge back to Matson Creek occurred. Water was pumped from the settling pond into the reservoir during periods of low flow in Matson Creek.

Gold: The rounded and rough gold was primarily finer than 12 screen. Fineness was 890.

MATSON CREEK	115 N/7
No Name Resources Inc.	63°30'N 140°35'W
Water Licence: PM92-096	1993, 1994
Matson Creek Map	Site No. 120

Operation/Location: This operation was located just upstream of Donna Pup, a right limit tributary of Matson Creek near the area locally known as Val D'Or. Five miners and one camp person ran the mine during the first year of operation in 1993. An additional miner was hired for 1994.

Equipment/Function: In 1993 a D9G Caterpillar bulldozer and a D9H bulldozer stripped the ground and stockpiled the pay gravel. A 980C Caterpillar loader hauled the pay to the sluice plant, and removed tailings. A 235 Caterpillar excavator fed the sluice plant and dug diversions as required. A D8K Caterpillar bulldozer, a 980C Caterpillar loader, and a 680 Case backhoe were added in 1994. The backhoe replaced the 235 excavator which was larger than needed for feeding the small sluice plant.

Wash Plant: A two yard hopper fed into a trommel 4 feet in diameter by 8 feet long which classified the pay to ½ inch minus. The classified gravel was sluiced in two runs 4 feet wide by 8 feet long. Hydraulic riffles popular in New Zealand were used with no matting. The sluice plant was capable of processing between 35 and 40 cubic yards per hour. A 4 inch Monarch pump supplied the 350 igpm required for sluicing.

Ground Description: A layer of black muck which varied from 15 to 25 feet deep covered between 2 and 6 feet of frozen gravel. The top 2 or 3 feet of bedrock was fully decomposed and tended to be wavy. The lower foot of gravel was sluiced with two feet of bedrock.

Mining Cuts: Four cuts averaging 100 feet by 125 feet by 25 feet deep were mined in 1993, for a total of 45,000 cubic yards. Five cuts that averaged 150 feet by 100 feet by 25 feet deep were mined in 1994 for a total of 70,000 cubic yards.

Water Supply and Treatment: Water was pumped from an instream reservoir which contained water from an unnamed right limit tributary of Matson Creek and Matson Creek itself. A series of out-of-stream settling ponds treated the effluent prior to discharge back to Matson Creek.

Gold: The gold was fine and flat. Very few nuggets were recovered. The purity was 895 fine.

MATSON CREEK	115 N/7, 115 N/10
Orbanski, M.W. Ltd.	63°30'N 140°35'W
Water Licence: PM91-040	1993, 1994
Matson Creek Map	Site No. 121

Operation/Location: Murray Orbanski mined near the headwaters of Matson Creek at the mouth of Bow Pup. Nine miners and one camp person ran the operation in 1993 and 1994. The 1994 season was the first full season of mining at this location.

Equipment/Function: Four D9H Caterpillar bulldozers were used for stripping and preparing pay gravel. Three 631 Caterpillar scrapers hauled the pay to the sluice plant and carried tailings away. A D7 Caterpillar bulldozer worked on the dykes and spillways. A 245 Caterpillar excavator and a 966 Caterpillar loader were available when needed. Roads were maintained with a Caterpillar 16 grader.



Overhead view of the sluice plant used by Murray Orbanski at his Matson Creek operation.

Wash Plant: The pay was dumped into a hopper which fed a trommel 56 feet long by 8 feet in diameter. Oversize material was carried away from the trommel by a conveyor and stacked. The ¾ inch minus classified pay was sluiced in a single run 4 feet wide by 10 feet long lined with two inch angle iron riffles and Nomad matting. The pay moved into a variable distributor which spread it evenly over 12 oscillating sluice runs 30 inches wide by 20 feet long. One inch angle iron riffles and Nomad matting was used for the first four

feet in each run. The lower 16 feet used expanded metal over Nomad matting. The effluent from each run was collected in a trough and carried away. Up to 300 cubic yards per hour were sluiced with this wash plant. A 14 by 16 inch Worthington pump supplied the 2500 igpm for sluicing.

Ground Description: An average cut found 22 feet of black muck overlying four feet of gravel. Bedrock was fully decomposed. All of the gravel layer and up to six feet of bedrock was sluiced.

Mining Cuts: Three cuts on Matson Creek and one on the bench were mined in 1993. Approximately 80,000 cubic yards were sluiced. It was expected that approximately 250,000 cubic yards would be sluiced from four cuts in 1994.

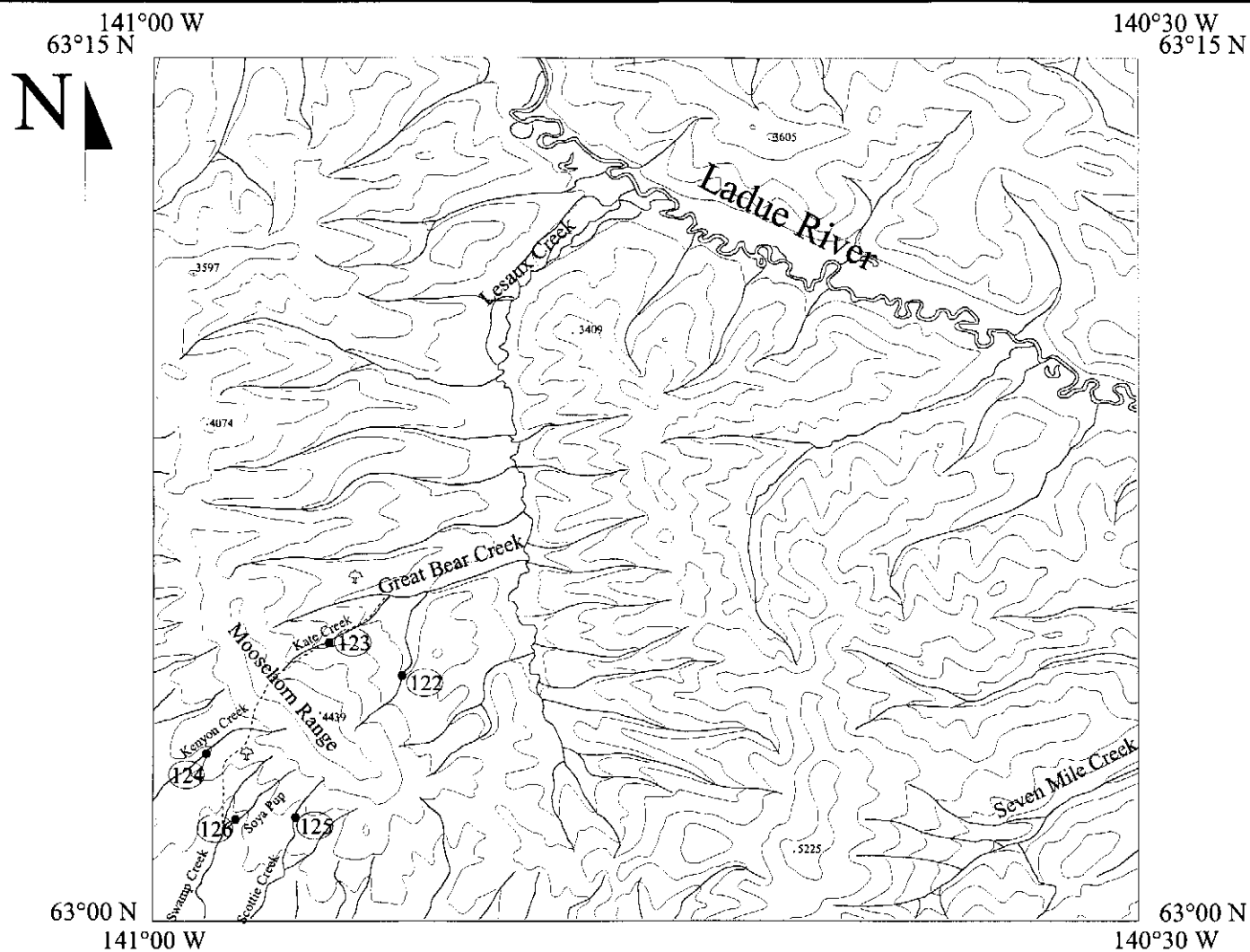
Water Supply and Treatment: Water was pumped from a large instream reservoir on Matson Creek directly to the sluice plant. The effluent was treated in three to five out-of-stream settling ponds. Discharge was either by seepage or directly back to Matson Creek.

Gold: A fair bit of coarse gold (10 screen) was found with some nuggets. Fineness ranged from 889 to 900.

GREAT BEAR PUP	115 N/2
Moosehorn Exploration Ltd.	63°05'N 140°53'W
Water Licence: PM93-028	1993, 1994
Moosehorn Placer Area Map	Site No. 122, 123

Operation/Location: This mine was moved from Kate Creek to Great Bear Pup for the 1993 and 1994 seasons. Great Bear Pup is a right limit tributary of Kate Creek. Kate Creek flows into Lesaux Creek which is a tributary of the Ladue River. Ian Warrick and Kate Warrick ran the operation with two employees.

Equipment/Function: A D7F Caterpillar bulldozer stripped the cuts and stockpiled the pay gravels. Two 966C Caterpillar loaders fed the sluice plant and handled tailings, which were used for construction of dams and roads. A 4½ inch "down the hole" hammer drill mounted on a truck was used to define the pay zone.



Moosehorn Placer Area

 Secondary roads
 Major roads

 Rivers

Yukon Territory

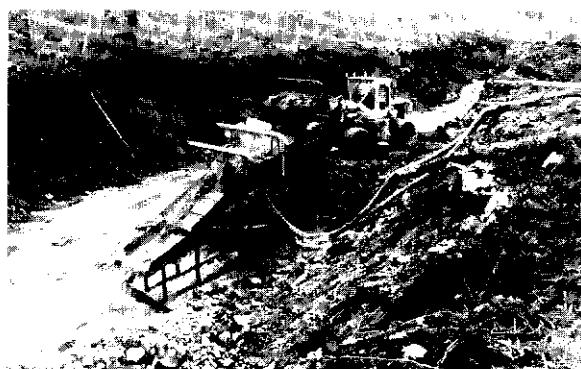
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 Contours

 Placer Operations

Wash Plant: A 12 foot by 14 foot wet dump box lead over a grizzly which classified the pay to one inch minus. The classified pay was sluiced in a single run 4 feet wide by 12 feet long. One inch angle iron riffles and Nomad matting was used in the run. The single run branched into three sluice runs 3½ feet wide by 12 feet long that were lined with expanded metal and Nomad matting. A 10 by 12 inch Morris pump powered by a 3406 Caterpillar engine supplied the 2400 igpm needed to process 35 to 55 cubic yards per hour.

Ground Description: The depth of the ground varied a great deal. One to six feet of black muck/loess covered 12 to 25 feet of frozen pay gravel. Most of the lower gravels and bedrock interface have decomposed, resulting in an increased clay and sand content. The gravel and up to one foot of bedrock were sluiced.



Moosehorn Exploration processing pay gravels through their sluice plant on Great Bear Pup.

Mining Cuts: Two cuts (300 feet long by 90 feet wide by 22 feet deep, and 300 feet long by 40 feet wide by 8 feet deep) were sluiced in 1993. Three cuts averaging 300 feet long by 100 feet wide by 13 feet deep were processed in 1994.

Water Supply and Treatment: Full recirculation from instream ponds was necessary due to low creek flows for most of the season. Mined-out cuts were used as settling ponds.

Gold: Most of the gold was fine and rough. The purity was 825 fine.

Comments: All fuel was flown to the local airstrip for the 1994 season instead of using the winter

road from Beaver Creek. An old prospecting shaft was found in 1993. That shaft was the first evidence of oldtimers' mining activity in the Moosehorn Range area.

SWAMP CK. & KENYON CK. 115 N/2
Sikanni Oilfield Const. Ltd. 63°03'N 140°58'W
Water Licence: 91-034, 93-085 1993, 1994
Moosehorn Placer Area Map Site No. 124, 126

Operation/Location: A crew of seven miners and a camp cook mined on both Swamp Creek and Kenyon Creek in 1993 and 1994. Most of the mining on Swamp Creek occurred on Soya Creek, a left limit tributary.

Equipment/Function: A D9G Caterpillar bulldozer, two D8K bulldozers, a D8H bulldozer, two D6C bulldozers, a 235 Caterpillar excavator, a 225 excavator, a 980C Caterpillar loader, a 966C loader, and a #80 scraper were all available for mining. The D9 bulldozers were used for stripping, stockpiling pay gravels, and settling pond construction. The sluice plant was fed with the 235 excavator and tailings were removed with the 980C loader. The scraper hauled pay to the trommel when the distance became too great for moving by bulldozer.

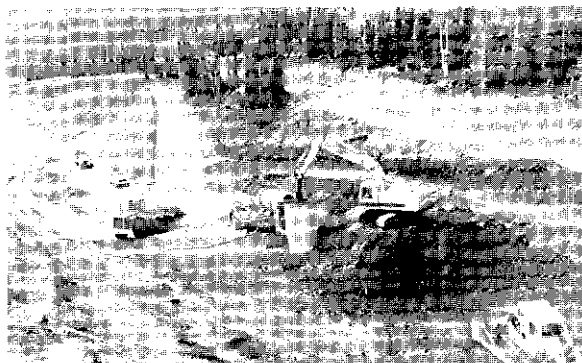
Wash Plant: A trommel 78 inches in diameter by 40 feet long classified the pay for eight centrifugal concentrators 20 inches in diameter by 9 feet long. A 10 inch Gorman Rupp pump powered by a TD15 IHC motor supplied the 1600 igpm required to process 100 cubic yards per hour.

Ground Description: The cuts on Soya Creek and Swamp Creek were frozen from top to bottom. Between 5 and 15 feet of silt/muck covered 10 to 20 feet of gravel and boulders. Bedrock was decomposed. The cut mined on Kenyon Creek had been used as a settling pond. Fifteen feet of silt covered 25 feet of gravel and decomposed bedrock. All of the gravels and up to one foot of the bedrock was sluiced at all locations.

Mining Cuts: Tailings were sluiced on Kenyon Creek in 1993 and 1994. A single cut 70 feet wide by 1000 feet long was sluiced in 1994 on Kenyon Creek. A cut from 100 to 150 feet wide by 2000 feet long was stripped and sluiced on Soya Creek in 1993. A small cut 50 feet wide by 500 feet long was sluiced on Soya Creek in 1994,

along with a cut 20 feet wide by 500 feet long on Swamp Creek.

Water Supply and Treatment: The mining operations were close to the headwaters of both creeks and very little run-off occurs except during the spring melt and heavy rains. Instream recycle/storage ponds were used with up to 90% of the water recycled. Effluent was treated in both instream and out-of-stream settling ponds on Kenyon and Swamp Creek.



Sikanni Oilfield Construction Ltd. Sluicing on Soya Pup, a left limit tributary of Swamp Creek.

Gold: The gold was fine, rough, and had a distinct shape when magnified. The purity was 800 fine.

UNNAMED TRIB. OF SCOTTIE CK.	115 N/2
Glen Hartley	63°01'N 140°57'W
Water Licence: PM90-062	1993, 1994
Moosehorn Placer Area Map	Site No. 125

Operation/Location: Glen Hartley and one employee worked on an unnamed tributary of upper Scottie Creek east of Swamp Creek.

Equipment/Function: Two 82-40 Terex bulldozers and a 20 cubic yard scraper were available for mining.

Wash Plant: A dump box 14 feet by 8 feet fed pay onto a 4 foot wide by 10 foot long TelSmith vibrating single deck screen. The ¾ inch minus classified pay was sluiced in a run 4 feet wide by 12 feet long. The run was lined with expanded metal over Nomad matting. The plant was capable of handling approximately 50 cubic yards per hour.

A 6 inch Gorman Rupp pump supplied the 1500 igpm needed for sluicing.

Ground Description: The cuts averaged 15 feet deep with eight feet of frozen black muck and seven feet of frozen gravel. Bedrock was consolidated and large boulders were common. Between 4 and 8 feet of the gravel and up to one foot of bedrock were sluiced.

Mining Cuts: Only stripping was done during these two years. The stripping was hampered by ground water discharge and areas of thawed overburden.

Gold: Most of the gold was 40 mesh, and no nuggets were recovered. The purity of the gold was 840 fine.

BALLARAT CREEK	115 J/14
Fell-Hawk Placers	62°59'N 139°06'W
Water Licence: 90-096, 94-022	1993, 1994
South Klondike Area Map	Site No. 127

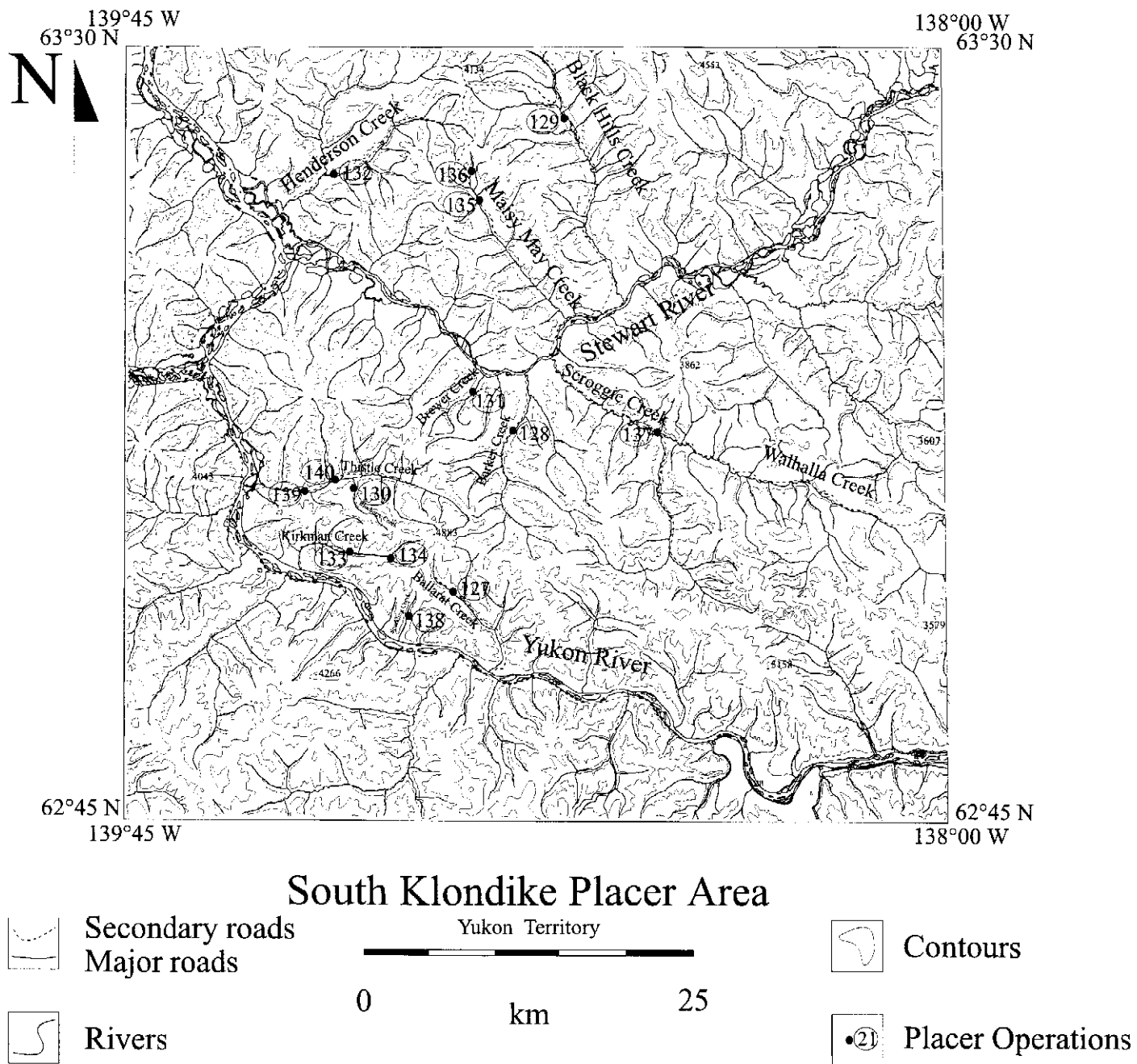
Operation/Location: Ballarat Creek is a right limit tributary of the Yukon River. Joe and Wendy Fellers worked single shifts with two helpers in both 1993 and 1994.

Equipment/Function: A D8L Caterpillar bulldozer was used for stripping and pushing up pay material. A 235 Caterpillar excavator dug drains, fed the sluice box, and was used for stripping when necessary. Tailings were removed with a 966 Caterpillar loader. A D7E bulldozer was on hand as a yard machine.

Wash Plant: A derocker fed into a single sluice run 5 feet wide by 20 feet long. The top four feet was lined with two inch riffles, followed by about four feet of 1 ¼ inch riffles. After two feet of slick plate halfway down, the run was completed with 10 more feet of 1 ¼ inch riffles. The processing rate was 100 loose cubic yards per hour.

Ground Description: The ground was about 12 feet deep, and unfrozen. Washed rock and gravels covered blocky, fractured bedrock. There was virtually no black muck. The bottom two feet of gravel was sluiced with 4 to 6 feet of bedrock.

Mining Cuts: In 1993, three cuts measuring approximately 150 feet by 250 feet were mined. The same production was achieved in 1994.



Water Supply and Treatment: Water was pumped from an instream reservoir at a rate of 1000 to 1500 igpm. An 8 by 8 inch high pressure pump was powered by a 3208 Caterpillar engine. In 1993 waste water was treated in two instream settling ponds that were bypassed at the end of the season. In 1994 the effluent was treated in two out-of-stream settling ponds well downstream, on the right limit.

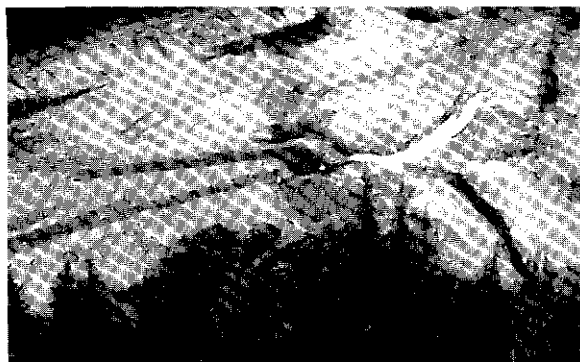
Gold: Most of the gold was heavy and coarse in 1993, the majority was 4 mesh, although about 15% was 10 mesh. A 1.8 ounce nugget was recovered. In 1994 the gold was chunky. Sixty percent was 10 mesh. Fineness was greater than 860.

Comments: A lot of mercury was found in the sluice box. In 1994 a wooden sluice box 400 feet long was uncovered in one of the cuts.

BARKER CREEK	115 O/2
Robin Burian	63°09'N 138°54'W
Water Licence: PM91-059	1994
South Klondike Area Map	Site No. 128

Operation/Location: Robin Burian and his family mined on a left limit bench of Barker Creek in 1994. The site was about 100 feet above the creek.

Equipment/Function: A D7E Caterpillar bulldozer was used for stripping, feeding the sluice box, removing tailings, and maintaining the settling facilities.



An aerial view of the Burian's mining operation on a left limit bench of Barker Creek.

Wash Plant: A side dump box 9 feet wide by 23 feet long fed washed gravel into a single run sluice. The sluice run was 32 inches wide by 20 feet long, and lined with astroturf, expanded metal, and two inch angle iron riffles. The processing rate was roughly 100 cubic yards per hour.

Ground Description: The ground varied in depth from six feet at the rim of the bench to 18 feet at the back of the cut. An average profile found 8 to 10 feet of frozen muck over four feet of gravel. One to two feet of bedrock was largely decomposed. One foot of gravel was sluiced with two feet of bedrock.

Mining Cuts: The last cut mined in 1992 was completed in 1994.

Water Supply and Treatment: Water was pumped to the bench from an instream reservoir on Barker Creek using a 10 by 12 inch pump powered by an International UD18 engine. The 1200 igpm needed for sluicing was channelled into the sluice box by a ditch running along the rim of the bench. Effluent was treated in five out-of-stream settling ponds. Two were located on the bench and three were on the left limit valley floor.

Gold: The gold was chunky and smooth. Eighty percent was considered coarse. Fineness was 895.

Comments: Some mercury was recovered with the gold.

BLACK HILLS CREEK	115 O/7
Van Resources Ltd.	63°24'N 138°46'W
Water Licence: PM92-088	1993
South Klondike Area Map	Site No. 129

Operation/Location: Steve Van Bibber and his family ran this operation on Black Hills Creek in 1993. The operation shut down and did not return for the 1994 season.

Equipment/Function: Three D9G Caterpillar bulldozers, two 980C Caterpillar loaders, and a 225 Caterpillar excavator were available for mining.

Wash Plant: A triple run Pearson sluice box was used, with a 10 by 12 inch pump supplying the water for sluicing.

Mining Cuts: Several cuts on Black Hills Creek were mined along with a large cut on a left limit bench near the bottom of the airstrip.

Water Supply and Treatment: Water was pumped from an instream reservoir, and effluent was treated in out-of-stream ponds when the mining was done on Black Hills Creek. An out-of-stream recycle system was used for mining on the bench. In each case discharge occurred directly back to Black Hills Creek.

Gold: The gold was expected to have a fineness of about 730.

BLACK HILLS CREEK	115 O/7
Paydirt Holdings Ltd.	63°30'N 138°53'W
Water Licence: PM92-097	1993, 1994
Klondike Placer Area Map	Site No. 4

Operation/Location: Paydirt Holdings Ltd. continued mining upstream on Black Hills Creek from where they finished in 1992. All mining occurred upstream of Childs Gulch. Five miners and a camp cook ran the operation.

Equipment/Function: Three D9H Caterpillar bulldozers equipped with U-blades and rippers were used for stripping the cuts and stockpiling the pay gravel. A 235 Caterpillar excavator fed the sluice plant and a 980C Caterpillar loader carried the tailings away. Two other 980C loaders and two D8 Caterpillar bulldozers were available if needed.



Overhead view of the Paydirt Holdings sluicing operation on Black Hills Creek.

Wash Plant: Two 10 foot derockers set side by side were used to classify the pay in 1993. A single derocker was used in 1994. The pay was washed in either one or two sluice runs 42 inches wide by 40 feet long lined with Nomad matting and 1½ inch angle iron riffles. A Caterpillar pump supplied the 3500 igpm needed to sluice approximately 150 cubic yards per hour.

Ground Description: The stratigraphic section varied from cut to cut. A layer of frozen black muck 6 to 15 feet deep covered 3 to 8 feet of frozen gravel. Large quartz boulders were common. Bedrock varied from blocky to fully decomposed. The lower three feet of gravel and the first three feet of bedrock were sluiced.

Mining Cuts: Five cuts with an average size of 200 feet by 150 feet were mined in 1993. The width of the valley decreased towards the end of the season. Several narrower cuts were mined in 1994. The main valley widens again upstream of the last cut mined in 1994.

Water Supply and Treatment: Water was pumped from instream reservoirs on Black Hills Creek. Due to the volume of water required a recycle system was needed. Effluent treatment occurred in the recycle ponds with discharge back to Black Hills Creek. A large finishing pond was built downstream of the main camp near the bottom of the property.

Gold: The gold was fine and jagged, with the majority 20 screen in size. Some wire gold and small nuggets were recovered. Fineness was 710.

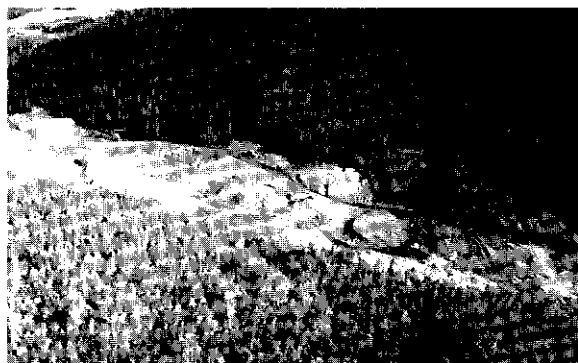
BLUEBERRY CREEK	115 O/3
Faith Mines Ltd.	63°04'N 139°28'W
Water Licence: 89-035, 93-015	1993, 1994
South Klondike Area Map	Site No. 130

Operation/Location: Blueberry Creek is a tributary of Thistle Creek, entering on the left limit upstream of the airstrip. Mike and Jay Hughes ran the operation with the help of one camp worker in 1993 and 1994.

Equipment/Function: A D9H Caterpillar bulldozer and a D8K bulldozer were used for stripping and pushing up pay. In 1993 the D8K also fed the sluice box. A 980C Caterpillar loader removed tailings and fed the derocker in 1994.

Wash Plant: In 1993 pay material was pushed into a dump box equipped with 1 ½ inch punch plate at a rate of 200 loose cubic yards per hour. This fed a single run sluice 4 feet wide by 20 feet long lined with Nomad carpet and one inch riffles. A 10 foot derocker fed classified pay into this sluice box in 1994, and the processing rate was reduced to 140 yards per hour.

Ground Description: The total depth ranged from 12 to 14 feet of frozen ground. Six to seven feet of black muck covered 6 to 7 feet of gravels over bedrock. The lower section of gravel contained sand and some boulders. Various types of bedrock were found. Some was clay-like, some was fractured, and some decomposed. The bottom three feet of gravel was sluiced with 2 to 3 feet of bedrock.



Mining by Faith Mines on Blueberry Creek, a left limit tributary of Thistle Creek.

Mining Cuts: Two cuts 150 feet by 200 feet were taken in 1993. In 1994, a cut 150 feet by 500 feet was mined on Blueberry Creek, and 60 feet of overburden was removed by hydraulic means from a 100 foot by 100 foot cut on a left limit bench of Thistle Creek, just downstream of the airstrip.

Water Supply and Treatment: Water was recycled from a large settling pond constructed on Blueberry Creek. A 10 by 12 inch Paco pump powered by a 3208 Caterpillar engine supplied 4000 igpm in 1993, and 1500 to 2000 igpm in 1994. Effluent from sluicing was treated in one settling pond on Blueberry Creek, and polished in a large out-of-stream pond on the left limit of Thistle Creek. Water for the bench operation on

Thistle Creek was recycled from another out-of-stream settling pond on the left limit.

Gold: Seventy percent of the gold was fine, screening between 100 and 200 mesh. About 25 to 30% of the gold was coarse, falling between 4 and 6 mesh. Nuggets up to 1 ½ to 2 ounces were recovered. Fineness was 880.

Comments: The hydraulic stripping on the Thistle Creek bench revealed three drifts dug by oldtimers, who appeared to have cleaned up nicely.

BREWER CREEK	115 0/3
KTX Mining Ltd.	63°09'N 139°03'W
Water Licence: PM93-076	1994
South Klondike Area Map	Site No. 131

Operation/Location: Bernie Kreft and Erwin Kreft mined this property on the left limit of Brewer Creek, just downstream of the main forks. In total, three miners worked a single shift in 1994.

Equipment/Function: A D7E Caterpillar bulldozer was used for stripping and removing tailings. An Allis Chalmers 4H backhoe with a ¼ cubic yard bucket fed the sluice box.

Wash Plant: Pay material was fed into a dump box 6 feet wide by 16 feet long. From there it entered a single run sluice 2 feet wide by 16 feet long, lined with Nomad carpet, expanded metal, and two inch riffles. About 100 cubic yards of pay was processed per day.

Ground Description: The total depth was about 12 feet of partially frozen ground. A 2 to 3 foot layer of black muck covered 9 to 10 feet of gravel over decomposed bedrock. All the gravel was sluiced with up to two feet of bedrock.

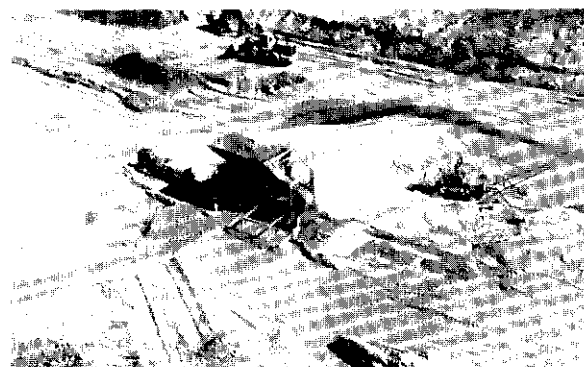
Mining Cuts: In the first year of operation activity was mainly confined to testing. Information about the total volume of material processed was not available.

Water Supply and Treatment: Water was acquired from an instream reservoir at a rate of 550 to 600 igpm using a 6 by 6 inch Paramount pump powered by a 3-cylinder Ruston Hornsby engine. The effluent was treated in three out-of-stream settling ponds located on the left limit of Brewer Creek.

Gold: Most of the gold was fine, and angular in shape.

HENDERSON CREEK	116 O/6
Caribou Mines Ltd.	63°22'N 139°19'W
Water Licence: PM92-090	1993, 1994
South Klondike Area Map	Site No. 132

Operation/Location: Chuck and Maurice Scoby ran this operation on Henderson Creek upstream from the main forks. A crew of 12 was employed for the 1993 season, and eight worked in 1994.



An aerial view of the screening plant used by Caribou Mines Ltd. on Henderson Creek.

Equipment/Function: Two Caterpillar D9H bulldozers, a D10 bulldozer, a D8K bulldozer, a 988B Caterpillar loader, a 980C loader, a 966D loader and a 225 Caterpillar backhoe were available for mining this property. The bulldozers stripped the cuts and the loaders fed the sluice box and handled tailings. The backhoe was used to reach side pay and assist where needed.

Wash Plant: The sluice plant consisted of a side feed dump box where the pay gravel could be washed onto a screen deck. The gravel was classified to 5/8 inches minus and sluiced with four oscillating runs, 4 feet wide by 8 feet long. Expanded metal and Nomad matting was used. The wash plant was capable of handling approximately 150 cubic yards per hour. A 12 by 10 inch Caterpillar pump with a 3406 engine supplied the water required for sluicing.

Ground Description: An average cut found 5 to 8 feet of frozen black muck and seven feet of gravel. Bedrock tended to be wavy, so total depth

varied. The lower four feet of gravel and one foot of bedrock were sluiced.

Mining Cuts: Four large cuts (1500' by 175', 2500' by 100', 500' by 175' and 600' by 400') were mined in 1993. A total of seven cuts with an average size of 600' by 100' were sluiced in 1994. The most upstream and downstream cuts were separated by approximately six miles.

Water Supply and Treatment: Water was pumped from Henderson Creek, and treated in a series of out-of-stream settling ponds downstream of the sluice plant. The discharge was directed back to Henderson Creek.

Gold: Most of the gold was brightly coloured and ranged from medium to fine grained. Smaller nuggets often had quartz attached. Fineness varied between 760 and 780.

KIRKMAN CREEK	115 O/3
Merrit Sager	63°00'N 139°13'W
Water Licence: PM93-111	1993, 1994
South Klondike Area Map	Site No. 133

Operation/Location: Merrit Sager mined approximately five miles upstream of the confluence of Kirkman Creek and the Yukon River. This family operation worked single shifts in 1993 and 1994.



Looking downstream at Merrit Sager's mining operation on Kirkman Creek in 1994.

Equipment/Function: A Caterpillar 235 hoe was used to feed the sluice plant and dig drains. A D7F Caterpillar bulldozer was used to strip off overburden and push tailings. A Fiat Allis HD31

was brought into the line up in 1994 to take over stripping.

Wash Plant: A 4 foot by 8 foot double deck screening plant processed 80 to 100 loose cubic yards per hour. Material classified to 1 1/4 inch minus fell on to a 4 foot by 8 foot wash table fitted with expanded metal and Nomad carpet underneath, which fed a 3 foot by 26 foot long sluice run with two inch angle iron riffles.

Ground Description: The total depth varied from 17 to 36 feet and was frozen. From 15 to 28 feet of black muck covered 2 to 8 feet of homogenous gravels over a wavy orange clay bedrock. The bottom 2 to 3 feet of gravel was sluiced with up to three feet of bedrock.

Mining Cuts: In 1993 four cuts averaging 8000 cubic yards were mined. Five cuts averaging 13,000 cubic yards were processed in 1995.

Water Supply and Treatment: Water was pumped from the old Lorne Ross cuts from the 1950's. Make-up water was acquired by seepage from bedrock drains. A 6 by 6 inch Byron Jackson pump powered by a 471 engine delivered 1300 igpm. A series of three out-of-stream settling ponds were utilized for waste water treatment.

Gold: The gold was generally flat and smooth with some wire gold present. The nuggets recovered contained quartz. Fineness averaged 900.

Comments: Extensive oldtimer shafting was located in the area mined. Bison and sheep skulls have also been found in gravels 2 to 8 feet above bedrock.

KIRKMAN CREEK	115 J/14
Caley's Dream Inc.	63°00'N 139°10'W
Water Licence: PM91-026, PM93-030	1993
South Klondike Area Map	Site No. 134

Operation/Location: Maynard Fuhre and Mona Anderson worked the steep, narrow valley of upper Kirkman Creek in 1993. A single shift was worked with two other miners throughout the season.

Equipment/Function: A D8K Caterpillar bulldozer was used for stripping and pushing up pay. In most cases, the sluice box was moved to the pay

stockpile. A 235 Caterpillar hoe fed the sluice box, and was also used for stripping.

Wash Plant: Pay material was fed at a rate of 150 loose cubic yards per hour into a sliding derocker 7 feet wide by 15 feet long. Two inch minus material dropped into a moving finger sluice run 3 feet wide by 20 feet long. A hydraulic cylinder caused the fingers to move back and forth over rollers designed for a D8 Caterpillar bulldozer. The run was lined with Nomad carpet, expanded metal, and two inch angle iron riffles. The top portion of the run was also equipped with 1/2 inch punch plate.

Ground Description: The total depth was about 11 feet of partially frozen ground. In most locations a few feet of black muck was wasted and all the gravel was sluiced with two feet of bedrock. In certain spots the first four feet of gravel was also wasted. Bedrock was decomposed schist.

Mining Cuts: One continuous cut 40 feet by 2000 feet was excavated from Kirkman Creek in 1993.

Water Supply and Treatment: Water was acquired at a rate of 3000 igpm from an instream recirculation pond using a 12 by 12 inch volume pump powered by a 3306 Caterpillar engine. The effluent was treated in the recycle pond and a few additional instream settling ponds.

Gold: Crystalline gold, rough gold, and gold with quartz attached was recovered. About 25% of the gold was fine, and 75% was coarse. Fineness ranged from 860 to 870.

MAISY MAY CREEK	115 O/6, 115 O/7
Jasper Equipment Ltd.	63°19'N 138°57'W
Water Licence: PM92-043	1993, 1994
South Klondike Area Map	Site No. 135

Operation/Location: Wayne Lerner continued mining upstream from where he finished in 1992. About 1/2 of the 1993 season was spent mining upstream of where Queenstake stopped at the top of Maisy May Creek. Drill exploration, restoration, and clean-up was done in 1994.

Equipment/Function: A D9L Caterpillar bulldozer and a 355 Komatsu bulldozer stripped the cuts and stockpiled the pay gravels. An EL300 Caterpillar excavator fed the sluice plant, and a Hough 100C loader carried tailings away to build

settling facilities and the permanent diversion channel.

Wash Plant: A hopper fed a 52 inch diameter by 30 foot long trommel which classified the pay to ¾ inch minus. The material was sluiced in three runs 3 feet wide by 16 feet long lined with Nomad matting and 1 ¼ inch angle iron riffles. A second box with three runs 4 feet wide by 16 feet long was attached to the end of the first set of runs. It was lined with Nomad matting and expanded metal. A 10 by 12 inch Paco pump powered by a 3208 Caterpillar engine supplied the 2000 igpm needed to process 90 cubic yards per hour.

Ground Description: An average cut was 20 feet deep with 15 feet of frozen black muck overlying five feet of gravel. Bedrock was decomposed except near the top of Maisy May Creek, where it was solid and blocky. The lower three feet of gravel and two feet of bedrock were sluiced.

Mining Cuts: In 1993 3½ cuts with an average size of 300 feet by 300 feet and two cuts 150 feet wide by 600 feet long were sluiced. No mining was done in 1994.



An aerial view of the Jasper Equipment sluicing operation on Maisy May Creek.

Water Supply and Treatment: Maisy May Creek was directed into out-of-stream recycle/settling ponds. Discharge was usually by seepage through tailings back to Maisy May Creek. Full recirculation was necessary 100% of the time near the top of Maisy May, and about 50% of the time lower on the watershed.

Gold: Most of the gold was flat, smooth, and around 16 mesh in size. Purity varied from 770 to 780 fine.

MAISY MAY CREEK	115 O/6
Van Every Inc.	63°23'N 139°00'W
Water Licence: PM91-021	1993, 1994
South Klondike Area Map	Site No. 136

Operation/Location: John Van Every conducted a testing operation on Maisy May Creek near the headwaters in 1993 and 1994.

Equipment/Function: An excavator stripped to bedrock for sampling on three claims.

Wash Plant: A small test box was used. A larger sluice box will be employed for mining.

Ground Description: The depth varied from 14 to 20 feet. The gravel layer was seamed and partially thawed. Bedrock was partially decomposed.

Water Supply and Treatment: Water was pumped from an instream reservoir on Maisy May Creek. The effluent was treated in out-of-stream settling ponds prior to discharge back to Maisy May Creek.

Gold: The gold was bright, chunky, and coarse. The purity is expected to be about 770 fine.

SCROGGIE CREEK	115 O/2
Zdenek Bidman	63°07'N 138°36'W
Water Licence: 91-045, 94-009	1993, 1994
South Klondike Area Map	Site No. 137

Operation/Location: In 1993 Zdenek Bidman and two helpers mined at the confluence of Scroggie and Walhalla Creeks. The operation moved upstream on Scroggie Creek in 1994. Three miners shared two shifts in each season.

Equipment/Function: A D9G Caterpillar bulldozer with a U-blade and ripper was used for stripping, stockpiling pay, removing tailings, and constructing diversion channels and settling ponds. A Warner & Swasey H900A excavator fed the sluice box.

Wash Plant: A sluice plant with a dump box, grizzly, and single run sluice branching into five sluice runs was used. Punch plate was used over riffles at the top of the single run, and riffles only were used at the bottom. The lower five runs

were lined with expanded metal, and all runs used unbacked Nomad matting. Pay material was processed at a rate of 100 cubic yards per hour using 1500 igpm of water.

Ground Description: The total depth averaged 10 feet each year. One to six feet of frozen black muck covered 4 to 10 feet of frozen gravel over highly decomposed bedrock. The lower two feet of gravel was sluiced with up to six feet of bedrock.

Mining Cuts: Three cuts were mined in 1993 at the confluence. In 1994, 35,000 cubic yards were sluiced from two cuts on Scroggie Creek.

Water Supply and Treatment: Water was pumped from an out-of-stream reservoir on Scroggie Creek using a 10 by 10 inch Paco pump powered by a Cummins 250 engine. In 1993 and the first part of 1994 effluent was treated in a large settling pond below the confluence of Walhalla and Scroggie Creeks. In the latter half of 1994 the waste water was treated in a few small out-of-stream settling ponds on the right limit of Scroggie Creek above the forks.

Gold: Fifteen percent of the gold was coarse and 85% fine. The coarse gold was chunky and spherical. Fineness was 900.

SPARKLING CREEK	115 J/14
Sparkling Minerals Inc.	62°56'N 139°10'W
Water Licence: PM90-026, PM94-022	1994
South Klondike Area Map	Site No. 138

Operation/Location: Sparkling Creek is a right limit tributary of the Yukon River, about midway between the mouths of Ballarat Creek and Kirkman Creek. Maynard Fuhre and Mona Anderson moved their operation to this steep, narrow valley in the spring of 1994. Three miners worked single shifts throughout the season.

Equipment/Function: A D8H Caterpillar bulldozer was used for stripping and pushing up pay. In most cases, the sluice box was moved to the pay stockpile. A 235 Caterpillar excavator fed the sluice box, and helped with stripping.

Wash Plant: Pay material was fed at a rate of 150 loose cubic yards per hour into a sliding derocker 7 feet wide by 15 feet long. Two inch minus material dropped into a moving finger sluice run 3

feet wide by 20 feet long. An hydraulic cylinder caused the fingers to move back and forth over rollers designed for a D8 Caterpillar bulldozer. The run was lined with Nomad carpet, expanded metal, and two inch angle iron riffles. The top portion of the run was also equipped with ½ inch punch plate.

Ground Description: The ground was frozen. A layer of black muck was ripped and pushed up the valley sides. Bedrock consisted of fractured, angular orange schist and decomposed bedrock. Four feet of gravel was sluiced with two feet of bedrock.

Mining Cuts: Three separate cuts were excavated on Sparkling Creek. They measured 90 by 250 feet, 80 by 200 feet, and 80 by 350 feet.

Water Supply and Treatment: Water was acquired at a rate of 3000 igpm from an instream recirculation pond using a 12 by 12 inch volume pump powered by a 3306 Caterpillar engine. The effluent was treated in the recycle pond and a few additional instream settling ponds, including a polishing pond about 1000 feet above the mouth of Sparkling Creek.

Gold: All fine gold was recovered from Sparkling Creek. Fineness was 880.

Comments: The main pay channel was discovered under the left limit hillside, where it had been covered by slides.

THISTLE CREEK	115 O/3
Stuart Schmidt	63°05'N 139°25'W
Water Licence: PM93-095	1993, 1994
South Klondike Area Map	Site No. 139, 140

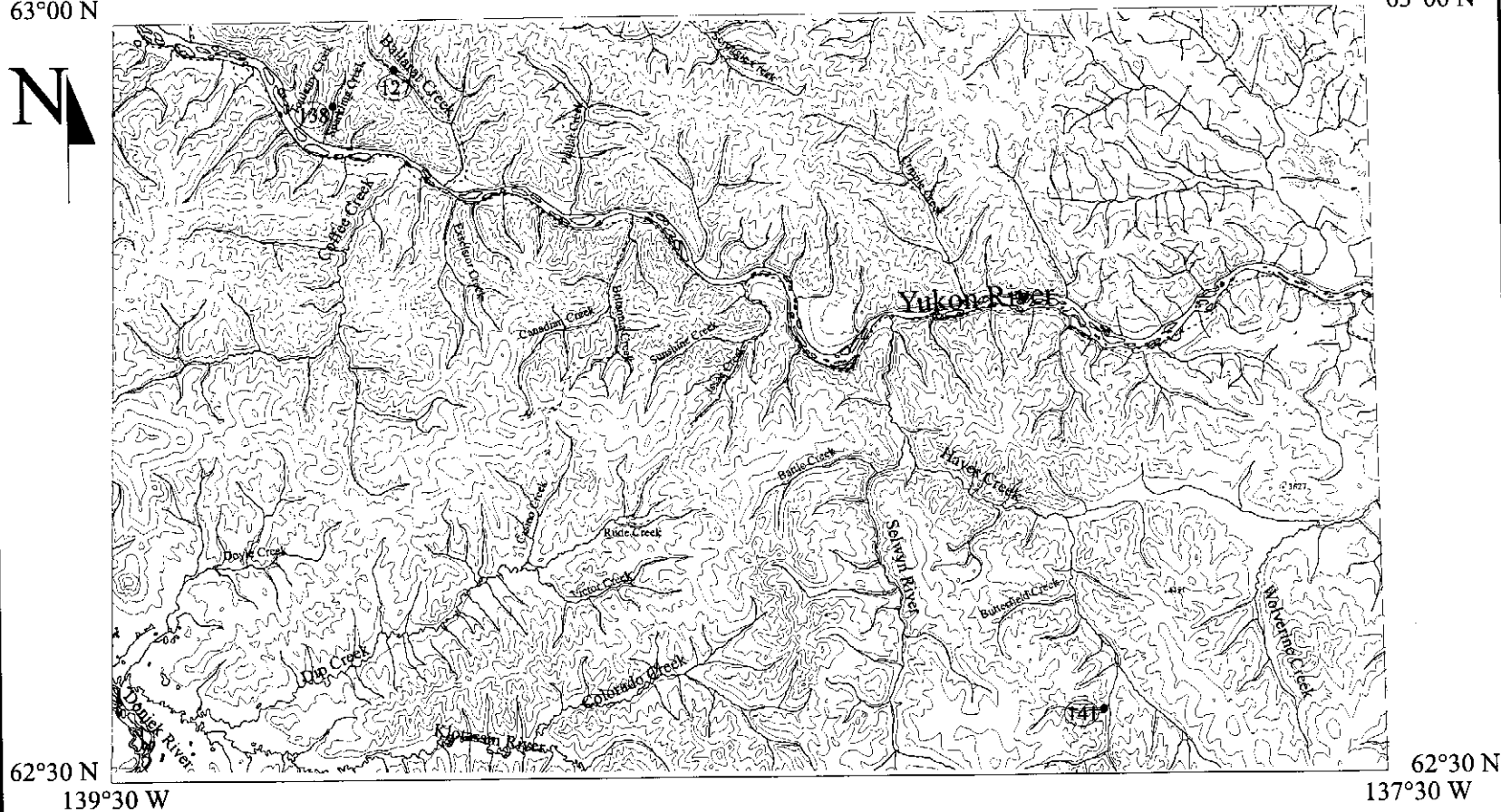
Operation/Location: Stuart Schmidt began working on several areas of Thistle Creek downstream of the airstrip in 1993. From three to five miners and one cook shared two shifts each season.

Equipment/Function: A D10N Caterpillar bulldozer was used for all mining activities, including stripping, constructing berms and settling ponds, stockpiling pay, feeding the sluice box, and removing tailings. Fairly extensive testing was done using a mobile auger drill.

Wash Plant: Pay material was fed at a rate of 225 loose cubic yards per hour into a triple run sluice

137°30 W
63°00 N

99



Yukon Territory

Secondary roads
Major roads



Rivers

0

km

25

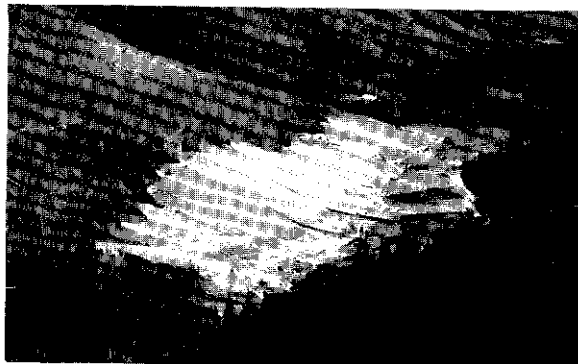


Contours



Placer Operations

box. Two spray bars and a monitor washed material in the dump box. The centre run was lined with $\frac{3}{4}$ inch punch plate over a four pound expanded metal mesh for the first eight feet, and two inch flat bar riffles set at a 15° angle for the last 12 feet. The two side runs were also lined with $\frac{3}{4}$ inch punch plate, expanded metal, and flat bar riffles. The runs were lined with Nomad carpet.



Looking upstream at a large cut being prepared at Stuart Schmidt's operation on Thistle Creek.

Ground Description: In 1993 the total depth was approximately 18 feet. This included a 2 to 8 foot layer of black muck and a 2 to 6 foot layer of light gravel or sands covering a band of coarser gravels above bedrock. Various types of bedrock were encountered. The lower 4 to 5 feet of gravel was sluiced with 2 to 3 feet of bedrock. In 1994 stripping was underway in two separate areas. The stratigraphic profile was not available for either location.

Mining Cuts: In 1993, oldtimers' tailings were sluiced on the Saucerman bench. Farther upstream an area measuring 300 feet by 2700 feet was mined in seven cuts. Hydraulic stripping occurred on the Edas bench in 1994, and an extensive area on the right limit of Thistle Creek was mechanically stripped in Green Gulch.

Water Supply and Treatment: Water was pumped at a rate of 3500 igpm using a 10 by 12 inch Morris pump powered by a 3408 Caterpillar engine. Effluent was treated in two large out-of-stream settling ponds below the main workings in 1993, and in smaller out-of-stream ponds on the left limit below the Saucerman bench. In 1994

effluent from the hydraulic stripping operation was treated in the previous seasons mining cuts.

Gold: The gold included smooth, rounded, coarse nuggets up to $2\frac{1}{2}$ ounces in weight. Forty percent of the gold was between 12 and 16 mesh, 20% between 16 and 20 mesh, and 20% between 20 and 25 mesh. Fineness was 850.

Comments: Mercury was recovered when the oldtimers' tailings were sluiced. Extensive timbered shafts were revealed when Green Gulch was stripped in 1994.

UNNAMED TRIB. of HAYES CK. 115 I/12 & J/9
George S. Wilson 62°33'N 138°00'W
Water Licence: PM92-087 1993
Canadian Creek Map Site No. 141

Operation/Location: The site was located on an unnamed tributary of Hayes Creek, which is a tributary of the Selwyn River. George Wilson ran this operation single-handed in 1993.

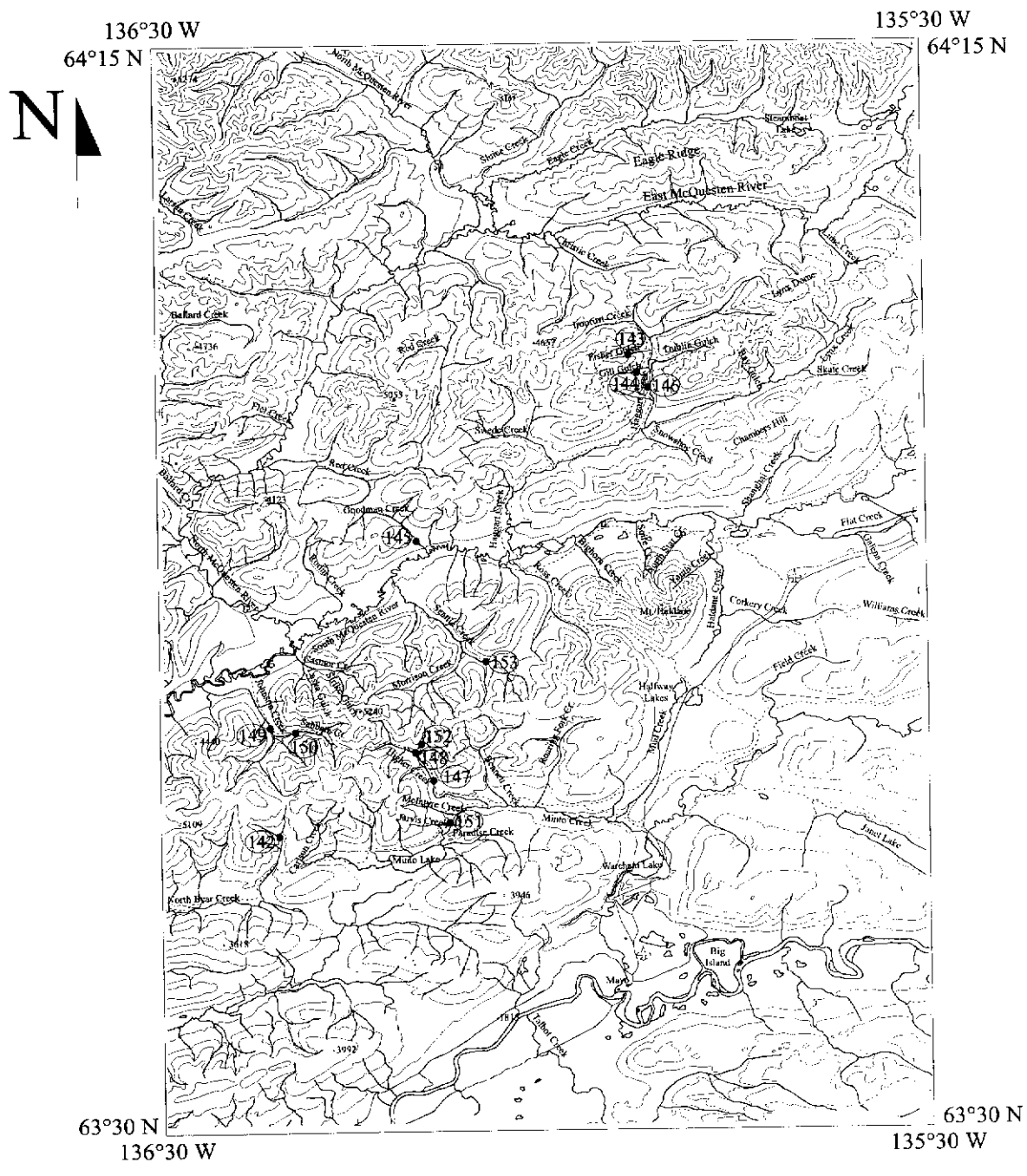
Equipment/Function: A TD24 Caterpillar bulldozer was used for stripping overburden, sluicing, and pushing tailings.

Wash Plant: A 6 foot by 14 foot dump box washed 30 loose cubic yards per hour into a single run sluice 34 inches wide by 16 feet long. The sluice box had $1\frac{1}{2}$ inch riffles and Nomad carpet for the entire length. The sluice was designed with an undercurrent. Two feet of punch plate was attached to the end of the run, and fines would drop through it onto another sluice 4 feet by 4 feet with expanded metal over Nomad carpet.

Ground Description: The total depth of the section was approximately 12 feet to bedrock. Three feet of frozen black muck covered three feet of frozen coarse boulder gravels over $2\frac{1}{2}$ feet of fine gravels on a varied bedrock floor. The lower three feet of pay gravel was sluiced with some bedrock.

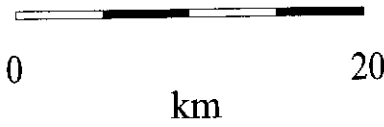
Mining Cuts: Two cuts (100 feet by 200 feet and 500 feet by 150 feet) were stripped and mined in 1993.

Water Supply and Treatment: A 6 inch volume pump powered by a 4-cylinder Lister engine supplied water to the sluice at a rate of 400 igpm. One large out-of-stream settling pond was in place to treat the effluent discharge.



Mayo Placer Area Yukon Territory

- Secondary roads
- Major roads
- Rivers



- Contours
- Placer Operations

Gold: The majority of the gold was fine, although 30% was considered coarse. The gold was semi-smooth and flat. Fineness was 860.

BEAR CREEK	115 P/9
Konservative Placers	63°39'N 136°22'W
Water Licence: PM92-034	1993, 1994
Mayo Placer Area Map	Site No. 142

Operation/Location: Peter Tyerman and his family ran this operation on an unnamed tributary to the upper end of Bear Creek. The valley is narrow with a moderate gradient. In 1993 mining continued approximately 500 feet up the centre of the valley from where it ended in 1992. The pay streak was lost in 1994 under the left limit hillside, then regained 1000 feet upstream.

Equipment/Function: A D65S Komatsu loader and a D7 Caterpillar bulldozer were used for stripping and to remove the tailings. A JSW excavator was used for stripping and to feed the wash plant. The wash plant was moved as mining progressed upstream.

Wash Plant: The wash plant consisted of a 20 foot long by eight foot wide dump box, a wet grizzly made of railway iron on three inch centres, and a single sluice run 34 inches wide by 20 feet long. The box was lined with angle iron riffles, eight feet of ½ inch punch plate, and burlap sacking. A gold screw was used to clean up the concentrate. Approximately 250 cubic yards were processed per day.

Ground Description: The depth to bedrock averaged 40 feet. Overburden was not frozen and consisted of 1 to 2 feet of organic material covering 6 to 7 feet of gravel and large boulders close to bedrock. Clay and gravel were mixed throughout the section. Bedrock was decomposed schist with quartzite. Twenty feet of old channel gravel and three feet of bedrock were sluiced.

Mining Cuts: A combined total of 46,000 cubic yards were sluiced and 22,000 cubic yards stripped in 1993 and 1994. An equal amount of material was handled each year.

Water Supply and Treatment: A pipeline made from 45 gallon drums conveyed water a short distance from the creek to the sluice box at a rate of 1000 igpm. The effluent was treated in a series of small instream ponds.

Gold: The gold was flat and flaky, with 75% greater than 10 mesh in size.

Comments: Some platinum, hematite, magnetite, iron pyrite, and garnets were found in the concentrate.

FISHER GULCH	106 D/4
Jack Frank	64°02'N 135°49'W
Water Licence: PM92-016	1993, 1994
Mayo Placer Area Map	Site No. 143

Operation/Location: Fisher Gulch is a narrow valley joining the Haggart Creek valley upstream of Dublin Gulch. Mining occurred about ½ mile above the mouth of Fisher Creek. Victor Sharman and two other miners took over the operation in 1993. Rod Ramey worked the ground in 1994 with some help for part of the season.

Equipment/Function: A Caterpillar 225 excavator was used for testing and ditching. A D85A Komatsu bulldozer with angle blade and ripper was used to rip and strip overburden. A FR20 Fiat Allis loader fed the wash plant, and a 275L Clark loader removed tailings. A 206 Bantam excavator and a D9 Caterpillar bulldozer were also used in 1993.

Wash Plant: An eight yard wet hopper fed a grizzly 8 feet wide by 10 feet long, which fed two inch minus material into a single run sluice 16 feet long by 23 inches wide. The sluice run contained a combination of one inch angle iron and flat riffles over expanded metal. The plant processed 50 cubic yards of material per hour.



Jack Frank's instream operation on Fisher Gulch.

Ground Description: The depth to bedrock was 40 feet in places. Twelve to 15 feet of frozen glacial till overburden with silt and clay pockets covered 10 feet of oxidized coarse gravel. Ten feet of gravel and two feet of decomposed blue clay bedrock were sluiced. The ground was stripped in advance and thawed naturally.

Mining Cuts: In 1993, 3300 cubic yards were sluiced and 6600 cubic yards stripped. In 1994, 5300 cubic yards were sluiced and 10,600 cubic yards stripped.

Water Supply and Treatment: Water was gravity fed from an instream reservoir to the wash plant at a rate of 650 igpm through 500 feet of 10 inch diameter aluminum pipe. Effluent was treated in a series of instream ponds averaging 75 feet wide by 120 feet long. A ditch on the right limit of the valley diverted the creek around the ponds and mine cuts.

Gold: The gold was coarse with rounded and angular nuggets. Fineness was 895.

Comments: Hematite, scheelite, and native silver occurred in the concentrate. The gold was coated with iron oxide which prevented amalgamation and discoloured the water.

GILL GULCH 106 D/4
Ted Takas 64°01'N 135°50'W
Water Licence: PM92-047 1993, 1994
Mayo Placer Area Map Site No. 144

Operation/Location: Ted Takas, a partner, and family members were mining and testing in the Haggart Creek and Mayo areas in 1993 and 1994. In 1993 a small cut was taken from Gill Gulch, a larger cut was mined from Dublin Gulch.

Equipment/Function: A D8H Cat bulldozer was used to strip overburden and push up pay. A Michigan 175 loader fed the trommel and removed tailings. An Hitachi excavator was also used to dig pay and feed the derocker.

Wash Plant: A five yard wet dump box fed a grizzly over a V-hopper. Classified material ran through a single run sluice 20 feet long by 22 feet wide lined with astroturf, punch plate, and two inch Hungarian riffles. A derocker with a 24 foot long by 31 inch wide double run sluice box with an undercurrent run was used on Dublin Gulch.

Ground Description: The ground on Gill Gulch was frozen in patches and consisted of one foot of organic material, 34 feet of stream gravel, and decomposed schist bedrock with quartz riffles. An average of nine feet of old channel gravel and one foot of bedrock were sluiced. The ground on Dublin Gulch was compacted and contained large boulders, making it very difficult to work.

Mining Cuts: In 1993 approximately 500 cubic yards were sluiced and 3330 cubic yards stripped from the cut on Gill Gulch. On Dublin Gulch 15,000 cubic yards were sluiced and 10,000 cubic yards stripped in 1993. Little production occurred in 1994.

Water Supply and Treatment: A Duetz diesel powered Gorman Rupp pump supplied water to the wash plant from Haggart Creek and a reservoir on Dublin Gulch at a rate of 500 igpm. Effluent was treated in large out-of-stream settling ponds which discharged into Haggart Creek.

Gold: The gold was oxidized and fine grained with some small nuggets. Fineness was 870.

GOODMAN CREEK 115 P/16
Kim Klippert 63°54'N 136°08'W
Water Licence: PM93-067 1993, 1994
Mayo Placer Area Map Site No. 145

Operation/Location: Kim Klippert and his family tested ground in the Goodman Creek area, approximately one mile upstream from its confluence with the South McQuesten River. Some production sluicing occurred in 1994.

Equipment/Function: A D8 Caterpillar bulldozer with a U-blade and ripper was used for stripping. An American excavator was used for digging drains and test pits. A 275B Clark loader fed the sluice plant and removed tailings.

Wash Plant: Material smaller than 2½ inches passed through a grizzly nine feet wide by twelve feet long equipped with two spray bars six inches in diameter. Two sluice runs 3 feet wide by 8 feet long were lined with four feet of hydraulic riffles followed by four feet of expanded metal on top of backed Nomad matting. Forty-five cubic yards per hour were processed.

Ground Description: Four feet of frozen muck overlay 25 feet of glacial outwash gravel

overburden followed by 10 to 12 feet of pay gravels. Two feet of quartz-schist bedrock were also sluiced.

Mining Cuts: In 1994, 5000 cubic yards were sluiced and 15,000 cubic yards stripped from a cut measuring 150 feet long by 80 feet wide. Testing also occurred in various locations in 1993 and 1994.

Water Supply and Treatment: An 8 by 6 inch pressure pump powered by a 6-cylinder Ford diesel supplied water to the wash plant at a rate of 800 igpm. The effluent was treated in an instream pond. Water was in short supply and restricted sluicing time for part of the season.

Gold: The gold was fine grained with a fineness of 820.

Comments: Hematite, pyrite, and native iron were found in the concentrate. Coarser gold was found on a small upstream tributary.

DUBLIN GULCH & HAGGART CREEK 106 D/4
Dublin Gulch Mining Ltd. 64° 02' N 136° 49' W
Water Licence: PM93-071 1993, 1994
Mayo Placer Area Map Site No. 146

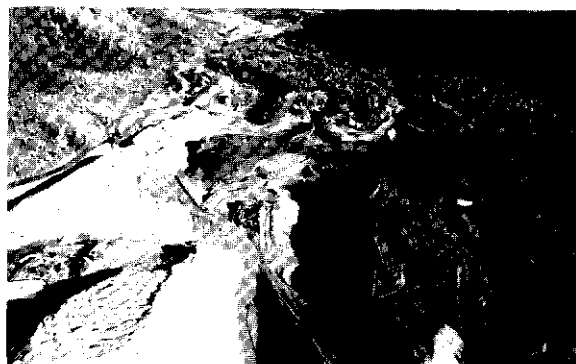
Operation/Location: An old deep channel running parallel to Haggart Creek was mined in the left limit hillside downstream of Platinum Pup. The operation was run by Ron Holway and his son Fred. An additional seven miners and one cook made up the rest of the crew. Two 10 hour shifts were worked.

Equipment/Function: Two D9H Caterpillar bulldozers with U-blades and rippers were used to strip overburden and push pay. Two 988B Caterpillar loaders fed the wash plant, and another was used for cleanup. A 172 Hitachi excavator was used in the cut for drainage ditches and to clean bedrock.

Wash Plant: The wash plant consisted of a wet hopper, a trommel seven feet in diameter by 40 feet long, and a 30 foot long double run sluice. Material smaller than one inch passed through the trommel screen into a distributor box lined with 1 1/2 inch angle iron riffles over Nomad matting which collected most of the gold. The sluice runs were lined with expanded metal and Nomad

matting. The processing rate was 120 cubic yards per hour.

Ground Description: The total depth was 80 feet in places with an average of 40 feet of overburden and 15 feet of old channel pay gravel. The overburden consisted of 20 feet of clay and 20 feet of gravel, thought to be a delta deposit off the side hill. The pay gravels were grey in colour and well rounded, with boulders up to two feet in diameter. The hard quartzite bedrock was cleaned and contained little travelled gold.



Deep ground being mined in the left limit hillside of Haggart Creek by Dublin Gulch Mining Ltd.

Mining Cuts: In 1993 70,000 cubic yards were sluiced and 130,000 cubic yards stripped from one large cut about 1/2 mile downstream of Platinum Pup. Mining continued upstream in 1994 and amounted to 100,000 cubic yards sluiced and 300,000 cubic yards stripped.

Water Supply and Treatment: A 10 by 8 inch Caterpillar 3204 pump was used to de-water the cut. A Morris 12 by 12 inch pump powered by a Cummins 360 was used to supply water from Haggart Creek to the trommel at a rate of 1800 igpm. A series of long, small ponds were used to treat the effluent in 1993. In 1994, the large cut made in 1993 was used for settling.

Gold: Five percent of the gold was larger than 10 mesh, including 5% nuggets up to one ounce in size. The fineness was 870.

Comments: The gold was finer than that found on Dublin Gulch and did not contain scheelite. The concentrates contained arseno-pyrite.

HIGHET CREEK	115 P/9, 115 P/16
Sasha Mining Ltd.	63°43'N 136°08'W
Water Licence: PM92-002	1993, 1994
Mayo Placer Area Map	Site No. 147

Operation/Location: In 1993 Merrill Powers and his family started mining this property located upstream of the canyon on Highet Creek. In 1994 Lowell Bleiler, his wife Lyn, and father Ed retired from mining, but they still own and maintain an active interest in the property. Two 12 hour shifts were worked by a crew of seven in 1993, and five in 1994.

Equipment/Function: A D9 Caterpillar bulldozer was used for stripping and pushing up pay. A D8K Caterpillar bulldozer was also used for stripping. The wash plant was fed by a UH30 Hitachi excavator. A 769C Caterpillar rock truck hauled overburden and pay, and a 988 Caterpillar loader removed tailings.

Wash Plant: A wet hopper 8 by 8 by 4 feet in dimension fed material to a nine foot diameter trommel with one inch screens. The 8 foot wide by 9 foot long top run of a reversing sluice box was lined with hydraulic riffles over astroturf. The bottom run was 8 feet wide by 24 feet long and was lined with expanded metal over astroturf. The processing rate was 180 cubic yards per hour. A 50 horsepower electric motor driven by a 50 kW Duetz diesel generator drove the trommel.

Ground Description: Mining occurred on ground worked by the oldtimers towards the upstream end of the property above Big John Creek. Some gold was found in the old tailings, but the best values were recovered off bedrock and from untouched side pay the oldtimers could not reach. The total depth to bedrock on the side pay was 35 feet, with 20 feet of silt/clay overburden and 12 feet of pay composed of gravel, washed sand, and boulders up to five feet in diameter. Two feet of decomposed schist bedrock was also sluiced.

Mining Cuts: Five cuts were mined in 1993 for a total of 200,000 cubic yards sluiced and 185,000 cubic yards stripped. In 1994, 235,000 cubic yards were sluiced and 250,000 cubic yards stripped from four cuts.

Water Supply and Treatment: Water was supplied to the wash plant at a rate of 1800 igpm by an 8 by 10 inch Cornell pump powered by a 671 Detroit diesel. Effluent was treated in a 50 foot wide by 300 foot long pre-settling pond and a large two cell out-of-stream pond located in the Highet Creek valley downstream of the canyon.

Gold: Fifteen percent of the gold was between 3 and 20 mesh, 80% between 20 and 200 mesh, and 5% was nugget sized. Fineness was 840.

Comments: The gold from the creek was covered with mercury, presumably used by the oldtimers. It was treated with nitric acid to remove the mercury from the gold, and a zinc ball to recover mercury from the solution.

HIGHET CREEK	115 P/16
Frank Ed	63°45'N 136°14'W
Water Licence: PM93-033	1993, 1994
Mayo Placer Area Map	Site No. 148

Operation/Location: This instream operation is located on the upper reaches of Highet Creek. Mining took place on a right limit bench and in the valley bottom approximately four claims upstream of Rudolph Pup.

Equipment/Function: A 950 Caterpillar loader fed the box and removed tailings. A D8K Caterpillar bulldozer was used for stripping, pushing up pay on the bench, and levelling tailings. Slide rock in the creek workings was ripped with a D8H Caterpillar bulldozer.

Wash Plant: A wet grizzly 4 feet long by 5 feet wide fed three inch minus material to a single run sluice box 20 feet long by two feet wide. The sluice box was lined with angle iron riffles spaced 1 1/4 inches apart, expanded metal, and cocoa matting. The processing rate was 30 cubic yards per hour.

Ground Description: The bench deposit was mined during high water and consisted of five feet of gravel mixed with quartzite and granite boulders under two feet of gravel and yellow clay layers and two feet of black muck. The bench ground was frozen and all gravels were sluiced. The creek deposit was not frozen but was deeper. Five to six feet of gravel and one foot of bedrock were sluiced. Eight to 10 feet of fine material and slide rock were stripped off.

Mining Cuts: In 1993, 6000 cubic yards were sluiced and 1000 cubic yards stripped. In 1994, 4000 cubic yards were sluiced and 4000 cubic yards stripped.

Water Supply and Treatment: A PVC and aluminum pipeline 200 feet long and 6 inches in diameter supplied water by gravity to spray bars on the wash plant at a rate of 600 igpm. Effluent was treated in a series of instream ponds. A small pre-settling pond was cleaned out regularly.

Gold: Twenty five percent of the gold was larger than 3 mesh, 25% between 3 and 8 mesh, and the remainder was smaller than 8 mesh. Fineness was 840.

JOHNSON & SABBATH CREEKS	115 P/16
C & I Construction Ltd.	63°46'N 136°21'W
Water Licence: PM92-050	1993, 1994
Mayo Placer Area Map	Site No. 149, 150

Operation/Location: Conrad Klippert mined a cut on Sabbath Creek with his sons Kim and Dan in 1993. In 1994 he mined alone on Johnson Creek.

Equipment/Function: A D8 Caterpillar bulldozer was used for stripping and pushing up pay. A 275 Michigan loader fed the wash plant and removed tailings.

Wash Plant: A dry grizzly and 16 foot long by 8 foot wide dump box fed material to a single run sluice 36 inches wide by 24 feet long lined with angle iron, flat bar riffles, and ½ inch punch plate over Nomad matting.

Ground Description: The total depth to bedrock on Sabbath Creek 1½ miles upstream of Johnson Creek was 20 feet. Heavily compacted gravel and boulders ranging in size from 3 to 7 feet in diameter were excavated. The lower 12 feet of gravel and three feet of decomposed schist and quartz bedrock were sluiced. The ground had been stripped of vegetation previously and was not frozen.

A bench on the right limit of Johnson Creek five claims upstream from the lower claim boundary was also mined. The material consisted of 10 feet of slide rock overburden and 10 feet of stream gravel.

Mining Cuts: In 1993, 31,000 cubic yards were stripped and 20,000 cubic yards sluiced from Sabbath Creek. In 1994, 7500 cubic yards were sluiced and 11,000 cubic yards stripped from Johnson Creek.

Water Supply and Treatment: A 10 by 8 inch pump powered by a GM diesel supplied water at a rate of 1000 igpm. Effluent was treated in an out-of-stream pond next to Johnson Creek.

Gold: Most of the gold was smaller than 10 mesh and flattened. Fineness was 800.

MINTO CREEK	115 P/9
George Lewans	63°42'N 136°06'W
Water Licence: PM91-015	1993, 1994
Mayo Placer Area Map	Site No. 151

Operation/Location: George Lewans and a helper ran this operation on the left limit of Minto Creek. A surface glacial deposit of fine gold was mined on a small bench between Jarvis Creek and McIntyre Creek. Mining in this area was completed in the fall of 1994 and the area was restored.

Equipment/Function: A D8 Caterpillar bulldozer with a U-blade and ripper was used for stripping and pushing up pay. A 966 Caterpillar loader fed the wash plant and removed tailings.

Wash Plant: A tapered hopper 12 feet wide by 8 feet long with spray bars provided material to a 5 by 7 foot vibrating shaker table, which fed a single run sluice box 4 feet wide by 12 feet long. The sluice box was lined with four feet of hydraulic riffles and expanded metal over astroturf. A plywood extension 8 feet wide by 12 feet long was added to the end of the sluice run. It was lined with expanded metal over astroturf and improved the fine gold recovery significantly.

Ground Description: About 20 feet of glacial outwash deposit was mined. There were no uniform layers but sand seams were encountered. The ground consisted of medium to coarse gravel with boulders up to two feet in diameter. Bedrock was not located. The ground had been previously stripped and all material was sluiced. Gold was found throughout the section but the best pay was found close to the surface in association with blue-green granite rocks.

Mining Cuts: Two cuts were mined for a total of 23,700 cubic yards sluiced and 3000 cubic yards stripped. One cut included the road to Minto Lake which was rerouted and then returned to its original position and the area restored.

Water Supply and Treatment: A 4 inch by 4 inch Monarch pump powered by a 31 horsepower diesel supplied water to the wash plant at a rate of 400 igpm. Effluent was treated in a settling pond 200 feet long by 80 feet wide by 12 feet deep. There was no surface or seepage discharge from this pond into Minto Creek despite several years of use, indicating that the ground in this area is very porous.

Gold: The gold was thin, flaky, and very fine grained (less than 12 mesh). Fineness was 845.

RUDOLPH GULCH & HIGHER CREEK 115 P/16
Howard Lone 63°46'N 136°13'W
Water Licence: PM92-078 1994
Mayo Placer Area Map Site No. 152

Operation/Location: Howard Lone mined the property in 1994. Previously it was mined by the late Wilfred Gordon and is now owned by his surviving wife, Jean Gordon.

Equipment/Function: A D7 winch Caterpillar bulldozer was used to strip and to loosen up the pay. A 55 Michigan loader fed the wash plant and removed tailings.

Wash Plant: A grizzly 5 feet wide by 6 feet long fed three inch minus material to a dump box 3 feet wide by 8 feet long with spray bars. A single run sluice 22 inches wide by 16 feet long was lined with 2½ inch riffles at two inch spacings over expanded metal and cocoa matting. The processing rate was about 25 cubic yards per hour.

Ground Description: The ground was not frozen. The total depth to bedrock was 20 feet, consisting of 16 feet of coarse stream gravel and 4 to 5 feet of packed black sand with boulders up to three feet in diameter. All the stream material and one foot of broken schist bedrock were sluiced.

Mining Cuts: One cut was mined for a total of 4500 cubic yards sluiced.

Water Supply and Treatment: Water was gravity fed from Rudolph pup to the sluice box through 400 feet of ditch and 75 feet of pipe. The pipe was reduced from 10 to 4 inches in diameter at the sluice box. A small instream pond was cleaned out regularly.

Gold: Half the gold was smaller than 20 mesh. Fineness was 830.

SEATTLE CREEK 115 P/16
Dan Klippert 63°48'N 136°05'W
Water Licence: PM90-069 1993, 1994
Mayo Placer Area Map Site No. 153

Operation/Location: Dan Klippert worked a 10 hour shift with some help from his family on this property located one mile upstream from Morrison Creek. Production began in 1994, and the testing program started in 1993 was continued.

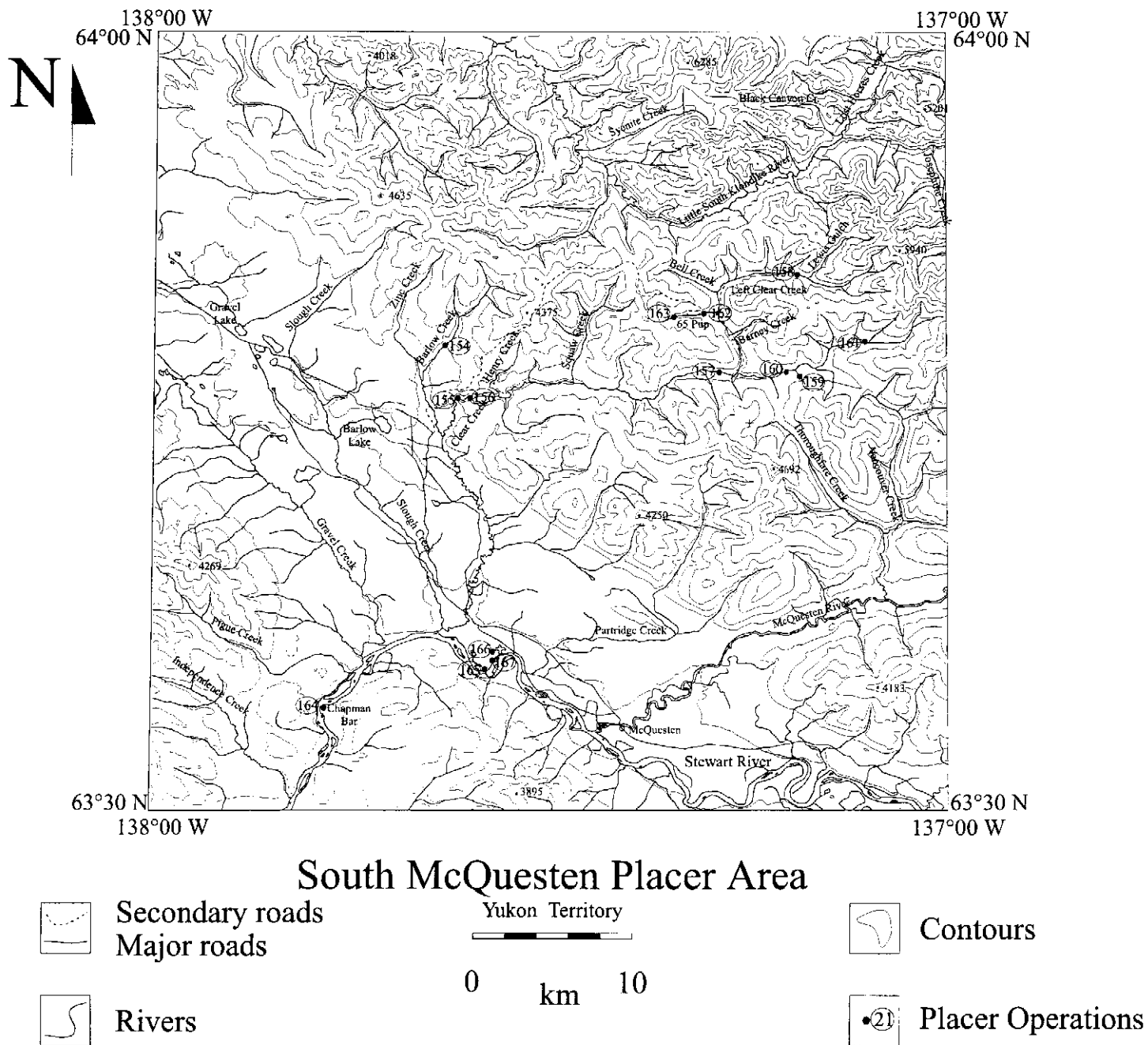
Equipment/Function: A 235 Caterpillar excavator was used for ditching and feeding the wash plant. Levelling and stripping was done with a D6E Caterpillar bulldozer. A 992 Caterpillar loader hauled overburden and pay gravel.

Wash Plant: A wet grizzly 10 square feet in area classified material to four inches. A single run sluice three feet wide by 20 feet long was lined with 18 feet of angle iron riffles. The processing rate varied between 50 and 100 cubic yards per hour.

Ground Description: Fifty feet of ground was excavated without reaching bedrock. Ground that had been previously stripped of 1 to 2 feet of black muck was thawed. Twenty feet of well sorted stream gravel and stones up to six inches in diameter were stripped. Fifteen feet of coarse gravel, stones up to two feet in diameter, and 15 feet of red stained well sorted gravel were sluiced.

Mining Cuts: In 1994 5000 cubic yards were sluiced and 20,000 cubic yards were stripped from two cuts.

Water Supply and Treatment: A 6 by 6 inch Gorman Rupp pump powered by a 371 GMC diesel pumped water from an instream reservoir to the wash plant at a rate of 1000 igpm. Effluent was treated in an out-of-stream pond located ¼ of a mile downstream.



Gold: The gold was flat and well travelled. Coarse gold was found with the larger boulders, and the gold in the oxidized gravel had a red stain.

BARLOW CREEK	115 P/13
Ray Lizotte	63°48'N 137°37'W
Water Licence: PM93-008	1993, 1994
South McQuesten Map	Site No. 154

Operation/Location: Ray Lizotte and his brother continued mining on Barlow Creek about five miles upstream from its junction with Clear Creek in 1993. They moved off the property in 1994.

Equipment/Function: Two D8 Caterpillar bulldozers were used for stripping. A 988 Caterpillar loader was used to stack tailings along the channel to armour the banks. Ditching and trommel feed were accomplished with a 215 Caterpillar excavator. A D7 Caterpillar winch bulldozer with a gin pole was used for repairs.



Looking upstream on Barlow Creek at Ray Lizotte's mining operation.

Wash Plant: A 10 cubic yard wet hopper fed a trommel 38 feet long by seven feet in diameter with angle iron riffles and ½ inch screens. A 4 foot wide by 8 foot long sluice box was lined with four feet of hydraulic riffles and expanded metal. The processing rate was 100 cubic yards per hour.

Ground Description: The ground was 20 feet deep with 4 to 10 feet of frozen black muck over 10 to 16 feet of gravel and clay. The gold was found in the clay and on bedrock. The clay was very difficult to wash. About 10 feet of gravel and 1 to 2 feet of bedrock were sluiced.

Mining Cuts: In 1993, 9300 cubic yards were sluiced from a cut that was stripped in 1992. Insufficient gold was recovered to continue mining in this location, so the operation was moved downstream of the camp where 20,000 cubic yards were sluiced and 87,000 cubic yards stripped. In 1994, 15,000 cubic yards were sluiced from this area before the operation moved to the Right Fork of Clear Creek.

Water Supply and Treatment: Water was pumped from a bypass channel at a rate of 700 igpm by a 10 by 12 inch pump powered by a 3208 Caterpillar diesel engine. An aluminum pipe six inches in diameter conveyed the water to the wash plant. The total flow of Barlow Creek was treated in two medium sized settling ponds.

Gold: Half the gold was larger than 10 mesh including 10% larger than 4 mesh, with nuggets up to 1½ ounces.

CLEAR CREEK	115 P/13
William Wasylenko	63°46'N 137°34'W
Water Licence: PM91-051	1993, 1994
South McQuesten Map	Site No. 155

Operation/Location: Bill Wasylenko worked a 14 hour shift with a three person crew. The property is located on the left limit of Clear Creek upstream of Barlow Creek.

Equipment/Function: Stripping was done with a D9G Caterpillar bulldozer. A Bantam excavator fed the wash plant, and tailings were removed with a 75B Clark loader. A D8 Caterpillar bulldozer and a 950 Caterpillar loader were used as standby machines.

Wash Plant: A 125 cubic yard per hour Super Sluice 6 lined with ½ inch punch plate fed material to a single run sluice 3 feet wide by 16 feet long lined with angle iron riffles and expanded metal. Material smaller than ¾ inches was fed into two centrifugal drums. The processing rate was 90 cubic yards per hour.

Ground Description: The depth to bedrock was about 20 feet on previously stripped ground. Fifteen feet of stream gravel and four feet of decomposed bedrock were sluiced.

Mining Cuts: Two cuts were mined in 1993 for a total of 35,000 cubic yards sluiced and 17,000

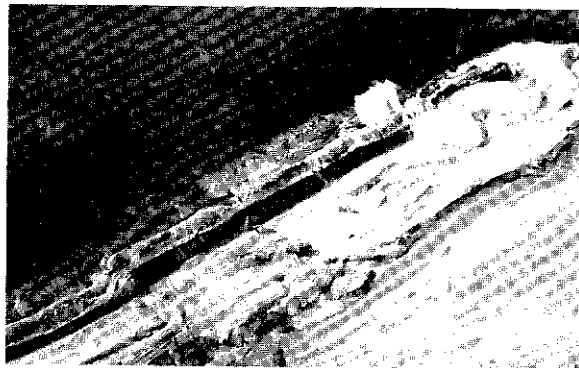
cubic yards stripped. A total of 36,000 cubic yards were sluiced and 55,000 cubic yards stripped in 1994.

Water Supply and Treatment: A 6 by 6 inch high pressure pump powered by a 6-cylinder Ford engine recycled water to the wash plant from a large settling pond at a rate of 500 igpm. There was no discharge from the pond to the creek.

Gold: The gold was fine with a fineness of 840.

CLEAR CREEK	115 P/13
West Coast Paving	63°46'N 137°34'W
Water Licence: PM93-086	1993, 1994
South McQuesten Map	Site No. 156

Operation/Location: Lum Zogas ran this operation with a crew of nine working two ten hour shifts. Approximately one mile of the main Clear Creek channel two miles upstream of Barlow Creek was mined in 1993 and 1994.



West Coast Paving at work on Clear Creek.

Equipment/Function: Stripping was done with a D9L Caterpillar bulldozer and a 235 Caterpillar excavator. A 980B Caterpillar loader removed tailings, and an EL300 Caterpillar excavator fed the wash plant.

Wash Plant: A 300 cubic yard per hour Super Sluice finger derocker fed material smaller than one inch into two sluice boxes 6 feet wide by 22 feet long. The boxes were lined with angle iron riffles and expanded metal on top of Nomad matting. The processing rate was 150 cubic yards per hour.

Ground Description: The ground was an average of 16 feet deep and unfrozen. Eight feet of sand, stream gravel, and stones up to 14 inches in diameter were stripped. Eight feet of gravel and one foot of decomposed granite bedrock were sluiced. Some of the gravel was oxidized and appeared to be part of an old channel.

Mining Cuts: Eight cuts were mined in 1993 for a total of 194,000 cubic yards sluiced and 190,000 cubic yards stripped. In 1994, 250,000 cubic yards were sluiced and a similar amount stripped.

Water Supply and Treatment: An 8 by 8 inch Cornell pump powered by a Caterpillar 248 diesel engine supplied water to the wash plant at a rate of 1200 igpm. Effluent was treated in a series of old cuts.

Gold: The gold was very fine with some small to medium sized flakes. Fineness was 830.

Comments: Silver, tin, and black sand were found in the concentrate.

CLEAR CREEK	115 P/14
J. Klassen & 4757 Yukon Ltd.	63°48' 137°16'
Water Licence: PM93-013	1993, 1994
South McQuesten Map	Site No. 157

Operation/Location: This property is located on Clear Creek just below its confluence with Left Clear Creek. The ground was leased to Wyann Smith in August of 1993. Mr. Smith worked with a crew of eight and one cook. Two 10 hour shifts were worked in the fall of 1993 and the spring of 1994. Mr. Smith left the property at the end of July in 1994 and John Klassen resumed operations.

Equipment/Function: Two D9 Caterpillar bulldozers were used to strip overburden and to stockpile pay. Two 966D Caterpillar loaders fed the wash plant and removed tailings. A 235 Caterpillar excavator was used for ditching and feeding the wash plant.

Wash Plant: Two trommels 7 feet in diameter by 20 feet long were fed with 8 foot wide by 12 foot long apron feeders. Material was screened to ½ inch minus and fed into sluice runs 4 feet wide by 16 feet long lined with three feet of angle iron riffles and 13 feet of expanded metal.

Ground Description: In 1993 a cut was taken from the main channel about one mile downstream of the confluence. The total depth was 12 feet with two feet of stream gravel and one foot of bedrock being sluiced. In 1994 a cut was mined on the Left Fork about ½ mile upstream of the confluence. The ground had been previously stripped and four feet of river gravels were sluiced.

Mining Cuts: In 1993 5500 cubic yards were stripped and 1600 cubic yards sluiced. In 1994, 2200 cubic yards were sluiced. John Klassen also sluiced 32,000 cubic yards in 1993.

Water Supply and Treatment: A 125 kW generator powered by a 3304 Caterpillar engine provided power for a 6 inch submersible Flygt pump. Water was pumped from the creek to the wash plant at a rate of 1500 igpm. Effluent was treated in a series of large out-of-stream settling ponds.

Gold: The gold was flat and fine with a few nuggets. The fineness was 820 with 10% silver.

LEFT FORK CLEAR CREEK	115 P/14
Blackstone Placer Mining Ltd.	63°50' 137°07'
Water Licence: PM92-040	1993, 1994
South McQuesten Map	Site No. 158

Operation/Location: This property is situated on the Left Fork of Clear Creek. Nelson Harper, Madeline Harper, and Ron Harper mined the property. The family worked a single 10 hour shift.

Equipment/Function: Three Caterpillar D8 bulldozers and one D7 bulldozer were used for stripping overburden, stockpiling pay, and building protection berms and roads. A 90E Hough loader was used to feed the trommel and remove tailings.

Wash Plant: A five cubic yard wet hopper fed material to a trommel five feet in diameter by 30 feet long with ½ inch screens. The ½ inch minus material went through a sluice run 4 feet wide by 20 feet long lined with coarse expanded metal. A sluice run 2 feet wide by 20 feet long lined with angle iron riffles took material between ½ and 1 ½ inches in size. The processing rate was 50 cubic yards per hour.

Ground Description: The depth to bedrock varied between 20 and 30 feet. Overburden consisted of

15 feet of slide material mixed with coarse glacial till and boulders up to five feet in diameter. Eight feet of coarse glacial gravel and one foot of decomposed schist bedrock were sluiced. The best gold values were found around large boulders.

Mining Cuts: Two cuts were mined on the left limit upstream from Lewis Gulch in 1993. A total of 22,000 cubic yards were sluiced and 15,000 cubic yards stripped. In 1994 two cuts were taken from the left limit across from camp. A total of 10,300 cubic yards were sluiced and 21,000 cubic yards stripped.

Water Supply and Treatment: Two hundred feet of 10 inch aluminum pipe supplied water to the pump from a holding pond in the creek. A 6 inch Allis Chalmers pump powered by a 60 horsepower Perkins diesel supplied water to the plant at a rate of 850 igpm. Effluent was treated in old cuts and a series of old dredge ponds.

Gold: Seventy percent of the gold was coarse grained with some nuggets. Fineness was 820.

QUARTZ CREEK	115 P/14
Lon Austin	63°46'N 137°13'W
Water Licence: PM91-082	1993, 1994
South McQuesten Map	Site No. 159

Operation/Location: 1994 was Lon Austin's second year on Quartz Creek, a tributary to the left fork of Clear Creek. He worked a 10 hour shift on an instream area located approximately 1000 feet above the Right Fork of Clear Creek.

Equipment/Function: A 977K Caterpillar tracked loader was used for stripping, feeding the box, and removing tailings.

Wash Plant: A 3 foot wide by 12 foot long dump box fitted with ¾ inch punch plate fed material to a single run sluice, 2 feet wide by 12 feet long. The sluice was lined with expanded metal over Nomad matting. The processing rate was between 12 and 20 cubic yards per hour.

Ground Description: One and a half feet of frozen overburden overlay eight feet of glacial till and two feet of medium sized stream gravel. The stream gravel and 1 to 2 feet of decomposed quartz-schist bedrock were sluiced.

Mining Cuts: One cut was mined accounting for 1200 cubic yards of material sluiced and 3500 cubic yards stripped.

Water Supply and Treatment: A 2 by 3 inch Honda pump supplied water to the wash plant at a rate of 500 igpm. The cut was drained by a 2 by 2 inch Homelite pump. Effluent was treated in a small instream pond.

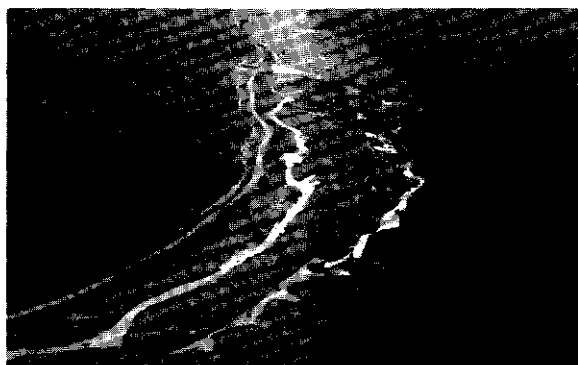
Gold: Half the gold was larger than 12 mesh. Fineness was 820.

Comments: Galena and arseno-pyrite were found in the concentrate.

RIGHT FORK CLEAR CREEK 115 P/14
Propsecta Contracting Ltd. 63°47'N 137°14'W
Water Licence: PM93-019 1993, 1994
South McQuesten Map Site No. 160

Operation/Location: Dick Board and one helper worked this property located one mile upstream from the junction of the Left and Right Forks of Clear Creek.

Equipment/Function: A D55A Komatsu bulldozer was used for stripping, pushing up pay, and removing tailings. The wash plant was fed with a C260 Bantam excavator.



Aerial view of Dick Board's trommel working in a cut next to the Right Fork of Clear Creek.

Wash Plant: A trommel five feet in diameter by 50 feet long fed material smaller than ¾ inches into a sluice run 4 feet wide by 40 feet long lined with one inch riffles and expanded metal. The processing rate was 100 cubic yards per hour.

Ground Description: The total depth to bedrock was 12 feet in the main valley with a 1:1 stripping to sluicing ratio. This area had been stripped previously. The depth in the side hill was 19 feet with a 2:1 stripping to sluicing ratio. Four to 10 feet of black much covered 6 to 9 feet of river gravel. Bedrock was decomposed schist with harder quartz reefs.

Mining Cuts: In 1993, 70,000 cubic yards were sluiced and 70,000 cubic yards stripped from five cuts. In 1994, 47,600 cubic yards were sluiced and 113,000 cubic yards stripped from six continuous cuts. Mining progressed up the left limit of Clear Creek to Quartz Creek.

Water Supply and Treatment: An 8 by 8 inch pump delivered 800 igpm to the wash plant from Clear Creek. Effluent was treated in a series of out-of-stream ponds on the left limit.

Gold: Thirty percent of the gold was larger than 10 mesh with some small nuggets. Fineness was 820.

Comments: The concentrate contained magnetite, hematite, galena, and large amounts of pyrite.

RIGHT FORK CLEAR CREEK 115 P/14
Ray Lizotte 63°48'N 137°07'W
Water Licence: PM93-049 1994
South McQuesten Map Site No. 161

Operation/Location: In 1994 Ray Lizotte and his brother moved to this property on the Right Fork of Clear Creek located, about ½ mile upstream from Queenstake's dredge.

Equipment/Function: Two D8 Caterpillar bulldozers were used for stripping. A 988 Caterpillar loader was used to stack tailings along the channel to armour the banks. Ditching and trommel feed was accomplished with a 215 Caterpillar excavator. A D7 Caterpillar winch bulldozer with a gin pole was used for repairs.

Wash Plant: A 10 cubic yard wet hopper fed a trommel 38 feet long by seven feet in diameter with angle iron riffles and ½ inch screens. A 4 foot wide by 8 foot long sluice box was lined with four feet of hydraulic riffles and expanded metal. The processing rate was 100 cubic yards per hour.

Ground Description: The ground on the right limit hillside was eight feet of coarse stream gravel with some boulders over broken decomposed schist bedrock. Four feet of gravel and two feet of bedrock were sluiced. The ground had been stripped and thawed by Queenstake in preparation for dredging that was never done. No gold was found in the middle of the valley.

Mining Cuts: Approximately 5000 cubic yards were sluiced from a single cut. A similar amount of material was stripped.

Water Supply and Treatment: Water was pumped from a bypass channel at a rate of 700 igpm by a 10 by 12 inch pump powered by a 3208 Caterpillar diesel engine. An aluminum pipe six inches in diameter conveyed the water to the wash plant. Effluent was treated in two small ponds.

Gold: The gold was very rough. Fifty percent was smaller than 200 mesh.

65 PUP	115 P/14
W.J.H. Scott	63°49'N 137°19'W
Water Licence: PM93-052	1993, 1994
South McQuesten Map	Site No. 162

Operation/Location: This operation is located on 65 Pup, a tributary to the Left Fork of Clear Creek. The valley is very narrow with a steep gradient. John Scott and his family ran the operation.

Equipment/Function: A 977 Caterpillar tracked loader was used for stripping, and a 50 Hough loader removed tailings. A 690 John Deer excavator was used to feed the wash plant. A D9 Caterpillar bulldozer was purchased in the fall of 1994.

Wash Plant: A wet hopper 10 feet long by 3 feet wide fed material to a trommel 4 feet in diameter by 20 feet long. Material smaller than one inch passed over two sluice runs 2 feet wide by 10 feet long lined with expanded metal and matting. The processing rate was 25 cubic yards per hour.

Ground Description: The total depth to bedrock averaged 10 feet. The ground was initially frozen but was stripped in advance and thawed naturally. Eight feet of glacial till mixed with blocky slide rock was stripped. Three feet of gravel and one

foot of decomposed bedrock were sluiced. The gold was concentrated on bedrock.

Mining Cuts: Most of the stripping was done in previous years. A few thousand cubic yards were sluiced in 1993 and 1994.

Water Supply and Treatment: A 6 inch Gorman Rupp pump recycled water to the wash plant from an instream reservoir below the trommel at a rate of 150 igpm. Effluent was treated in an instream pond at the downstream property boundary.

Gold: The gold was angular and was stained red and black. Fifty percent was coarse, and 50% was fine. Fineness was 960.

Comments: Small amounts of magnetite occurred in the concentrate.

65 PUP	115 P/14
Stoney Mines	63°49'N 137°16'W
Water Licence: PM92-035	1993, 1994
South McQuesten Map	Site No. 163

Operation/Location: Paul Fisher, Beverley Fisher, and one helper worked a 10 hour shift on this property located 14 claims upstream from Clear Creek.

Equipment/Function: A D8 Caterpillar bulldozer was used for stripping and pushing up pay. Tailings were removed with a 966 Caterpillar loader. A 220 Komatsu excavator was used to feed the wash plant and for stripping.



Aerial view of Paul Fisher's instream operation looking upstream on 65 Pup.

Wash Plant: A six cubic yard wet hopper fed material to a trommel 60 inches in diameter. Material smaller than 1 ¼ inches travelled through a sluice box three feet wide by 20 feet long lined with expanded metal. Nugget traps were built into the top and bottom of the run. The processing rate was 45 to 55 cubic yards per hour.

Ground Description: The depth to bedrock averaged 10 to 12 feet. The ground was not frozen. Layers of clay and blocky slide rock covered rounded old channel gravels and boulders up to several feet in diameter. The decomposed schist bedrock did not contain gold. Seven to eight feet of gravel was sluiced.

Mining Cuts: Seven cuts were mined for a total of 24,000 cubic yards stripped and a similar volume sluiced. The old channel was found towards the right limit side hill.

Water Supply and Treatment: A 7 by 6 inch Monarch pump reduced to 4 by 4 inches was powered by a English Ford diesel. It supplied water from the creek to the wash plant at a rate of 350 igpm. Effluent was treated in a series of instream ponds.

Gold: The gold was coarse with 75% larger than 4 mesh. Fineness was 959.

Comments: The 1994 season challenged the operators with the normal difficulties of a lost pay streak combined with a major flood, a hail storm, and then a forest fire that almost burned them out.

STEWART RIVER	115 P/12
Bruce McLennan	63°34'N 137° 47'W
Water Licence: PM90-104	1993, 1994
South McQuesten Map	Site No. 164

Operation/Location: This property, located in the vicinity of Chapman Bar on the left limit of the Stewart River was mined by Bruce McLennan and a helper. Old bar deposits on the inside bank of a meander bend were mined 30 feet back from the river.

Equipment Function: A D2 Caterpillar bulldozer was used for stripping. A KH41 Kubota excavator was used for excavating and feeding the wash plant.

Wash Plant: A 2 foot by 1 ½ foot vibrating screen classified material to 3/16 inch and then fed into a single run sluice 20 inches wide by 8 feet long lined with expanded metal over Nomad matting. The processing rate was three cubic yards per hour.

Ground Description: The total depth of the ground was 12 feet, consisting of six feet of frozen silt and six feet of thawed gravel and stones up to two feet in diameter. The depth to bedrock was not determined and only the bar gravels were sluiced.

Mining Cuts: Three cuts were mined for a total of 3300 cubic yards sluiced and 3300 cubic yards stripped.

Water Supply and Treatment: Water was pumped from the river by a 1 ¼ inch Keene Pump powered by an eight horsepower Briggs & Stratton gas engine at a rate of 60 igpm. Old cuts were used as settling ponds and had no surface discharge.

Gold: The gold was very fine, and less than 12 mesh in size. Fineness was 840.

Comments: Some black sand and garnets were found in the concentrate.

STEWART RIVER	115 P/12
Eugene Bekar	63°36'N 137°35'W
Water Licence: PM92-042	1993, 1994
South McQuesten Map	Site No. 165

Operation/Location: In 1994 Eugene Bekar moved his camp and wash plant into an area he had been testing on the right limit of the Stewart River, about two miles downstream of the McQuesten airstrip. Mr. Bekar worked one ten hour shift.

Equipment/Function: A C366 Bantam excavator was used for testing and building settling ponds. A 950 Caterpillar loader was used for feeding the wash plant and removing tailings.

Wash Plant: A wet hopper 8 feet wide by 20 feet long fed a trommel 4 feet in diameter by 18 feet long with 9/16 inch slotted punch plate. Classified material entered a single run sluice 2 feet wide by 16 feet long lined with No. 5 expanded metal over backed Nomad matting. The processing rate was 30 to 40 cubic yards per hour.



Aerial view of Eugene Bekar's bar mining operation located next to the Stewart River near the McQuesten airstrip.

Ground Description: The total depth of the ground tested was 20 feet. It consisted of one foot of organic material on top of six feet of sand and silt, overlying 13 feet of river gravel and stones up to eight inches in diameter. The ground was frozen and bedrock was not reached. The river gravel from old bar deposits was sluiced.

Mining Cuts: A test cut of 30 cubic yards was processed in 1994.

Water Supply and Treatment: A 4 inch Monarch trash pump supplied water from a closed recycle/settling pond to the wash plant at a rate of 500 igpm.

Gold: Insufficient quantities of gold were recovered to determine fineness and size distribution.

STEWART RIVER	115 P/12
Robert Sterling	63°36'N 137°33'W
Water Licence: PM93-124	1993, 1994
South McQuesten Map	Site No. 166

Operation/Location: Robert Sterling worked a 10 hour shift with a two person crew from Ampex Mining. 1994 was the first year of production on this property located at the McQuesten airstrip approximately 800 feet back from the right limit of the Stewart River.

Equipment/Function: A D7 Caterpillar bulldozer was used for stripping, pushing up pay, and removing tailings. A 966 Caterpillar loader

removed tailings and fed the excavator. Pay was also excavated with a Bantam excavator. A KH41 Kubota excavator fed the wash plant.

Wash Plant: A 3½ foot by 3½ foot hopper fed a small trommel with ½ inch screens. Two orbiting sluice boxes 2 feet wide by 12 feet long were lined with expanded metal over backed Nomad matting.

Ground Description: The ground was partially frozen. Three feet of silt and organic material were stripped. Four feet of mixed river gravel and stones up to 12 inches in diameter were sluiced. The processing rate was 10 cubic yards per hour.

Mining Cuts: About 2500 cubic yards of material were sluiced and a like amount stripped from an old bar deposit.

Water Supply and Treatment: A Honda 4 by 4 inch pump recirculated water from a groundwater sump/settling pond at a rate of 225 igpm.

Gold: Most of the gold was less than 25 mesh in size, and gold smaller than 200 mesh was recovered. Fineness was 780.

Comments: The orbiting sluice boxes worked well in capturing the fine gold.

STEWART RIVER	115 P/12
Elmar Hinnuber	63°36'N 137°33'W
Water Licence: PM93-040	1994
South McQuesten Map	Site No. 167

Operation/Location: In 1994 Elmar Hinnuber began mining a seasonally dry channel on the right limit of the Stewart River near the McQuesten airport.

Equipment/Function: A 580 Case backhoe and loader was used to excavate material from the channel and feed the wash plant.

Wash Plant: A cubic yard hopper fed material by a 16 inch wide conveyor to a trommel 16 inches in diameter by 6½ feet long lined with 1/16 inch screen, which fed an experimental concentrator. The processing rate was 10 cubic yards per hour. Mr. Hinnuber has been refining the design of his concentrator and testing it for fine gold recovery at other locations in this area for several years.

Ground Description: The flood channel of the Stewart River is separated from the main channel by a vegetated island. It has water in it until July when the river level drops. The channel bottom is composed of river silt, gravel, and cobbles up to eight inches in diameter. The top 1 to 2 feet of gravels were sluiced.

Mining Cuts: A two cubic yard test was processed in 1994.

Water Supply and Treatment: A 1 1/2 inch Monarch pump powered by a five horsepower Briggs & Stratton gas engine was used to pump water at a rate of 27 igpm from the river to the wash plant. A 1 1/2 inch Monarch trash pump powered by a Briggs & Stratton pumped the effluent 400 feet to an old pit located on the river bank. The pit had seepage discharge only.

Gold: The gold was extremely fine with a fineness of 840.

ANDERSON CREEK	105 M/11
Margarit Wozniak	63°44'N 135°01'W
Water Licence: PM93-092	1993, 1994
Duncan Creek Map	Site No. 168

Operation/Location: Margarit Wozniak, Manfred Wozniak, and family ran this operation on Anderson Creek, a tributary to Mayo Lake. They mined an old channel above the creek's alluvial fan.

Equipment/Function: A D7 Caterpillar bulldozer was used to strip, push up pay, and rip bedrock. A Trojan loader fed the wash plant and stacked the tailings.

Wash Plant: A dump box 10 feet long by 4 feet wide fitted with a dry grizzly with horizontal bars classified material to two inch minus. A single run sluice 20 feet long by 3 feet wide was lined with Hungarian riffles and Nomad matting. The processing rate was eight cubic yards per hour.

Ground Description: The cut depth varied between 30 and 40 feet in the very narrow creek channel at the apex of Anderson Creek's alluvial fan. The overburden was a mixture of glacial gravels and angular broken rock with layers of blue-grey clay, orange gravel, and a layer of very old, rotten vegetation. The lower 6 to 8 feet of white-grey alluvium, up to eight inches in diameter, were

sluiced. Bedrock was not reached and was thought to drop off into the hillside. Three oldtimer's shafts stopped at a thick layer of blue clay. The best gold values were found in gravel below the clay layer.

Mining Cuts: In 1993 and 1994, 5000 cubic yards were sluiced. The ground had been previously stripped.

Water Supply and Treatment: A short diversion ditch supplied water to the wash plant at a rate of 500 igpm. Effluent was treated in a series of out-of-stream ponds.

Gold: The gold was coarse, well travelled, and found with large amounts of black sand. Fineness was 870.

DUNCAN CREEK	115 P/13, 115/14
Duncan Ck. Goldbusters Ltd.	63°48' 135°28'
Water Licence: PM91-107	1993, 1994
Duncan Creek Map	Site No. 169

Operation/Location: Frank Taylor and his family ran this operation located three miles upstream from the mouth of Duncan Creek. Two additional miners joined the Taylors in working one 11 1/2 hour shift.

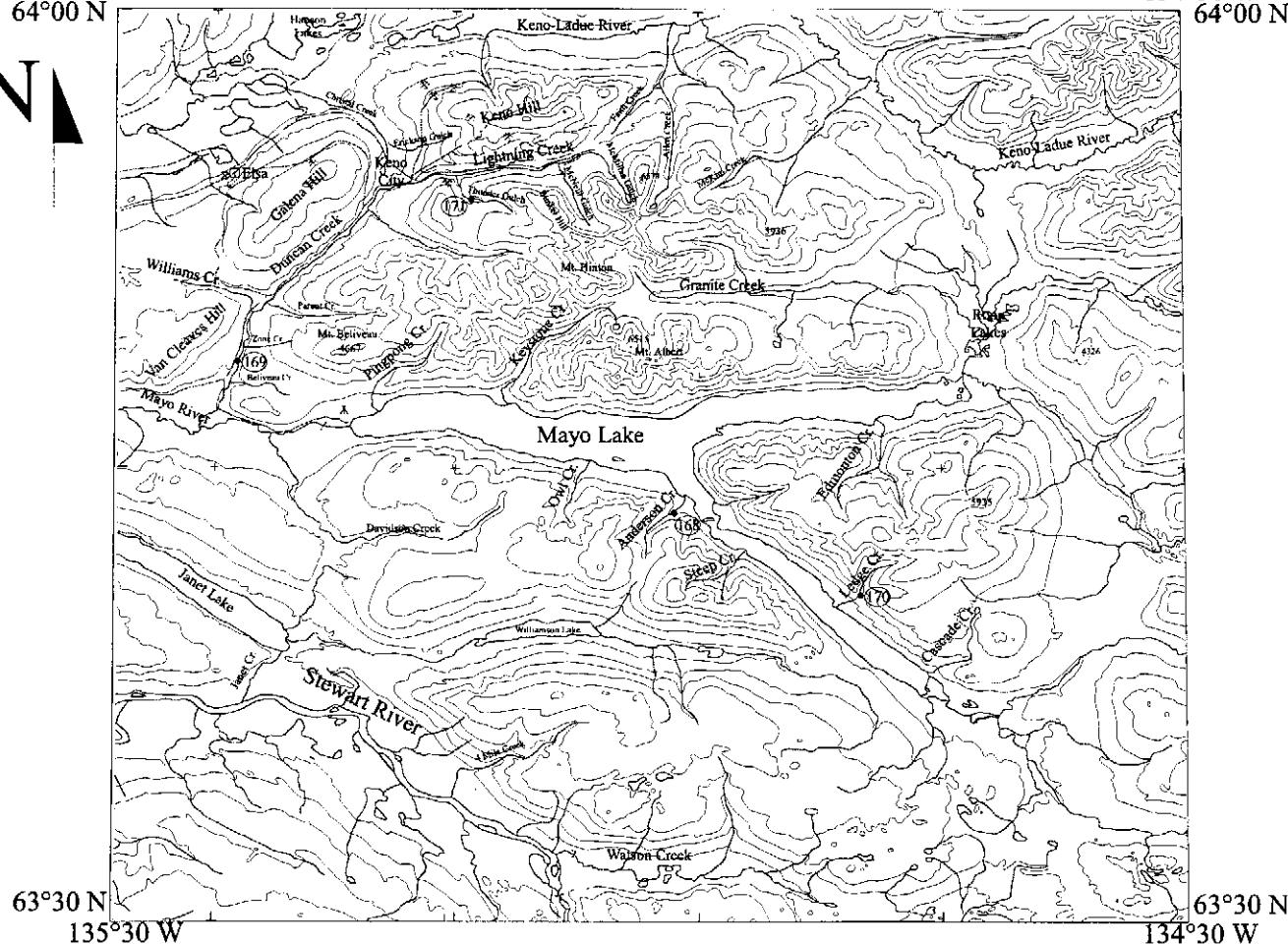
Equipment/Function: A Hitachi UH30 tracked excavator was used for excavating pay and loading it into a Caterpillar 769C rock truck. Another Hitachi UH30 was used to feed the wash plant. An additional 769C rock truck was used in conjunction with the first truck for stripping. One truck was periodically used to haul tailings. A 988B Caterpillar loader removed tailings, and a D8 Caterpillar bulldozer was used for stripping and road building.

Wash Plant: A heavy duty hopper with pre-wash fed a wet grizzly which removed rocks larger than 4 inches by 6 inches. A 6 foot by 14 foot vibrating double screen deck directed 5/8 inch minus material into a 4 foot wide by 10 foot long distributor box lined with angle iron riffles. The material then travelled through five sluice runs totalling 17 feet wide lined with expanded metal over Nomad matting. The processing rate was 185 cubic yards per hour.

135°30 W
64°00 N



134°30 W
64°00 N

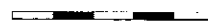


Duncan Creek Placer Area



Secondary roads
Major roads

Yukon Territory



0 km 10



Contours



Rivers



Placer Operations



An aerial view of Frank Taylor's operation on Duncan Creek.

Ground Description: The valley is composed of glacial-fluvial deposits. Approximately 2 to 20 feet of frozen black muck overlay 10 to 90 feet of inorganic overburden, consisting of silt, sorted sands, gravel, and boulders up to five feet in diameter. Up to 40 feet of gravel and some bedrock were sluiced. The ground was stripped in advance and thawed naturally.

Mining Cuts: In 1993 100,000 cubic yards were sluiced and 8500 cubic yards were stripped. About 90,000 cubic yards were sluiced and 42,000 cubic yards stripped in 1994.

Water Supply and Treatment: A 10 by 10 inch Gorman Rupp slurry pump powered by a Caterpillar 3306 engine supplied water to the wash plant at a rate of 1800 igpm. Effluent was treated in old cuts and a new pond was built across from the camp in 1994.

Gold: Most of the gold was smaller than 12 mesh and included small nuggets. A two cell pulsating jig and an Action vibrating table were used to clean the gold.

LEDGE CREEK	105 M/10
Liske & Barchen	63°41'N 134°51'W
Water Licence: PM94-017	1993, 1994
Duncan Creek Map	Site No. 170

Operation/Location: Ralph Barchen and part time help mined old channel deposits at the upper end of the Ledge Creek delta, about one mile upstream of Mayo Lake on Bert Liske's property.

Equipment/Function: Stripping was done with a D8 Caterpillar bulldozer. A 988B Caterpillar loader fed the wash plant and placed the tailings in old downstream cuts.

Wash Plant: A derocker 10 feet wide by 17 feet long fed two inch minus material to an under current sluice run 16 feet long by 4 feet wide. The sluice was lined with 1 ½ inch flat bar riffles at two inch spacings over expanded metal, followed by ¾ inch punch plate over expanded metal. The processing rate was 60 cubic yards per hour.

Ground Description: Overburden consisted of 40 feet of frozen glacial outwash covering 30 feet of old channel gravel largely unaffected by glaciation. The old channel gravel and three feet of hard schist bedrock were sluiced. The greenstone rocks typically associated with Ledge Creek were not present.

Mining Cuts: In 1993, 60,000 cubic yards were sluiced and 3000 cubic yards stripped. In 1994, 60,000 cubic yards were sluiced and 30,000 cubic yards stripped.

Water Supply and Treatment: An 8 by 8 inch Gorman Rupp trash pump powered by a D311 Caterpillar engine pumped water to the wash plant at a rate of 800 igpm. A large out-of-stream settling pond produced no surface discharge.

Gold: About 75% of the gold was greater than 8 mesh in size. Fineness ranged from 805 to 820.

Comments: Copper nuggets, scheelite, golf ball sized pyrite, and hematite were contained in the concentrate. Lead shot was also found. The best pay was found in conjunction with boulders 3 to 4 feet in diameter.

THUNDER GULCH & LIGHTNING CK.	105 M/14
Bardusan Placer Ltd.	63°54'N 135°14'W
Water Licence: PM93-044	1993, 1994
Duncan Creek Map	Site No. 171

Operation/Location: Hans Barchen and his son Claus tested on Lightning Creek in 1993 and mined a number of different locations on Thunder Gulch in 1993 and 1994. Gina Barchen was camp cook.

Equipment/Function: A D7 Caterpillar bulldozer was used to strip overburden. A 988 Caterpillar

loader was used to dig up pay and feed the derocker. A 980 loader removed tailings, and a UH20 Hitachi excavator was used for testing.

Wash Plant: A derocker was powered by a 21 horsepower Lister diesel. A 17 foot long sluice run with under current was lined with flat riffles spaced 2½ inches apart over expanded metal and cocoa matting. The first 12 feet of the upper run had punch plate with ¾ inch diagonal slots which fed material to the undercurrent lined with expanded metal and cocoa matting.

Ground Description: The total depth varied from 30 to 40 feet and was not frozen. The material was glacial moraine and slide material consisting of poorly sorted clay, sand, angular stream gravel, and stones up to three feet in diameter. Bedrock was poorly fractured massive greenstone and Keno Hill quartzite. All material and two feet of quartzite bedrock or six feet of greenstone bedrock were sluiced.



Bardusan Placers' operation in the deep ground of Thunder Gulch.

Mining Cuts: One 2500 cubic yard cut was sluiced on Thunder Gulch adjacent to Bell Keno in 1993. A cut was also taken on Lightning Creek one mile downstream from Thunder Gulch, accounting for 3800 cubic yards sluiced and 3000 cubic yards stripped. An additional 8000 cubic yards was excavated from a drain. The results in Lightning Creek were poor and the property was abandoned with restoration work completed in 1994. Hope Gulch was also prospected in 1993 with poor results.

In 1994 a cut was mined upstream of the camp on Thunder Gulch, accounting for 20,000 cubic

yards sluiced and 6000 cubic yards stripped. Another cut approximately ½ mile upstream from the mouth of Thunder Gulch on a low left limit bench was also mined. This area had been mined previously and was covered with 15 feet of old tailings which amounted to 3333 cubic yards of stripping. Fifteen feet of pay gravels were sluiced. The ground was not frozen when originally mined, but was frozen in 1994.

Water Supply and Treatment: Water was supplied to the wash plant by a 12 inch gravity feed pipeline at a rate of 800 igpm. A Flygt sump pump powered by a 75 kW Caterpillar generator was used to keep test pits on Lightning Creek dry in 1993. Effluent was treated in a series of out-of-stream ponds located in the Lightning Creek valley.

Gold: The gold was very rough, angular, and had quartz attached. Fineness was 823.

BOLIDEN CREEK	115 I/6
Harold Linville	61°23'N 134°19'W
Water Licence: PM93-054	1994
Big Creek/Mt. Nansen Map	Site No. 172

Operation/Location: Boliden Creek is a small right limit tributary of Big Creek. Kevin and Richard Linville worked single shifts constructing settling ponds, preparing a mining cut, and testing.

Equipment/Function: An Hitachi DH122 excavator was used for feeding the sluice box, stripping, and putting in drains. Tailings were removed with a 950 Caterpillar loader.

Wash Plant: A dump box fed material into a trommel 3 feet in diameter by 25 feet long, at a rate of 40 to 60 loose cubic yards per hour. The first 15 feet was lined with ½ inch punch plate, and the last three feet had 1 inch punch plate. The ½ inch minus material fell on to a slick plate that fed a sluice run 5 feet wide by 12 feet long. The top half had hydraulic riffles and the bottom half was lined with Nomad carpet and one inch expanded metal. The one inch minus material passed through a nugget trap 18 inches wide by 2 feet long. The trommel was powered by a Nissan diesel engine.

Yukon Territory

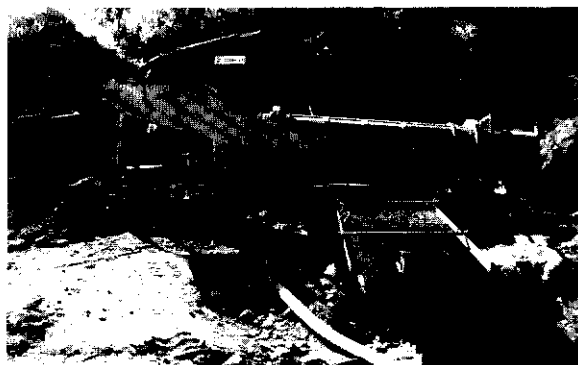
Rivers

0 km 10



Contours

•(21) Placer Operations



A trommel wash plant is used by the Linville family to process gravels on Boliden Creek.

Ground Description: The total depth was about 15 to 20 feet above a clay-like bedrock. The bottom 3 to 4 feet of gravel was sluiced. The ground was frozen, and there was no gold in the bedrock.

Mining Cuts: About 1000 cubic yards were sluiced from a cut on the left limit.

Water Supply and Treatment: Water was pumped from an instream recycle/settling pond on Boliden Creek. A 6 by 6 inch Gorman Rupp centrifugal pump powered by a Ford 3-cylinder engine delivered 600 igpm. A series of four out-of-stream settling ponds were available on the left limit near the confluence on the Big Creek valley floor.

Gold: About 75% of the gold was fine, and 25% was coarse. Wire gold and balled up wire gold was recovered. Fineness was 890.

Comments: The Linvilles were plagued with extremely dry conditions that reduced Boliden Creek to a mere trickle for most of the season. Sluicing was regularly delayed while the recirculation pond refilled with water. The problem was compounded by the loss of process water to ground, through bedrock that was fractured by previous mining activity.

MECHANIC CREEK	115 I/6
Mainsteel Development	62°21'N 137°19'W
Water Licence: PM93-084	1994
Big Creek/Mt. Nansen Map	Site No. 173

Operation/Location: This operation was located on Mechanic Creek approximately one kilometre upstream of its confluence with Big Creek.

Equipment/Function: A D7G Caterpillar bulldozer was used for stripping and stockpiling pay gravels. One 966 Caterpillar loader fed the sluice, removed tailings, and cleaned the settling ponds.

Wash Plant: The processing plant consisted of a derocker with 3 foot wide by 35 foot long sluice box with 1 ½ inch angled riffles.

Ground Description: The ground consisted of 2 to 6 feet of black muck, and 2 to 9 feet of mixed homogenous brown gravels on top of two feet of sandy light brown clay, over one foot of yellow clay on a white, wavy, decomposed bedrock floor.

Mining Cuts: One cut 150 feet by 50 feet was stripped and mined.

Water Supply and Treatment: Water was pumped by a Gorman Rupp 10 inch pump to the sluice. The waste water was treated in three out-of-stream settling ponds before returning to Mechanic Creek.

Gold: The gold was mostly rough, spongy, and bright in colour. Quartz and magnetite were present in the concentrate. The biggest nugget found was ½ ounce. Fineness varied from 880 to 910.

Comments: No shafts were located on the property.

REVENUE CREEK	115 I/6
Right Fork Mining	62°20'N 137°17'W
Water Licence: PM92-094	1993, 1994
Big Creek/Mt. Nansen Map	Site No. 174

Operation/Location: Revenue Creek is a right limit tributary of Big Creek, in the Mt. Freegold area. John, Buddy, and Diane Gow worked single shifts in 1993 and 1994. An additional miner helped out in 1994.

Equipment/Function: An American 35 hoe with a 1½ cubic yard bucket was used to feed the sluice box, dig trenches, and clean out settling ponds. A 966 Caterpillar loader removed tailings. In 1993 a D7E Caterpillar bulldozer was used for preparatory work, stripping, and re-contouring tailings. A D7F bulldozer performed these tasks in 1994.

Wash Plant: Pay material fed at a rate of 35 loose cubic yards per hour into a 2 foot by 6 foot hopper reached a vibrating screen deck 4 feet wide by 5 feet long. A two inch screen on the top and a ½ inch screen on the bottom fed a single run sluice with undercurrent 4 feet wide by 16 feet in total length. The first 2½ feet was lined with one inch riffles followed by 5½ feet of expanded metal. The eight feet of undercurrent also used riffles and expanded metal. Nomad carpet lined the entire 16 feet of sluice run. A 20 kW generator powered by a Perkins diesel ran the screening plant.

Ground Description: The total depth on the lower reaches of Revenue Creek before it enters the Big Creek valley was 16 to 18 feet. On upper Revenue the ground was up to 40 feet deep. In 1993, 10 to 12 feet of sands and silts with some gravel covered a seam of black muck over six feet of gravel. The gravel above the black muck was sluiced with the gravel below right down to bedrock. In 1994 lake silts up to a depth of 12 to 14 feet containing six foot ice lenses were encountered. These covered gravels with seams of black muck that contained fine gold. The pay gravels had boulders and coarse sands. Bedrock was fractured. The pay gravels were sluiced with the seams of black muck and four feet of bedrock.

Mining Cuts: In 1993, 4000 cubic yards of pay was sluiced from one continuous cut 16 feet wide by 500 feet long. This increased to 12,000 cubic yards from a 60 foot by 300 foot cut in 1994.

Water Supply and Treatment: Water was acquired from instream recirculation ponds at a rate of 400 igpm using a 6 by 6 inch Gorman Rupp trash pump. The effluent was treated in a series of these instream ponds. During periods of low flow, which were common, there was no discharge.

Gold: Some of the gold was coarse and wiry, and contained black material. Beady round balls up to 6.1 grams were recovered. Of the fine gold, 5% was four mesh, 50% was 20 mesh, and 10% was 40 mesh. Fineness ranged from 890 to 920.

SEYMOUR CREEK	115 I/6
Daryle Duncan	62°17'N 137°10'W
Water Licence: PM93-047	1994
Big Creek/Mt. Nansen Map	Site No. 175

Operation/Location: This operation was located on the left limit of Seymour Creek just upstream from the confluence with Bow Creek. Larry Garriot, Neil Duncan, and one helper worked one shift throughout the season.

Equipment/Function: A D9H Caterpillar bulldozer was used for stripping and for re-contouring work. An Hitachi EX200LC hoe fed the sluice box, dug drains, and excavated the stream diversion channel.



Neil and Daryle Duncan's wash plant on Seymour Creek, in the Mt. Freegold area.

Wash Plant: A 10 foot by 10 foot dump box with hydraulic grizzly fed pay at a rate of 60 loose cubic yards per hour into a shaker screen deck 5 feet wide by 8 feet long. Oversize material was carried away by a side mounted conveyor and the classified pay funnelled into a 6 by 6 inch Ash slurry pump. It was pumped directly onto a distributor that fed two sluice runs 4 feet wide by 20 feet long. Material up to one inch entered one run, and ½ inch minus entered the other. Each run was lined with matting and expanded metal. A 3306 Caterpillar engine ran the 125 KVA generator that provided power for the slurry pump and plant hydraulics.

Ground Description: The total depth to bedrock was 14 feet. The ground was only frozen near the surface. Two to three feet of top soil covered about 11 feet of gravel over bedrock. The top four

feet was wasted, and the remaining 10 feet of gravel was sluiced with two feet of bedrock.

Mining Cuts: Roughly 30 cuts 20 feet by 30 feet in dimension were mined in 1994, mostly from the left limit of Seymour Creek. After constructing a restoration channel, several cuts were taken from the original stream bed.

Water Supply and Treatment: Water was acquired from an instream reservoir on Seymour Creek at a rate of 700 igpm, or by seepage. A U.S. electric motor powered by the 125 KVA generator ran a Gould 6 by 4 inch pump. Waste water was treated in three out-of-stream settling ponds.

Gold: The gold was generally flat, smooth, and well-travelled. Ten percent was chunky with quartz attached, and 30% was fine gold. The fineness ranged from 850 to 870.

BACK CREEK	115 I/3
Bob Durham	62°03'N 137°05'W
Water Licence: PM91-016	1994
Big Creek/Mt. Nansen Map	Site No. 176

Operation/Location: This operation was located on Back Creek just upstream from the confluence with Victoria Creek. Tony Wheeler and John Seward were stripping and testing in preparation for production in 1995.

Equipment/Function: A D8-2U Caterpillar bulldozer was used for stripping, and will stockpile pay material. A Caterpillar 950 loader will feed the sluice box.

Wash Plant: The wash plant consisted of a trommel 12 feet long and 3 feet in diameter, with a spray bar inside the barrel. Pay material was fed at a rate of 30 to 50 cubic yards per hour into a 4 foot by 6 foot hopper with a spray bar. The sluice runs were one foot wide. A 4-cylinder Nissan gasoline engine powered the trommel.

Ground Description: Up to 29 feet of frozen gravel and gravel mixed with clay lie above bedrock.

Water Supply and Treatment: A 4 inch pump powered by a 2-cylinder Lister diesel engine delivered water at a rate of 500 igpm. Minimal material was processed. The waste water was treated in a small out-of-stream settling pond that did not discharge into Back Creek.

Gold: No information relating to the gold recovered from this site was available.

BACK CREEK	115 I/3
John Coghlin	62°06'N 137°12'W
Water Licence: PM92-018	1993, 1994
Big Creek/Mt. Nansen Map	Site No. 177

Operation/Location: This operation run by Jack Coghlin and Beryl Potter on Back Creek was located approximately two miles upstream from the confluence with Victoria Creek. The operators have mined in the same location for the last eight years.

Equipment/Function: In 1993 a D7F Caterpillar bulldozer, a John Deere 644A loader, and a Trojan 6000 loader were used to mine at this site. A JCB 805B excavator was introduced in 1994 and used to construct bypass channels and to clean out settling ponds.

Wash Plant: The "Blue Loon" hydraulically operated finger derocker was used with an upgraded sluice with self-unloading riffles. The sluice was fitted with a continuous belt under the riffles. Moving against the flow of water, the concentrates dumped into a lower tray that channelled them across pulsating riffles.

Ground Description: The stratigraphic section was comprised of 10 to 12 feet of frozen black muck covering 6 to 8 feet of non-paying mixed homogenous gravels, over 3 to 4 feet of green Nansen boulder clay.

Mining Cuts: Several cuts were sluiced each year for a total of 15,000 cubic yards.

Water Supply and Treatment: Water was supplied to the sluice from an instream recycling pond using a 6 inch Flygt pump. Waste water was treated in four settling ponds downstream of a pre-settling pond that was cleaned twice daily.

Gold: The gold was rough and dull with more quartz in the nuggets than in previous years. Fineness was 830.

DISCOVERY CREEK	115 I/3
Bill Trerice	62°05'N 137°11'W
Water Licence: PM92-062	1993, 1994
Big Creek/Mt. Nansen Map	Site No. 178

Operation/Location: Bill Trerice was mining between the headwaters of Discovery Creek and its confluence with Eliza Pup. He worked a single shift each season with the help of one other miner.

Equipment/Function: A D355A Komatsu bulldozer was used for stripping, pushing up pay, and a 966 Caterpillar loader removed tailings. A UH07 Hitachi hoe fed the sluice box and dug ditches where required.



A view of Bill Trerice's mining operation on Discovery Creek, in the Mt. Nansen area.

Wash Plant: Pay material was fed at a rate of 40 loose cubic yards per hour into a 7 foot by 12 foot hopper/grizzly equipped with two monitors and four spray bars. A screen deck 4 feet wide by 8 feet long fed ¾ inch minus material into a single sluice run 4 feet wide by 20 feet long. The top four feet was lined with expanded metal with 1 ¼ inch by 3 inch openings, followed by two feet of slick plate, another four feet of expanded metal, more slick plate, and then 1 ¼ inch angle iron riffles to the bottom. The run was set to a 1 ½ inch to the foot grade.

Ground Description: The total depth exceeded 35 feet to bedrock. Six feet of black muck covered six feet of silty sand over a six foot layer of gravelly clay. Beneath this was 18 feet of silty gravel covering a thin layer of well washed gravel

that contained very fine gold. Eighteen feet of the silty gravel was sluiced along with the washed gravel.

Mining Cuts: In 1993, the first year of operation, 15,000 cubic yards were processed. Another 15,000 yards were sluiced in 1994.

Water Supply and Treatment: Water was acquired at a rate of 1000 igpm from a recirculation pond, using a 6 by 6 inch Monarch pump powered by a 35B GMC engine. The effluent was treated in a series of out-of-stream settling pond on the left limit of Discovery Creek.

Gold: Most of the gold was fine, with the largest nugget weighing 20 grams. Fifty percent was smaller than 30 mesh, 25% was between 30 and 18 mesh, 20% fell between 18 and 10 mesh, and 5% was greater than 10 mesh. Fineness ranged from 820 to 850.

VICTORIA CREEK	115 I/3
John Trout	62°05'N 137°08'W
Water Licence: PM94-028	1994
Big Creek/Mt. Nansen Map	Site No. 179

Operation/Location: John Trout and Gordon Hagen worked single shifts in 1994. The mine was located on the right limit of Victoria Creek, at its confluence with Eva Creek.

Equipment/Function: A D8H Caterpillar bulldozer was used to strip and push up pay material. A 966C Caterpillar loader fed the sluice and removed coarse tailings.

Wash Plant: A one horsepower Honda motor powered a small shaker wash plant. Pay material was fed into a hopper at a rate of 20 to 25 cubic yards per hour. It crossed a shaking table 30 inches wide by 8 feet long lined with one inch punch plate, before entering a sluice run 18 feet long. The first three feet was lined with two inch riffles, followed by three feet of one inch riffles. Four feet of slick plate widened the run from 2 to 4 feet, and was followed by eight feet of one inch expanded metal.

Ground Description: Four feet of black muck lay over a pay streak roughly three feet thick. This pay section contained brown clay and washed boulders. The material beneath this was not gold

bearing, and the operators did not probe to bedrock.

Mining Cuts: Information on the area and volume of cuts was not available.

Water Supply and Treatment: Water was acquired from an instream reservoir on Victoria Creek. It was pumped to the wash plant at the rate of 400 igpm by a Berkeley pump powered by a 4-cylinder Allis Chalmers gasoline engine. Waste water was treated in three out-of-stream settling ponds.



John Trout sluicing on upper Victoria Creek, near the confluence with Eva Creek.

Gold: Most of the gold was fine, although some 4 to 5 gram nuggets were recovered. Sixty percent was greater than 40 mesh, and 40% was 40 to 60 mesh. Fineness ranged from 790 to 810.

NANSEN CREEK	115 I/3
B. Johnson & L. Johnson	62°04'N 137°14'W
Water Licence: PM93-070	1994
Big Creek/Mt. Nansen Map	Site No. 180

Operation/Location: Brian and Loren Johnson took over BYG Natural Resources Ltd.'s operation on the left limit of Nansen Creek in August 1994. Five miners worked a single shift for the remainder of the season.

Equipment/Function: A D9H Caterpillar bulldozer was used for stripping and pushing up pay. A 980C Caterpillar loader and a 966 loader were used to stockpile pay at the sluice box and remove tailings. The pay was fed into the box by a 225 Caterpillar excavator with a one cubic yard bucket.

Wash Plant: Pay material was fed at a rate of 100 loose cubic yards per hour into a 6 foot by 10 foot hopper. The pay continued into a trommel 7 feet in diameter by 40 feet long, lined with large angle iron scrubbers. The classified pay entered four sluice runs three feet wide lined with Nomad carpet and two inch expanded metal. Two runs were 24 feet long and two were 26 feet long.

Ground Description: The total depth was unknown, but the average depth to the bottom of the pay zone was 30 feet. Ten feet of overburden was stripped off and 20 feet of homogenous pay gravels were sluiced. The ground was frozen.

Mining Cuts: A cut 200 feet wide by 500 feet long was started in 1994. The operators estimated that 50% of this cut would be completed by the end of the season.

Water Supply and Treatment: Water was acquired from Nansen Creek at a rate of 900 igpm using a 10 by 12 inch Cornel pump powered by a 3208 Caterpillar engine. The effluent was treated in a large out-of-stream settling pond before discharging by way of a long drain into Nansen Creek.

Gold: A clean up was conducted every 30 hours. Ninety percent of the gold was 40 mesh or finer. Fineness was 800.



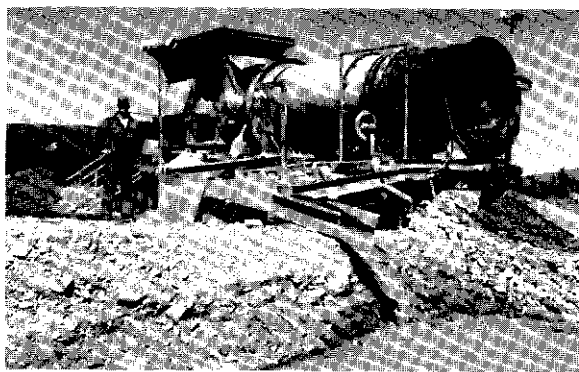
Brian and Loren Johnson performing a clean-up on Nansen Creek.

NANSEN CREEK	115 1/3
Ted Tullis	62°06'N 137°13'W
Water Licence: PM92-057	1993, 1994
Big Creek/Mt. Nansen Map	Site No. 181

Operation/Location: This operation was located on upper Nansen Creek, just below the confluence with East Fork Nansen Creek. Three miners and one cook shared double shifts in 1993 and 1994.

Equipment/Function: A D355A Komatsu bulldozer and a Terex 3240 bulldozer were used for stripping and stockpiling pay material. A 980B Caterpillar loader fed the sluice box and removed tailings. Drains, test holes, and settling pond dykes were constructed using a 3300TT Hy hoe.

Wash Plant: Pay material was fed at a rate of 35 to 40 loose cubic yards per hour into a trommel 6 feet in diameter by 24 feet long, lined with ½ inch punch plate. The classified pay entered two sluice runs with pulsating riffles. One run was 4 feet wide by 8 feet long, lined with 1 ½ inch angle iron riffles. The second run was fed by a separate hopper, and measured 3 feet by 8 feet.



Equipment operator John Pransic stands beside the six foot trommel plant at Ted Tullis' operation on upper Nansen Creek.

Ground Description: The total depth varied from 15 to 20 feet of frozen ground. A 3 to 6 foot layer of black muck covered a layer of sand and washed gravel 2 to 3 feet deep. This lay above five feet of gravel clay and one foot of boulder clay or decomposed bedrock. There was no gold in the boulder clay. The entire section between the black muck and boulder clay was sluiced.

Mining Cuts: Roughly 26,000 cubic yards were sluiced from two cuts in 1993. In 1994, 32,000 yards were sluiced from two additional cuts, and stripping began downstream on claims near the mouth of Slate Creek.

Water Supply and Treatment: Water was acquired from an instream reservoir on Nansen Creek using a 6 by 6 inch electric pump delivering 600 igpm. Effluent was treated in three or four out-of-stream settling ponds on the left limit.

Gold: Most of the gold was fine, with only 10% considered coarse. Some nuggets were recovered. A value for the fineness was not available.

SLATE CREEK	115 1/3
Phil Veenhof	62°05'N 137°13'W
Water Licence: PM90-110	1993
Big Creek/Mt. Nansen Map	Site No. 182

Operation/Location: This operation was located on Slate Creek just upstream from the confluence with Nansen Creek. Phil Veenhof and two helpers worked a single shift in 1993.

Equipment/Function: A D7E Caterpillar bulldozer was used to strip overburden. Two Hitachi excavators (UH07 and DH122) were used for feeding the sluice, stripping, putting in drains, and cleaning out the settling ponds. Tailings were removed with a 966C Caterpillar loader.

Wash Plant: A trommel 5 feet in diameter by 30 feet long was used to wash 60 to 80 loose cubic yards per hour. The first five feet was lined with ¼ inch mesh, and the last five feet had ½ inch mesh. The ¼ inch minus material was fed into a 3 foot wide by 16 foot long run. The run had one inch riffles with expanded metal and Nomad carpet underneath. The ½ inch minus material was washed in a 2 foot wide by 12 foot long run, with 1 ½ inch riffles over expanded metal and Nomad carpet.

Ground Description: From 2 to 4 feet of black muck covered 5 to 8 feet of homogenous mixed gravels over a boulder clay bedrock. Only six inches of this false bedrock was sluiced.

Mining Cuts: About 5000 cubic yards were sluiced from one cut.



Kluane Placer Area



Secondary roads
Major roads



Rivers

Yukon Territory

0 km 25



Contours



Placer Operations

Water Supply and Treatment: Water was pumped from an instream recycle/settling pond on Slate Creek. An 8 by 6 inch high pressure pump powered by a Lister 6-cylinder diesel engine delivered 1000 igpm. A series of two instream settling ponds were in place to handle effluent discharges.

Gold: Seventy percent of the fine gold was rough and smooth, and 30% was chunky and porous. Fineness averaged 800.

ARCH CREEK	115 G/5
Mark A. Balcar	61°29'N 139°36'W
Water Licence: PM92-015	1993
Kluane Placer Area Map	Site No. 183

Operation/Location: Arch Creek is a right limit tributary to the Donjek River. Mark Balcar and two miners worked a single shift throughout the 1993 season.

Equipment/Function: A Fiat Allis HD31 bulldozer was used for stripping and pushing up pay gravels. A 988 Caterpillar loader fed the sluice plant and removed tailings.

Wash Plant: Gravels were fed into a 12 foot wide by 30 foot long vibratory grizzly, classifying material into two products: 2½ inch by ¾ inch and ¾ inch minus. The material travelled to a distributor and fed into four separate oscillating sluice runs at a rate of 80 to 100 loose cubic yards per hour.

Ground Description: The ground was not frozen. The total depth to bedrock was approximately 20 feet. The section consisted of four feet of cobbles overlaying 14 feet of mixed gravels covering one foot of fine sand and one foot of clay above bedrock.

Mining Cuts: One cut 100 feet long by 50 feet wide by 10 feet deep was mined in 1993.

Water Supply and Treatment: Water was acquired from an instream reservoir on Arch Creek. An 8 by 6 inch pump provided 2000 igpm to the sluice plant.

Gold: The gold was predominantly coarse. Fineness was 870.

BURWASH CREEK	115 G/6
Steve Johnson	61°22'N 39°19'W
Water Licence: PM91-094	1993, 1994
Kluane Placer Area Map	Site No. 184

Operation/Location: Brian Drew and Steve Johnson worked at several locations on each side of Burwash Creek in 1993. In 1994 they tested in various locations, and mined one cut on the right limit of Burwash Creek opposite the confluence with Tatamagouche Creek.

Equipment/Function: A D8H Caterpillar bulldozer was used for stripping and removing tailings in 1993. A 977 Caterpillar track loader removed tailings in 1994. A P&H excavator with a 1¼ yard bucket fed the box in both years.

Wash Plant: An hydraulically operated dump box fed an hydraulic shaker table, which screened the material to one inch minus. The classified material entered a 3 foot by 16 foot sluice run with a nugget trap at the top, fed by low pressure water. The top 12 feet was lined with one inch angle iron riffles followed by four feet of expanded metal, all over nomad matting. Fifty to 60 loose yards per hour were processed by this plant.



An aerial view of Steve Johnson's and Brian Drew's placer operation on Burwash Creek.

Ground Description: Two feet of gravel overburden and 3 to 4 feet of pay gravels were found over bedrock in 1993. These pay gravels were sluiced with 3 to 4 feet of bedrock. In 1994 the stratigraphic section was roughly the same, although the operators tested all over. The rhyolite

bedrock fractured very easily, and equal volumes of bedrock and gravel were sluiced each year.

Mining Cuts: Three cuts totalling 30,000 cubic yards were mined in 1993. In 1994 roughly 10,000 cubic yards were sluiced.

Water Supply and Treatment: Water was acquired at a rate of 500 to 600 igpm using a 6 inch Valley pump powered by a Lister engine. Waste water was treated in out-of-stream settling ponds. The number of ponds varied from location to location.

Gold: In 1993 the gold was flat. Round, rough, and coarse gold with some quartz attached was recovered in 1994. In both years 50% of the gold was finer than 4 mesh. Fineness varied from 850 to 870.

Comments: Some mercury was found on the gold. Garnets were also recovered. The operators spoke very highly of the nugget trap, which apparently captured most of the gold.

BURWASH CREEK	115 G/6
D. R. Davis	61°24'N 139°24'W
Water Licence: PM93-099	1994
Kluane Placer Area Map	Site No. 185

Operation/Location: Bud Davis, Jennifer Gunther, and one helper mined on Upper Burwash Creek. They worked 12 hour shifts, making modifications to the wash plant and testing their ground.

Equipment/Function: A Drott 40 backhoe with a one cubic yard bucket dug test holes and fed the wash plant, and a D6 Caterpillar bulldozer was used for stripping.

Wash Plant: Pay gravel was dumped into a grizzly that fed two inch minus material into a sluice run 14 feet long lined with 5/8 inch punch plate for the first six feet. Material larger than 5/8 inch continued into a section 8 feet long by 22 inches wide lined with unbacked Nomad matting, expanded metal, and 1 1/2 inch angle iron riffles. The 5/8 inch minus entered a side run 1 foot wide by 8 feet long with unbacked Nomad matting, expanded metal, and one inch angle iron riffles. The processing rate was 40 loose cubic yards per hour.

Ground Description: The tests holes were dug to a depth of eight feet, when large boulders were encountered. Clay layers were found in the first

three feet, followed by washed gravel that became progressively coarser toward the bottom. The top five feet of material was stripped away.

Mining Cuts: Approximately 100 cubic yards of gravel was sluiced from several different test holes, chiefly on the left limit of Burwash Creek, in the valley bottom.

Water Supply and Treatment: A 4 by 4 inch Honda pump powered by a 12 horsepower engine delivered water to the wash plant at a rate of 500 igpm. Waste water was treated in one out-of-stream settling pond with no discharge.

Gold: The gold was all fine, flat, and flaky, with no nuggets.

Comments: Magnetite was found in the concentrate. The operators plan to switch to backed Nomad matting for the 1995 season.

GLADSTONE CREEK	115 G/7
Sota Computing Systems Ltd.	61°18' 138°32'
PM91-022	1993
Kluane Placer Area Map	Site No. 186

Operation/Location: Gladstone Creek flows into the east side of Kluane Lake. The lower reaches of the creek flow through a low, broad valley, with braiding and side channels occurring near the mouth. In 1993 John Fischer and Brent Stentiford mined on the right limit, working double shifts. Errol Richards did a small amount of work under this licence in 1994.

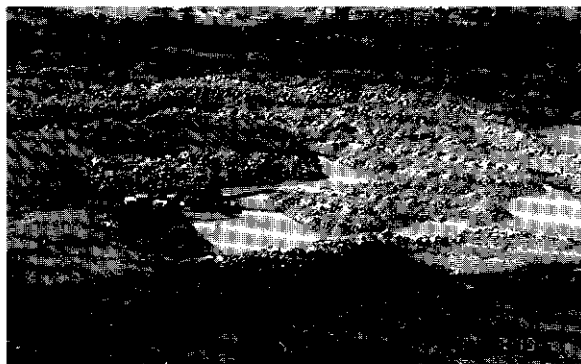
Equipment/Function: A D8H Caterpillar bulldozer was used to push off the shallow layer of organic overburden, and to level the tailings behind the operation. The floating trommel recovery plant was fed using a Kobelco 907C excavator.

Wash Plant: The wash plant consisted of a 12 foot long trommel 4 feet in diameter, floating on pontoons. There were two sluice runs 3 feet wide by 6 feet long on each side of the trommel. Process water was provided by a 3 inch Davies pump, powered by a 40 horsepower Isuzu diesel engine.

Ground Description: The ground was unfrozen, and consisted of a homogenous mix of gravel, boulders, silt, sand, and some clay. Up to 12 feet of this material covered a wavy bedrock floor. All

the material between moss and bedrock was processed.

Mining Cuts: In this operation the excavator dug pay from the front bench of the pond, while tailings were stacked at the rear. In this manner mining progressed in one continuous cut. Roughly 90,000 cubic yards of material was sluiced in 1993. Deep frost, low water conditions, breakdowns, and maintenance resulted in limited progress at this cut in 1994.



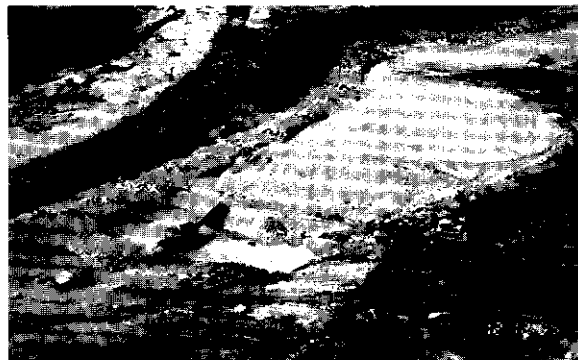
A close-up look at John Fischer and Brent Stentiford's trommel plant on Gladstone Creek.

Water Supply and Treatment: Process water was pumped from the pond, through the plant, and drained back into the pond. The pond was filled by groundwater infiltration and discharged by seepage.

Gold: Fineness was 820.

GLADSTONE CREEK	115 G/7
Alan Roy Dendys	61°18'N 138°32'W
Water Licence: 90-137, 93-055	1993, 1994
Kluane Placer Area Map	Site No. 187

Operation/Location: Gladstone Creek flows into the east side of Kluane Lake. The lower reaches of the stream travel through a low, broad valley. In 1993 and 1994 Al Dendys operated a floating trommel plant on the right limit. With the help of one other miner he worked double shifts both years. In 1994 a second floating trommel plant operated under this licence. John Fischer and Brent Stentiford worked double shifts downstream from Mr. Dendys, on the left limit.



An aerial view of Al Dendys' floating trommel plant on the right limit of Gladstone Creek.

Equipment/Function: At Mr. Dendys' site, a D8H Caterpillar bulldozer was used for stripping off the organic layer, and levelling tailings. In 1994 a D9H bulldozer was added for site development. The floating trommel recovery plant was fed with a 235 Caterpillar excavator. A 225 excavator was available when necessary.

Mr. Fischer and Mr. Stentiford fed their plant with a Hyundai excavator equipped with a one cubic metre bucket. Mr. Dendys' D9H Caterpillar bulldozer was used for restoration work.

Wash Plant: Mr. Dendys operated a 20 foot long trommel 5 feet in diameter, mounted on pontoons. Two tables, each roughly 3 feet wide by 8 feet long, were mounted on the sides of the plant. The processing rate averaged 30 bank cubic yards per hour.

Mr. Fischer and Mr. Stentiford used a trommel lined with punch plate that was six feet in diameter, and mounted on pontoons. About 100 loose cubic yards per hour were processed. There were two sluice runs 8 feet wide by 6 feet long. On each table, two feet of hydraulic riffles were followed by 4 feet of 1 1/4 inch angle iron riffles.

Ground Description: The section mined by Mr. Dendys varied from 3 to 20 feet in depth. A mixture of gravel, sand, cobbles, and boulders extended to a wavy clay "bedrock". This layer was punched through for testing purposes, and more gravel was found underneath. The entire section was sluiced down to the top of the clay bedrock.

The ground mined by Mr. Fischer and Mr. Stentiford was deeper than the section they mined farther upstream in 1993. Eighteen to 20 feet of homogenous gravel, sand, cobbles, and boulders covered the false clay bedrock. The entire section was sluiced.

Mining Cuts: In 1993 Mr. Dendys sluiced about 44,000 cubic yards. In 1994 he worked well into October, and processed approximately 200,000 yards from a continuous cut roughly 250 feet wide by 2000 feet long. Mr. Fischer and Mr. Stentiford also worked one continuous cut in 1994, and sluiced 200,000 cubic yards.

Water Supply and Treatment: Mr. Dendys' trommel was supplied by a 6 inch Cornel pump powered by a 60 to 70 horsepower Deutz diesel engine. Make-up water for the dredge pond was acquired by ditch from an unnamed tributary upstream on the right limit, or when necessary, by gravity ditch from Gladstone Creek. The effluent discharged by seepage through coarse tailings.

Mr. Fischer and Mr. Stentiford delivered water to their plant at a rate of 1400 igpm using a 6 by 6 inch Davies pump powered by a 6-cylinder Isuzu diesel engine. Make up water was not required because of the high rate of groundwater infiltration. These high flows resulted in a discharge, which was treated in an out-of-stream settling pond.

Gold: In 1993 the gold recovered by Mr. Dendys was predominately fine. Some of the gold was slightly more coarse in 1994. Fineness was 839.

The gold recovered by Mr. Fischer and Mr. Stentiford was also fine, with 90% smaller than 12 mesh. Nothing larger than ¼ inch in size was found. Fineness was 820.

Comments: The processing rate at each operation would have been higher if not for the number of large boulders. Levelling and re-contouring of tailings kept up with the progress of the mining cut at each site.

QUILL CREEK	115 G/6
Willi Pfisterer	61° 29' N 139° 25' W
Water Licence: 90-049, 93-036	1993, 1994
Kluane Placer Area Map	Site No. 188

Operation/Location: This reach of Quill Creek is located just below a canyon, where the valley begins to widen. Willi Pfisterer worked by himself in both 1993 and 1994.

Equipment/Function: A Case 850 track loader with a 1½ yard bucket was used to strip overburden and push up pay. A Case 580 backhoe/loader fed the sluice box.

Wash Plant: Material was fed into a 4 foot by 8 foot hopper with a three inch minus grizzly and spray bar. The washed gravel flowed into a single run sluice 21 inches wide by 14 feet long. About 10 loose cubic yards of pay was processed per hour.

Ground Description: The total depth where mining occurred on the left limit in 1993 was about eight feet. One foot of vegetation, muck and soil covered two feet of clay, which covered a layer of gold-bearing gravel with large rocks. Beneath this was a layer of gold-bearing gravel with clay and large rocks, then a layer of sandy gravel, above a band of gold-bearing brown clay and rock over bedrock.

In 1994 the right limit of Quill Creek was mined. The total depth was 4 to 5 feet over decomposed bedrock. Three to four feet of recently deposited sand and gravel covered about one foot of brown clay and rock above bedrock. The total section and up to two feet of bedrock was sluiced.

Mining Cuts: In 1993 about 6000 cubic yards were sluiced from two cuts on the left limit. In 1994 another 6000 cubic yards were processed, mostly from one cut on the right limit of Quill Creek.

Water Supply and Treatment: Water was delivered from an instream reservoir at a rate of 400 igpm, using a 3 inch Honda pump. In 1993 waste water was treated in four out-of-stream settling ponds that did not discharge. Three new out-of-stream settling ponds were used in 1994.

Gold: In 1993 the gold was flat and smooth. Roughly half was coarse, and half was fine. Gold

recovered from the right limit in 1994 tended to be chunkier, with round, ball-like nuggets 3 to 5 grams in weight. Seventy percent of the gold was coarse, with red quartz rock attached to some pieces.

Comments: Copper was found in the concentrate from cuts on either side of the stream. The copper recovered from the right limit was more red in colour. Mr Pfisterer noted that the increase in decomposed bedrock on the right limit might be related to the loss of fine gold. He recovered more fine gold where the bedrock was most solid.

QUILL CREEK	115 G/6
Gerry Mogenson	61°29'N 139°26'W
Water Licence: PM92-009	1993, 1994
Kluane Placer Area Map	Site No. 189

Operation/Location: Gerry Mogenson did some stripping on this property upstream of the lower canyon in 1993. Mark Balcar and one helper worked single shifts in 1994.

Equipment/Function: A Komatsu bulldozer was used for stripping. A 966 Caterpillar loader fed the sluice box, and a Linkbelt hoe with a ½ cubic yard bucket dug test pits and drains.

Wash Plant: Pay material was fed at a rate of 40 to 50 loose cubic yards per hour onto a wet grizzly. The classified material flowed into a single run sluice 2 feet wide by 20 feet long, lined with angle iron riffles and matting.

Ground Description: Five feet of gravel covered a layer of clay 6 to 12 inches deep. Beneath this was 4 to 6 feet of washed gravel over 5 to 6 feet of clay, on top of bedrock. The washed gravel and upper layer of clay were sluiced.

Mining Cuts: Two cuts were mined on the left limit in 1994. One measured 320 feet by 20 feet by 10 feet deep, and one was 40 feet by 10 feet by 10 feet deep.

Water Supply and Treatment: Water was pumped to the wash plant from an instream reservoir. The effluent was treated in a series of six out-of-stream settling ponds on the left limit of Quill Creek.

Gold: Fine gold was recovered at this site. The fineness was not determined.



A view looking upstream at Gerry Mogenson's operation on Quill Creek.

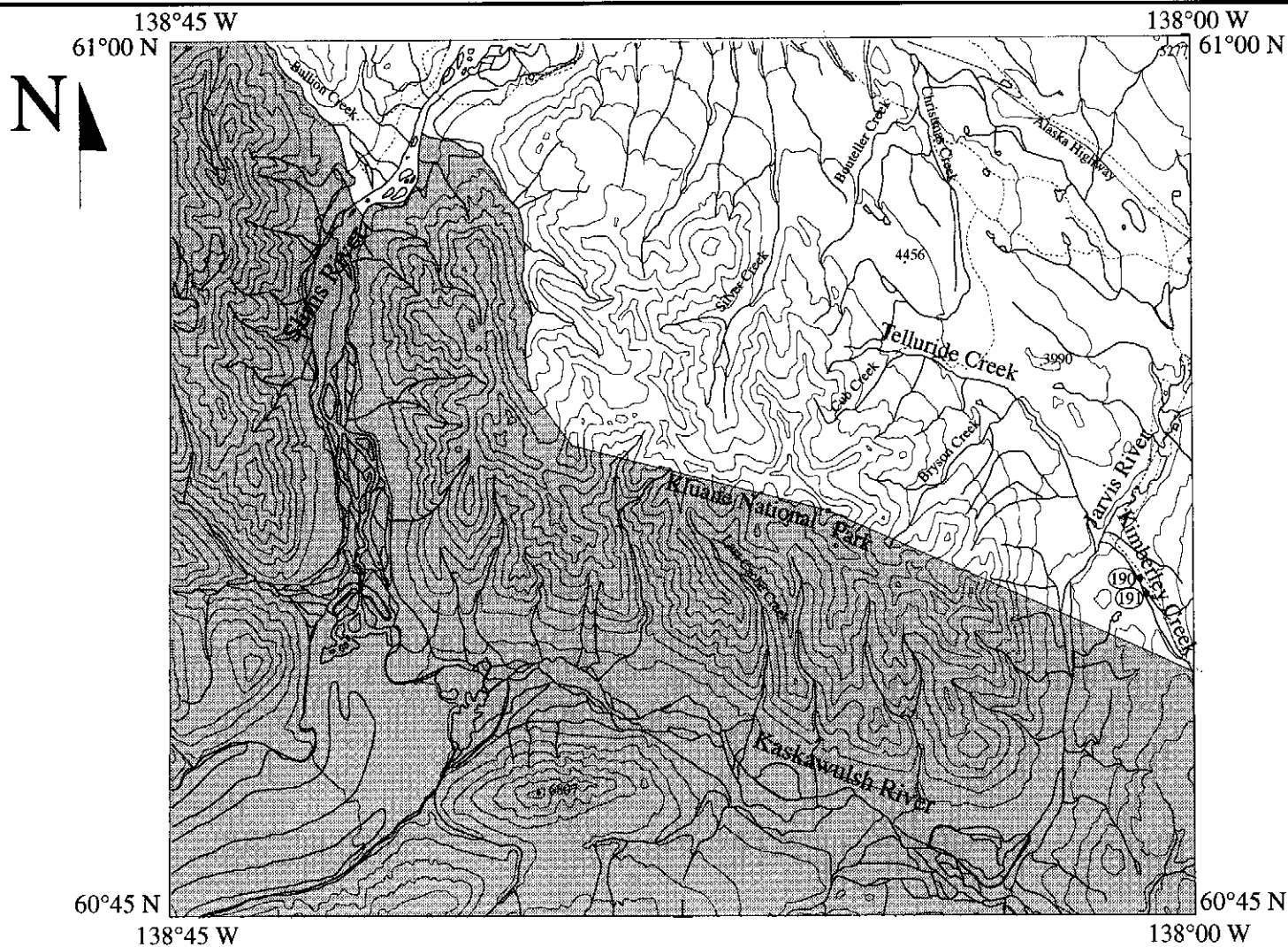
KIMBERLEY CREEK	115 D/16
Clair Sawyer	60°52'N 138°04'W
Water Licence: PM92-017	1993, 1994
Kimberley Creek Map	Site No. 190

Operation/Location: Clair and Pat Sawyer mined approximately two miles upstream from the confluence of Kimberley Creek and the Jarvis River. Single shifts were worked in 1993 and 1994.

Equipment/Function: A Drott Cruiz Air 40 rubber tired hoe with a ½ cubic yard bucket fed the sluice box. A D6 Caterpillar bulldozer was used to stockpile pay, remove tailings, and build settling ponds.

Wash Plant: The sluice plant consisted of a 6 foot by 6 foot dump box with spray bar. Five chain driven elliptical shafts screened the gravel to ½ inch minus. The material dropped down to a second deck before proceeding to a jig. About 20 cubic yards of loose material per hour were processed using 400 igpm of water.

Ground Description: A frozen left limit bench was mined in 1993 and 1994. In 1993 a loose layer of washed gravel 6 to 8 feet deep lay over the pay zone, which consisted of 6 inches to 4 feet of clay bearing gravel. This lay over 1 to 2 feet of fractured conglomerate and decomposed bedrock, which also contained gold. The clay bearing gravels and 1 to 2 feet of fractured bedrock were sluiced.



Kimberley Creek Placer Area



Secondary roads
Major roads



Rivers

Yukon Territory



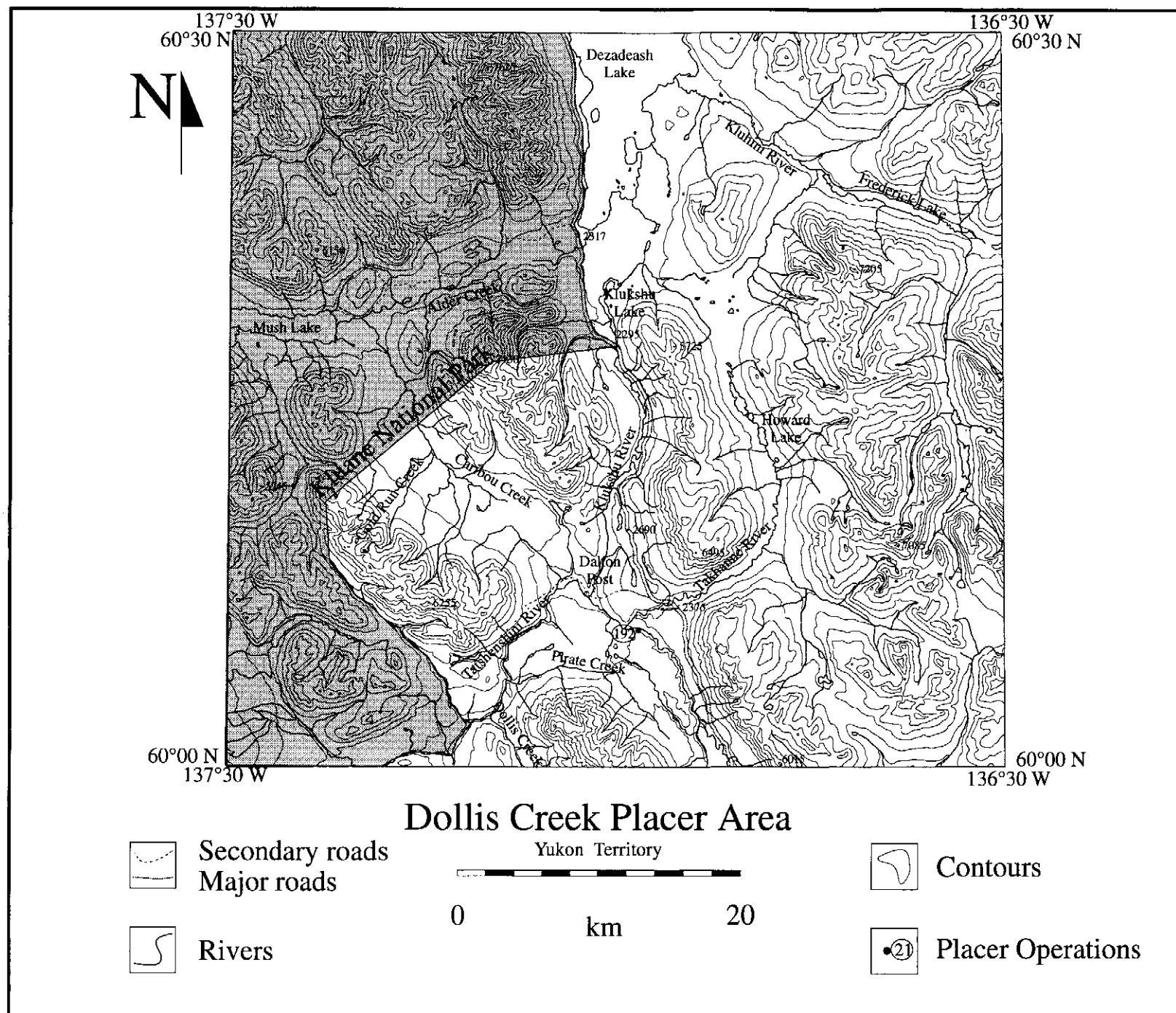
0 km 5



Contours



Placer Operations



In 1994 six to 12 feet of washed loose gravel was found over 1 to 3 feet of clay gravel with boulders, which lay over an undulating bedrock floor. The clay gravels and 6 inches to 2 feet of bedrock were sluiced. More gold was recovered when the boulders were large.



Aerial view looking upstream on Kimberley Creek at Clair and Pat Sawyer's placer operation.

Mining Cuts: In 1993 three cuts averaging 4000 cubic yards were mined. A 2000 cubic yard cut was mined in 1994.

Water Supply and Treatment: Water was pumped from an out-of-stream reservoir using a 5 by 4 inch pump. Waste water was treated in three small out-of-stream settling ponds in 1993, and one large pond in 1994.

Gold: The gold was smooth, worn, round, and bright. Although nuggets were few, some were porous with quartz attached. Fineness averaged 850. Some platinum nuggets were recovered.

KIMBERLEY CREEK	115 B/16
N. American Resources Ltd.	60°52' 138°04'
Water Licence: PM94-006	1994
Kimberley Creek Map	Site No. 191

Operation/Location: This operation was located approximately two miles upstream from the confluence of Kimberley Creek and the Jarvis River, just below the Sawyer's mine site. Four workers were employed for one 10 hour shift.

Equipment/Function: A 255 Komatsu bulldozer was used to strip, push up pay material, and re-

contour tailings piles. A 125 Case backhoe fed the derocker, and a Case 30 loader removed tailings.

Wash Plant: The wash plant consisted of a derocker with a 4 foot wide by 20 foot long single run sluice box. The sluice was lined with two feet of two inch grader blades, 10 feet of 3/8 inch punch plate over expanded metal, a further two feet of grader blades, and six feet of one inch angle iron riffles.

Ground Description: North American Resources mined a left limit bench of Kimberley Creek. Ten feet of loose gravels lay over decomposed bedrock. The bottom five feet of gravel was sluiced with some bedrock.

Mining Cuts: Approximately 17,000 cubic yards were processed from three separate cuts.

Water Supply and Treatment: Water was pumped from an out-of-stream reservoir pond at a rate of 1600 igpm, using a 6 by 6 inch Gorman-Rupp pump powered by a 4-cylinder Ford diesel engine. Waste water was treated in three out-of-stream settling ponds before returning to Kimberley Creek.

Gold: The gold was smooth, worn, round, and bright. Fineness averaged 850.

TATSHENSHINI RIVER	115 A/3
Rod McPhail	60°04'N 137°13'W
Water Licence: PM92-091	1993, 1994
Dollis Creek Map	Site No. 192

Operation/Location: This operation was located approximately two kilometres upstream from the Takhanne River bridge, on a right limit bank of the Tatshenshini River. Rod McPhail ran this operation single-handed in 1993 and 1994.

Equipment/Function: A P&H 312 excavator fed the plant. A D6 Caterpillar bulldozer was used to strip and push up pay gravels to the sluice.

Wash Plant: A trommel 30 inches in diameter by 12 feet long was used to process 4 to 6 loose cubic yards of gravels per hour in 1993. In 1994 the trommel was modified to increase production by approximately 100%, and to allow easier repairs. Pay gravels were washed in a hopper which fed into the trommel. One half inch minus material was directed into a single run sluice 18 inches wide by 10 feet long.

Ground Description: The average profile of this ground was 20 to 30 feet of homogenous gravels on a fractured bedrock floor.

Mining Cuts: One continuous cut produced about 5000 cubic yards sluiced in 1993, and 3000 yards in 1994.

Water Supply and Treatment: Water was supplied from an out-of-stream recirculation pond at a rate of 300 igpm, using a 4 inch Lister pump.

Gold: Fineness was 850.

COTTONEVA CREEK	105 E/8
Foxpoint Mining Ltd.	61°23'N 134°19'W
Water Licence: PM93-081	1993, 1994
Livingstone Area Map	Site No. 193

Operation/Location: Cottoneva Creek is a tributary of the South Big Salmon River, in the Livingstone area. Max Agoff and Max Fuerstner Jr. began mining in the narrow, v-shaped valley in August 1993. Three miners and one camp employee worked single shifts each year.

Equipment/Function: A Proclaim face shovel was used to strip off overburden and dig for pay material. The shovel loaded the pay into a Terex 33-09 rock truck, which transported it to the wash plant. A Terex 72-61 loader fed the box and removed tailings. A Terex 82-30 bulldozer was also available.

Wash Plant: Pay material was fed at a rate of 100 to 150 cubic yards per hour into a derocker with a 20 foot vibrating deck powered by a 2-cylinder Detroit engine. The classified material entered a sluice run 4 feet wide by 20 feet long, lined with eight feet of punch plate and two inch angle iron riffles.

Ground Description: About 15 feet of glacial till and eight feet of silty clay covered 10 feet of mixed gravels over bedrock. The bottom eight feet of gravel was sluiced with 2 to 3 feet of bedrock. The ground was not frozen.

Mining Cuts: One continuous cut 500 feet long by 60 feet wide by 30 feet deep was mined in 1993 and 1994.



Aerial view of Foxpoint Mining's placer operation on Cottoneva Creek in the Livingstone area.

Water Supply and Treatment: Water was acquired from an instream reservoir on Cottoneva Creek. It was pumped to the plant by an 8 by 10 inch Cornel pump powered by a 1271 GMC diesel engine at a rate of 1500 igpm. The effluent was diverted to natural glacial sink holes, where it dispersed by seepage. There was no detectable discharge.

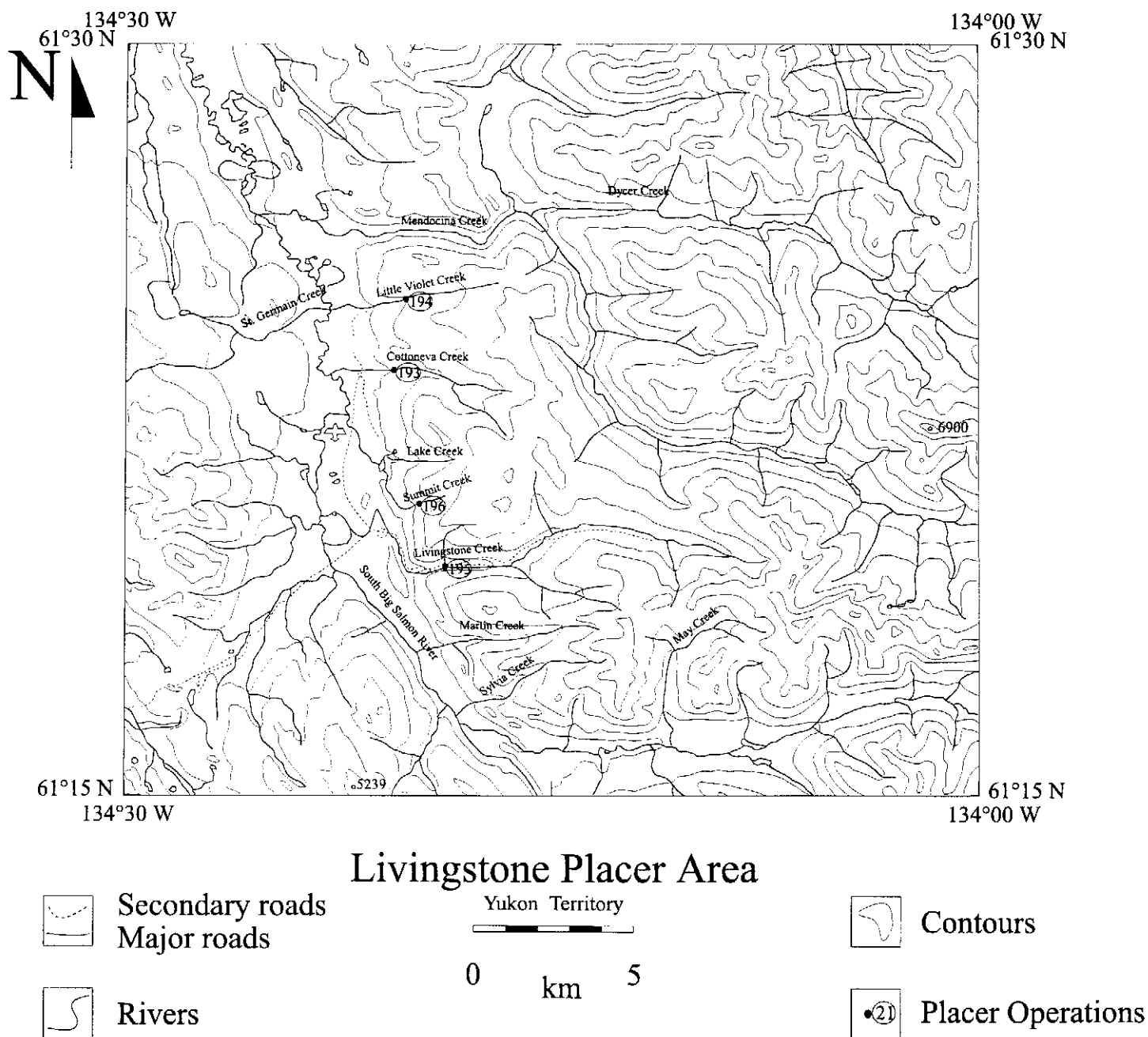
Gold: The gold was smooth and flat, with many fines that looked like round balls under magnification. Fineness was 830.

LITTLE VIOLET CREEK	105 E/8
SB13 Yukon Ltd.	61°25'N 134°21'W
Water Licence: PM92-041	1993, 1994
Livingstone Area Map	Site No. 194

Operation/Location: Little Violet Creek is a small right limit tributary of the South Big Salmon River. Gary Hudson and two miners worked single shifts in 1993 and 1994.

Equipment/Function: A D8K Caterpillar bulldozer was used to strip overburden. One 950 Caterpillar loader fed the sluice plant and removed tailings. A JCB7C excavator moved pay gravels from the cut to the loader. 1994 saw the addition of D8K and D9H Caterpillar bulldozers that were used primarily for stripping.

Wash Plant: Pay material was processed by a Torgenson 12 foot by 21 foot shaker plant at a rate of 75 loose yards per hour. The material fell through a 2½ inch minus screen deck onto a 4 foot wide by 12 foot long slick plate. The



screened gravels travelled down a 2 foot by 40 foot long sluice run that had two inch Hungarian riffles for the first 20 feet, followed by 20 feet of one inch angle iron riffles. The entire run was lined with Nomad carpet.

Ground Description: The total depth was approximately 60 feet to bedrock. Twenty-two feet of white glacial till mixed with clay covered approximately 35 feet of tertiary gravels to bedrock.

Mining Cuts: In 1993, 7000 loose cubic yards were sluiced from one continuous cut. In 1994, 15,000 cubic yards were stripped and stockpiled for the 1995 season.

Water Supply and Treatment: Water to the sluice was supplied by a six inch gravity pipeline at a rate of 1000 igpm. Three settling ponds were utilized in conjunction with natural ponds and glacial "sinkholes".

Gold: The gold was predominately large nuggets, smooth and worn but rougher near bedrock. Fineness was 866.

LIVINGSTONE CREEK	105 E/8
Livingstone Placer Ltd.	61°20'N 134°15'W
Water Licence: PM92-107	1993
Livingstone Area Map	Site No. 195

Operation/Location: In 1993 Max Fuerstner Jr. mined a left limit bench of Livingstone Creek upstream of the canyon. Six miners and one camp employee worked double shifts until August, when the operation moved to Cottoneva Creek.

Equipment/Function: A Proclaim face shovel with a 5½ cubic yard bucket was used to strip off overburden and dig for pay material. The shovel loaded pay into a Terex 33-09 rock truck, which transported it to the wash plant. A Terex 72-61 loader fed the box and removed tailings. A Terex 82-30 bulldozer was used for stripping.

Wash Plant: Pay material was fed at a rate of 150 cubic yards per hour into a derocker with a 20 foot vibrating deck powered by a 2-cylinder Detroit engine. The classified material entered a sluice run 4 feet wide by 20 feet long, lined with eight feet of punch plate and two inch angle iron riffles.

Ground Description: The total depth to bedrock was 120 feet of partially frozen ground. Seventy feet of glacial till covered a five foot layer of blue clay over inter-glacial gravels. The bottom eight feet of gravel was sluiced with three feet of bedrock.

Mining Cuts: Pay material was excavated from a cut 120 feet wide by 250 feet long.

Water Supply and Treatment: Water was acquired from an instream reservoir on Livingstone Creek. It was pumped to the plant using an 8 by 10 inch Cornel pump powered by a 1271 GMC diesel engine at a rate of 1500 igpm. Mining waste water was drained from the site in a long ditch constructed through the canyon on the left limit, and diverted into a large natural depression just below the canyon that did not discharge.

Gold: The gold was large and smooth. One of the recovered nuggets weighed 6½ ounces. Fineness was 860.

Comments: Many timbers from oldtimers' working were uncovered during the season.

SUMMIT CREEK	105 E/8
Ron Asuchak	61°23'N 134°22'W
Water Licence: PM92-039	1993, 1994
Livingstone Area Map	Site No. 196

Operation/Location: Summit Creek at this location flows in a narrow, V-shaped valley. Ron Asuchak and two helpers worked underground in an adit on the left limit in 1993 and 1994.

Equipment/Function: In 1993 a 930B Mustang Bobcat with a ¼ cubic yard bucket was used to muck out the underground workings. In 1994 the Bobcat was replaced by two 911 Eimco scoop trams equipped with one yard buckets. A 600 CFM compression drill was also utilized.

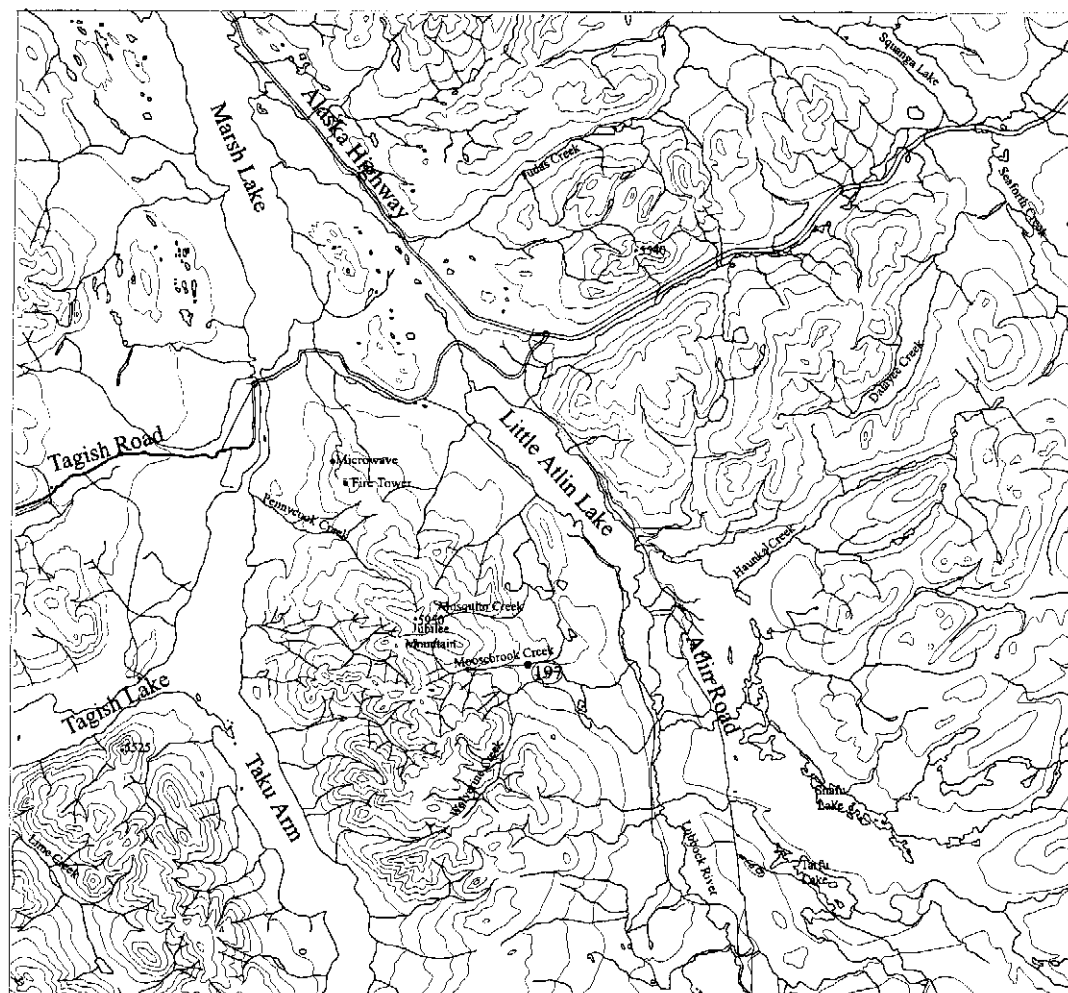
Wash Plant: Pay material was fed at a rate of 15 loose cubic yards per hour into the hopper of a Sierra test plant. A 4 foot by 8 foot vibrating screen deck fed two inch minus material into a single sluice run 2 feet wide by 10 feet long. The sluice was lined with Nomad carpet and two inch riffles.

Ground Description: The total depth was 120 to 160 feet. Thirty feet of mixed gravel covered two

134°30' W
60°30' N

N

133°30' W
60°30' N

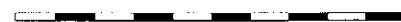


60°00' N
134°30' W

60°00' N
133°30' W

Little Atlin Placer Area

Yukon Territory



0 km 20

Secondary roads
Major roads

Rivers

Contours

Placer Operations

feet of sand over 50 feet of two inch gravel. Beneath this was another two foot layer of sand and 25 feet of old river bed, consisting of granite boulders and rounded local rock. Slide bedrock that was 50% boulders and 50% stones up to six inches in diameter completed the section. The bottom 25 feet of this layer contained water.

Mining Cuts: In each year a 7 foot by 7 foot timbered drift was extended into the pay zone. About 150 linear feet were excavated in 1993. One round of explosives was discharged per day, providing four linear feet of material for processing. The scoop trams improved mucking efficiency in 1994, and nearly 200 feet of material was removed.

Water Supply and Treatment: A 4 inch pump powered by a Lister diesel engine provided 600 igpm from an instream reservoir pond. Waste water was treated downstream in a large lake above the South Big Salmon River valley.

Gold: The gold was very coarse, rounded, and smooth. One ounce nuggets were plentiful. Specimens 3½, 5 and 8 ounces in weight were also found. Fineness was 900.

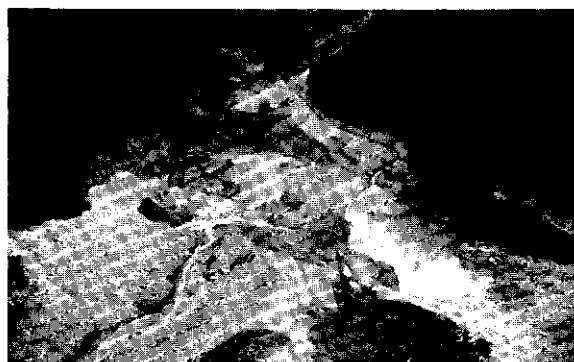
MOOSE BROOKS CREEK	105 C/4
Victor Guinet	60°10'N 134°00'W
Water Licence: PM92-001	1993
Little Atlin Lake Map	Site No. 197

Operation/Location: Moose Brooks Creek is a tributary of Little Atlin Lake. Victor Guinet and a crew of five miners worked this property in 1993.

Equipment/Function: One D355 Komatsu bulldozer was used for stripping waste, and constructing drains and settling ponds. A 235 Caterpillar excavator was used to strip waste material and load pay gravels into a D300B Caterpillar articulating rock truck, which hauled to the sluice plant.

Wash Plant: A derocker wash plant was used to process 80 to 100 loose cubic yards of gravels. The two inch minus material was washed and separated by a distributor to three sluice runs 4 feet wide by 16 feet long. The gravels travelled over 1½ inch riffles with Nomad carpet underneath.

Ground Description: The total depth of ground to bedrock was approximately 35 feet. Stratified sand, gravel, and clay for 29 feet covered six feet of cobbly pay gravels on a fractured bedrock floor.



Victor Guinet mining on Moose Brooks Creek, a tributary of Little Atlin Lake.

Mining Cuts: A total of 55,000 cubic yards was sluiced from one large continuous cut.

Water Supply and Treatment: Water was acquired from an instream reservoir at a rate of 1500 igpm, using an 8 by 10 inch pump powered by a 3208 Caterpillar engine. The effluent was treated in four out-of-stream settling ponds.

Gold: The gold was smooth, flat, and predominantly fine. Nuggets were few with quartz attached. Fineness was 820.

Comments: Oldtimer underground workings were found in the mining cut.

EAGLE PUP	105 B/14
Eagle Ck. Mining & Expl. Corp.	60°49' 131°09'
Water Licence: PM92-019	1993
Eagle Creek Map	Site No. 198

Operation/Location: Eagle Pup is a right limit tributary of Scurvy Creek, which flows into the Liard River. Carl Wilks and two helpers worked 10 hour days in the first half of 1993.

Equipment/Function: A D8K Caterpillar bulldozer was used for stripping, settling pond construction, pushing up pay gravels, and removing tailings. A 780 Case backhoe fed the sluice box.

Wash Plant: Pay material was fed at a rate of 40 loose cubic yards per hour into a dump box 10 feet wide by 14 feet long. After passing under a spray bar it entered a single sluice run 30 inches wide by 20 feet long. The run was lined with backed Nomad carpet and one inch riffles.

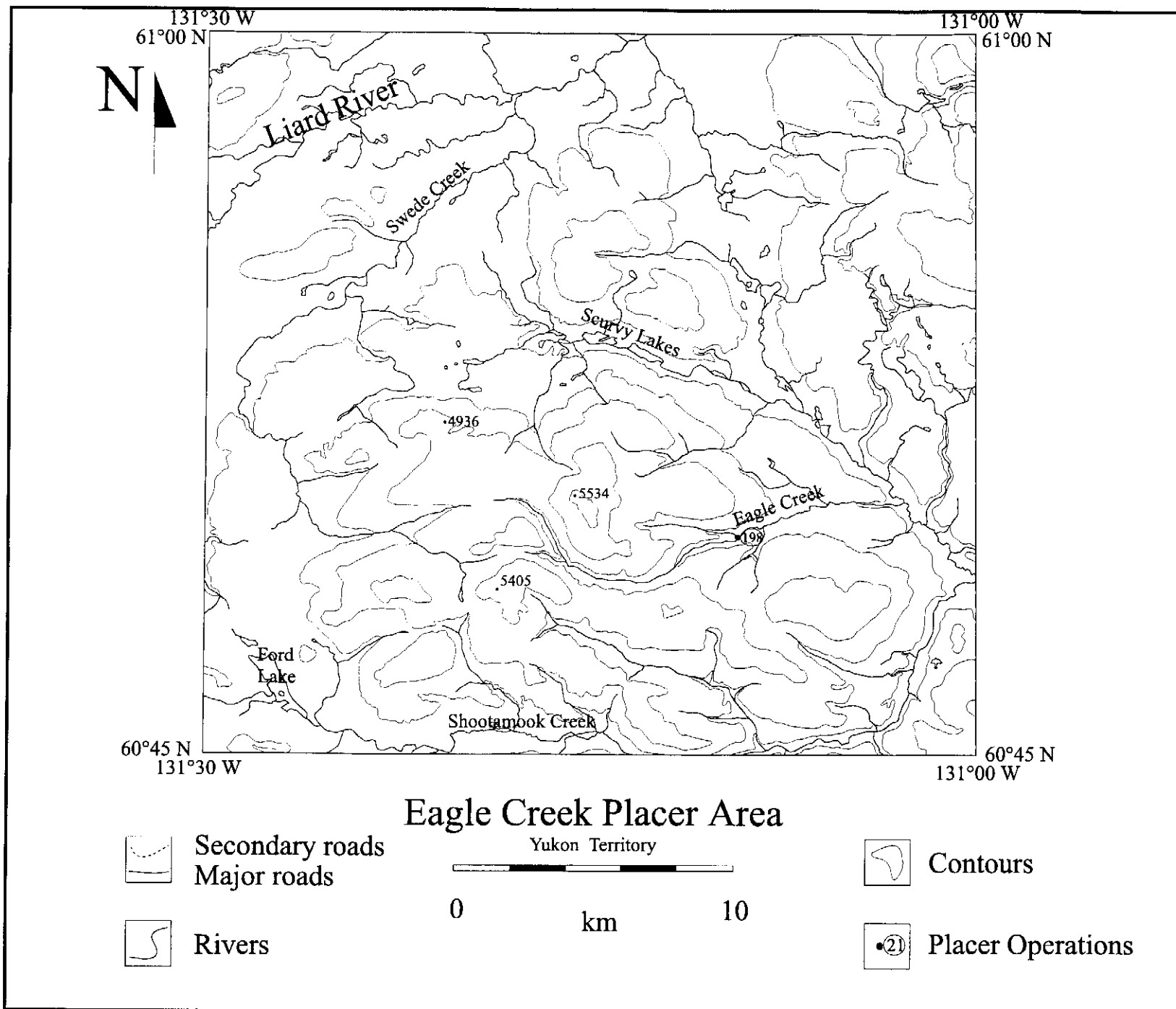
Ground Description: The total depth was 28 feet of unfrozen ground. Twenty feet of mixed gravels containing small seams of clay covered about eight feet of black clay with quartz that may have been decomposed bedrock. The operators were not sure if they had excavated to bedrock in their small, exploratory cut. The lower 24 feet of material was sluiced.

Mining Cuts: A combined total of 11,500 cubic yards of material was stripped and sluiced in 1993 from one cut.

Water Supply and Treatment: Water was acquired from an out-of-stream reservoir pond at a rate of 800 to 1000 igpm using a 6 by 6 inch Brickley high pressure pump, powered by a 4-cylinder Ford diesel engine. Effluent was treated in an out-of-stream settling pond that discharged into the reservoir pond.

Gold: Most of the gold was fine, although some flaky gold was recovered.

Comments: Albert Rock began testing equipment for fine gold recovery during the 1994 season.



Yukon miner's discovery of Ice Age horse
is the equivalent of striking ...

Prehistoric gold

By Joanne Laucius

A partnership between Yukon gold miners and scientists has yielded the world's best-preserved example of *equus lambei*, an extinct Ice Age horse.

The carcass, which includes the pelt and a well-preserved foreleg, is surprisingly similar to modern horses. It will give scientists a picture of what the horse looked like and may even offer some clues about how humans survived in the Yukon during the Ice Age.

Yukon gold miners have been collecting bones and sending them to Ottawa to be identified for about 25 years. The latest discovery, a 26,000 -year old, freeze-dried horse, was among the most spectacular finds.

Placer miners work in trenches that have filled with silt and muck since the Ice Age. They dig through the muck to get to gold-bearing gravel 10 to 20 metres below the surface. Just above the gold-bearing gravel is the layer of frozen muck that bears Ice Age critter remains, including woolly mammoths, camels and bison.

The horse's shoulder bone with a scrap of flesh still clinging to it was discovered by children near Dawson City last September. Later, their fathers, gold miners Lee Olynik and Ron Toews, found the freeze-dried

foreleg and alerted archeologist Ruth Gotthardt, who works for the Yukon government.

Skeptical, Gotthardt went to investigate, believing the carcass might be the remains of a horse that died during the gold rush about a century ago. She climbed into the trench and was greeted by the unmistakable smell of horse droppings.

"I really had my doubts because it looked so fresh," she says. "There's no way something from the Ice Age could keep that smell of horse."

The miners, however, insisted that this was no gold rush pony.

They were right. The carcass –smelling pretty ripe– was sent by courier to Ottawa to Canadian Museum of Nature palaeontologist Dick Harington.

A small sample of the bone was sent to Miami for radiocarbon dating, which measures the amount of radiocarbon released from the sample. Compared to normal carbon, that amount tells the age of the sample.

The test confirmed the miners' suspicions. The carcass is the extinct *equus lambei*.

The miners have helped give the museum one of the best Ice Age collections in North America, says Harington. "It's this curiosity and astuteness that we have to thank them for. It has provided invaluable scientific information."

Gotthardt says a lot of the miners have become amateur palaeontologists. "They can even recognize what species the bones are from."

Gotthardt believes the horse may have fallen into a pit created during an Ice Age warm spell. Even though much of Ontario was cloaked with glaciers, parts of the Yukon and Alaska remained glacier-free because it was too dry. The permafrost was melting, creating pits that an unwary animal could fall into and freeze.

"It seems to be a rare combination of circumstances that freezes these creatures," she says. "It's one of those serendipitous finds."

Horses originated in North America, and crossed to Asia by a land bridge.

They were one of the most common animals of the Ice Age, roaming the steppe like expanses of North America along with camels, mastodons, woolly mammoth and steppe bison. They were stalked by the scimitar cat, a cousin of the fearsome sabre-toothed tiger.

Horses probably became extinct in North America because of rapidly changing climate, which changed grazing lands to scrub land, says Harington. Human hunters in search of dinner may have finished off the last North America horses about 10,000 years ago.

The horse survived in the Old World, was domesticated and made the round trip back to North America with European explorers. Horses that escaped are the ancestors of modern wild horses.

Some questions remain. Harington says he wonders how animals so numerous and widespread became extinct. It's possible, he says, that horses never really became extinct, but survived in small pockets.

The carcass may tell scientists more about the Ice Age horse and its environment. It is now being preserved at Ottawa's Canadian Conservation Institute, which preserves Canadian natural and historical artifacts.

DNA studies will probe the *equus lambei's* relationship to current domestic horses.

The hair will be observed with a scanning electron microscope to see if it offered greater insulation than modern horse hair.

Scientists will examine the carcass for tooth and claw marks to see if the horse had fallen victim to a predator. The pelt will be scoured for signs of parasites. Intestinal contents may offer clues about diet and internal parasites.

The carcass will also help artists who draw prehistoric life.

Artists reconstructing *equus lambei* often drew it as a long-eared, ass-like horse, similar to the near-extinct Przewalski's horse, a wild Asian horse now found mostly in zoos.

The pelt shows an animal about the size of a large modern pony. *Equus lambei* had a long, flowing, blondish mane, and lacked the dorsal stripe often shown in drawings.

Gotthardt says she will be interested in the intestinal analysis because it may tell scientists something about human life in the Ice Age.

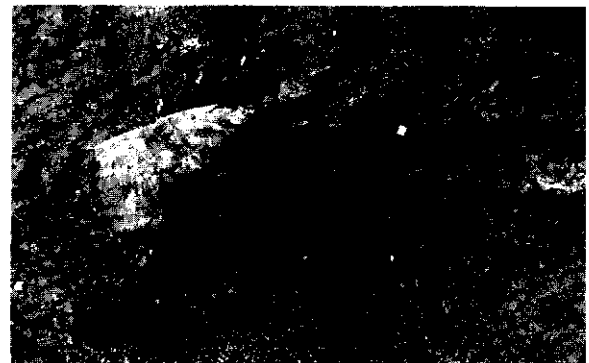
It is believed that humans crossed the Bering land bridge and came to North America 12,000 to 15,000 years ago. But some evidence, including a 24,000 year old mammoth bone that appears to have been chipped by human hands, may indicate that they arrived earlier.

"We have no parallel to this vegetation that supported horse and bison and mammoth," she says. "I want to know more about this environment because that's the environment people had to contend with."

The horse's head is still missing and Gotthardt wants to go back this July to see if a skull and head are left in the muck of the trench.

Harington has been fielding calls from horse lovers and reporters from as far away as Italy.

"Horses intrigue people."



A hide frozen in a seam of black muck about six feet above bedrock. The animal's mane is hanging at the bottom. The black circle is a lens cap 42 mm in diameter.

This article was reprinted with permission from the February 6, 1994, edition of the Ottawa Citizen.

WATER

by John Gould

Water is so essential to placer mining that without a good supply, mining comes to a stand still. It is so important that during the summer of 1906 a rain maker from California was hired under contract.

The modern placer miner has a distinct advantage over the oldtimers. Efficient pumps and heavy earth moving equipment permit construction of settling/recirculation systems where water can be used over and over again, with very little make-up water required.

On many creeks the early miner depended heavily on rain during the summer months, especially at the headwaters. Miners working on the benches and hills had the greatest water problem. They were the only ones who needed to apply for a water grant. This grant gave them the right to construct a ditch to bring water to their operations. These ditches varied in length from a couple of miles to 70 miles long.

Water was so vital that the Government hired a mining engineer to determine how it could be brought to the gold fields. It was concluded that water from the upper Klondike River could be distributed to the gold fields of Bonanza and Hunker Creek. Flumes, 100 miles of ditch, and inverted syphons would have been required.

Another project was planned by Acklen, who was mining on the hill behind Dawson. The plan was to bring 20,000 miners' inches (MI) of water from the Ogilvie mountains to the north side of the Midnight Dome, tunnel through the hill at the head of Thomas Gulch, and distribute the water to the hills of Bonanza and Acklen's operation on the hill above the Klondike River, where Acklen also had a farm (one miners' inch equals 11.2 US gallons per minute).

Before Acklen or the Government got their plans under way the Yukon Gold Company began construction of the Yukon Ditch in 1906. Better known in the early days as the Twelve Mile Ditch, it was built in three summers with the help of 2000 workers, 1800 horses, six steam shovels, and about three million dollars. The first water flowed as far as the mouth of Bonanza Creek in the spring of 1909. This ditch was built to carry 5000 miners' inches of water. The water was used on the Bonanza Hill as far as Gold Hill at the junction of Bonanza and Eldorado Creek. The ditch operated from 1910 to 1933.

I asked my Father why they didn't use pumps instead of building these long ditches. He replied, "It was cheaper to bring water by ditches no matter how far you had to go." Dad once built a 2½ mile ditch by hand, as many miners did.

During the many years we spent mining on Hunker Creek's Nugget Hill, we found that water availability ran in about 11 year cycles. There would be a summer with enough rain to give plenty of water for mining, then it would slowly dry out to the point where one summer the only water available would be from spring run off. Then the cycle would repeat.

The Miners' Inch is a unit of water measurement. Originally it was the amount of water that would flow through a one inch square hole cut in a two inch plank, with six inches of head above the top of the hole. In Canada, Arizona, California, Montana and Oregon, one miners' inch equals 11.25 U.S. gallons per minute. In Idaho, Nevada, New Mexico and Utah it equals 9 U.S. gpm, and in Colorado it equals 11.72 gpm.

We also noticed that in the early days, when the hills had been stripped of trees, rain water vanished rapidly. There was nothing to hold it back, and often there were flood conditions on the creeks. A typical flood from a rain storm was reported in the *Yukon Sun* on July 30, 1902:

CLOUD BURST ON HUNKER A wall of water rushes down the creek Damages In The Thousands

Sluice boxes and flumes carried away and men battle with torrents to save them— engines and boilers, open cuts and drifts all submerged.

A cloud burst is reported to have occurred yesterday beyond the Dome, and to have flooded Hunker and Dominion. C.Lindahl arrived yesterday on his bicycle, and said it was the worst ever known on Hunker in the way of a freshet. The wall of water came tearing down and filled the whole valley in the narrow portions, carrying off sluice boxes and flumes, filling drifts and open cuts, fairly submerging engines and boilers, and in short doing many thousands of dollars worth of damage. At the several workings of Kirkpatrick & Munroe the open cuts were full and the shafts and drifts were all treated alike. Engines and boilers, of which not over 3 inches stood above the water, were frequently seen. In the narrow portions the water was an average of at least 8 or 10 feet deep. Around Gold Bottom the people were not expecting the deluge as only a few drops of rain had fallen in their immediate localities. In the lower portion of Hunker Creek where the valley is very wide the flood had lost its force.

The August 1st issue reported that damage done to the mines on Hunker Creek exceeded \$100,000. Ten kilometres of claims from the head of the creek to the forties below Discovery had considerable damage. One sluice box that was washed away had the riffles out in preparation for a cleanup. An estimated \$2000 in gold, or 130 ounces, was lost. The damage on other creeks in the area of the Dome was almost as bad, All Gold Creek in particular.

In recent years this hasn't happened. Renewed forest growth helps to slow down run off from heavy rains, reducing the flooding conditions. It also benefits mining by making the run off last longer.

The summer of 1905 was particularly dry. The miners were having so much trouble getting enough water to sluice that some of them had to shut down. Someone had heard of a rain maker in

California who was successfully making rain for farmers. The miners decided they would try and get him to come to the Klondike. Charles M. Hatfield wanted \$10,000 to come. The miners put up \$5000 and the government put up the other \$5000. He arrived in Dawson on June 5, 1906, accompanied by his brother and his rain making equipment. Many of the creek operators were in town to greet him, and a band played at the dock as the steamer arrived.

A seven person board was formed to draw up a contract for Hatfield. The contract stated that he was to make rain to the satisfaction of the miners.

The rain making apparatus filling one freight wagon was hauled to the top of King Solomon Dome. A tower 24 feet high was built, the top of which was enclosed for four feet.

In the mean time Chief Isaac of the Moosehide Indians told the *Dawson News* that he had four medicine men working to ensure that Hatfield would be unsuccessful. He said the miners should have come to him for help instead of choosing Hatfield. By early August the rain maker hadn't made enough rain to wet a cabbage patch, so the committee decided to fire him. He was given \$5000 and told to pack up.

I remember my Father telling me that Hatfield was well on his way down Hunker Creek when the rains came and the rain maker got soaking wet. Chief Isaac paid a visit to the *Dawson News* and told them that when he knew the rain maker was leaving he had his shaman do a rain dance, and that was why it rained when it did.

There were several poems in the papers of the day written on Hatfield's efforts to make rain. One printed in the *Yukon World* of June 1906 versified:

Oh! thou with chemicals and stink
Arrange the rain fall so that all may drink;
Thou wilt not cause disastrous floods, and thou
Tell us that in your system there's a kink.

Oldest Valid Yukon Placer Claims

by Lorraine Millar

Only a handful of the placer claims staked in the Klondike in 1896 have been kept in good standing. Most lapsed and the ground was subsequently re-staked. Two claims staked within days of the initial discovery of gold on Bonanza Creek have been kept in good standing since their original location. These two claims, grant numbers 311 and 363, were staked on Bonanza Creek on August 20, 1896, and were recorded at Forty Mile on October 26, 1896, and December 1, 1896, respectively.

The Bonanza Creek discovery claim, which was given grant number 136A, was staked on August 17, 1896, and was not recorded at Forty Mile until September 24, 1896. This claim was allowed to lapse following the cessation of mining by The Yukon Consolidated Gold Corporation (YCGC). A Parks Canada historical reserve now covers the area where the discovery claim was located.

The claim given the first grant number in the Klondike area of "O" was staked on August 19, 1896, and was sworn before Sgt. Charles Constantine at Ft. Constantine in the Forty Mile area on August 24, 1896.

Claim "O" was originally called number 10 below discovery, and then became number 8 below. Claim 311 was originally number 24 below discovery and is now number 21 below discovery. Claim 363 was originally number 34 below discovery and is now number 30 below discovery.

Claims 311 and 363 have had their boundaries changed a number of times as a result of legislative changes and the lapsing of adjacent dispositions. On November 9, 1910, the Yukon Gold Company made application to extend the boundaries of claim No. 30 below discovery (363) to include the "Galbraith, Brown and Bradley Hill claims" on the left limit, and all other vacant and connected ground, as prescribed under Section 27 of the *Yukon Placer Mining Act*. On June 20, 1911, the company applied to extend the boundaries to include the "uphill portion of the Brown Hill, left limit of Nos 31 and 32 below, and all other vacant and connected ground within 100 feet of the base line." On August 12, 1940 the

final boundary expansion was applied for by YCGC. This extended the boundaries on the left limit to include that portion of the former Hydraulic Leases No. 2 and No.6 within 1000 feet of the base line.

On July 1, 1907, the Yukon Gold Company made application to extend the boundaries of claim No. 21 (311) to the right limit, to cover that portion of Hill R.L. #21 within 100 feet of the baseline. On November 10, 1910, the company applied to extend the boundaries of claim No. 21 below discovery to include the upstream portion of the "Scarth Hill" left limit #22, the downstream portion of the "Boland Hill" left limit #20A below, and all other vacant and connected ground within 100 feet of the base line.

On July 22, 1940, YCGC applied to have claim No. 22 extended upstream 19 feet, which made No. 22 336 feet long and brought No. 21 down to 500 feet. On August 12, 1940, the company applied to have the boundaries of NO. 21 extended on the left limit to include that portion of the former Hydraulic Lease No. 9 within 1000 feet of the base line.

Both claims are currently owned by King Solomon Mines Ltd. There are 12 years excess work filed on each claim. If the \$10 per year renewal fees are paid on each of the claims they could remain in good standing into the next century without any further work being performed on them or the grouping to which they belong.

THE EARLY DEVELOPMENT OF PLACER MINING IN THE YUKON 1873-1896

by
Michael Gates

Adapted from the book *Gold at Fortymile Creek*
published by UBC Press, 1994

Whispers of gold trickled from the Yukon basin in the mid 1800's. It wasn't until 1873, however, that the first true prospectors entered the country. Confident that the discoveries of gold along the Cordillera would continue north in to the sub-arctic, Arthur Harper, Al Mayo, Leroy "Jack" McQuesten and a number of other hardy adventurers, trekked into the Yukon River basin that year after many months of arduous, brutal travel. Having survived a lengthy journey, fierce weather and deprivation, however, these men became the backbone of the trading system that later became a vital link in the network that supplied the miners.

For nearly a decade, these men traded for furs with the indigenous populations who had occupied the land for thousands of years. Whenever the opportunity arose, these traders became prospectors, foraging the creeks of the Yukon basin, testing the waters for elusive signs of the yellow metal. Arthur Harper had the misfortune of prospecting most of the creeks which later produce large quantities of gold, without any personal success, thus earning the nickname "hard luck" Harper. Despite their lack of personal success in finding gold, these early traders established the vital supply network and the grubstake system of credit, while serving as a local chamber of commerce and promoting the potential of the Yukon valley to the outside world.

Prior to 1880, access to the Yukon basin was either by canoe and portage over the old Hudson's Bay trade route via the Porcupine River, or up the Yukon River from its mouth on one of the rare, decrepit paddle wheel boats that plied the river. The routes were both arduous and expensive. It wasn't until access to the Chilkoot Pass was gained by non-natives in 1880, that there was any significant prospecting on the Yukon. Subsequently, an ever increasing flow of determined gold seekers arrived in the Yukon drainage.

The methods of prospecting and mining employed at this time were primitive, superficial and highly inefficient, yet they were the only means by which poorly capitalised prospectors could proceed. Being restricted in what they could carry, they relied upon a limited number of tools to fabricate all necessary mining equipment.

Once a promising prospect was located along the banks of the Yukon the prospectors quickly assembled a rocker, a small device resembling a child's cradle. It had a handle protruding from the top which allowed the miner to agitate the device from side to side while passing the paydirt through a screen on the top, and pouring water from a dipper over the material to wash it through a series of inclined riffles. The tailings exited at the lower end of this device, while the gold, with any luck, was trapped in the riffles.

Material trapped in the riffles was then panned out. The gold, which was mixed in with black sand, was extracted by adding mercury to form and amalgam. The amalgam was then poured into a soft buckskin bag and the mercury squeezed out through the pores in the bag, leaving the gold behind. The remaining mixture was placed in a frying pan and any remaining mercury driven off by heating it over a fire.

Early prospecting was restricted primarily to the bars along the Yukon and its main tributaries. These were the most accessible, and the easiest to work; because of their proximity to water, they thawed more quickly. As water is essential to the extraction of gold, it was in abundant supply along the river. Even here, however, the ground was frozen just below the surface. The prospectors would surface skim over a fairly wide area, working over the ground day after day, scraping away newly thawed layers of overburden and shovelling paydirt through the rocker. Early on, the miners started using fire to speed the process along.

The nature of prospecting demanded the constant search for new deposits of gold. The early prospectors accomplished this by making summer incursions over the Chilkoot to test the bars along the upper Yukon River for placer gold. The spring break-up delayed their entry into the district until the latter part of May, and the rapid onset of harsh winter weather sped up their departure in the fall. These gold seekers would usually start thinking seriously of leaving at the beginning of August. If they could not reach the passes before the fall blizzards came, they were trapped in the interior for the winter. Escape was accomplished by the hard labour of poling against the Yukon River current, a task which often consumed several weeks.

These argonauts were arriving in the Yukon with a limited quantity of supplies, consisting of food, weapons, prospecting gear and tools. Thus it was that for many years they lived in conditions that anywhere else would have been seen as abject poverty. The first group of prospectors to stay were 12 men including Joseph Ladue, who joined Jack McQuesten at Fort Reliance. This strategy doubled the amount of time that they could devote to prospecting by not having to wait until the Yukon ice broke up in the spring, or leaving by early August.

Inevitably, they became more dependent upon the grubstake system. By wintering in the interior, they quickly depleted their stock of supplies and had to turn to the long credit terms offered by the traders. Materially, they lived without almost all of the conveniences that made for a comfortable subsistence. Typically, they huddled in crudely built, drafty, frigid, shelters on slim rations, remaining idle through the dark, cold winter months when they could not search for gold. Even basic conveniences such as stoves did not become common in the upper Yukon basin until the end of the 1880's. Physically, they suffered from malnutrition, scurvy, tuberculosis, frostbite, and a variety of other ailments. Mentally, they suffered from the long months of isolation and confinement.

The first years of placer exploration following the opening of the Chilkoot Pass to prospectors, the search for gold was restricted to the bars along the shores of the Yukon River and its tributaries. In 1885, gold was discovered on Cassiar bar on the Yukon above Fort Selkirk. Four prospectors

recovered \$6000 in gold during one month's rocking the gravels from this deposit in 1886. Meanwhile, on the Stewart River, two prospectors recovered \$6000 from Chapman's Bar, while seven miles above that, at Steamboat Bar, four others recovered \$35,000 for their summer's work.

Recognizing that the increasing production of gold signalled important changes in the Yukon valley, Harper, McQuesten and Mayo switched their primary business to supplying the prospectors' needs. They abandoned Fort Reliance in 1886 and established a trading post at the mouth of the Stewart River, to supply the miners on that tributary. The post, named Fort Nelson, was short-lived, however, as that fall, coarse gold, the first in the Yukon Valley, was discovered on the Fortymile River, and the following spring of 1887, it was abruptly abandoned as the prospectors stampeded to the new discovery.

The town of Fortymile resulted from Arthur Harper landing a shipment of supplies and establishing a trading post at the mouth of the Fortymile River in the summer of 1887. For the next decade, Fortymile remained a key supply centre for prospecting in the Yukon.

The Fortymile River basin produced a number of important placers, such as French Joe's Bar, Charlie Gravelle's Bar, Discovery Bar, Bonanza Bar (considered the richest on the river), Madden's Bar and Troublesome Point (which yielded considerable quantities of gold). Meanwhile, gold was recovered from various tributaries of the Fortymile. Franklin Gulch was the first to be worked in 1886. This was followed by Poker Creek and Walker Fork in 1889, Dome and Davis Creeks in 1893, Wade Creek in 1895, and Chicken Creek in 1896.

Throughout this period, prospecting was continuing up and down the Yukon River, and the population of white prospectors gradually increased. Arthur Harper moved to Fort Selkirk in 1889 to establish the first trading post there since the Chilkat Indians forced Hudson Bay company trader Robert Campbell to abandon the location more than 30 years before. In 1893, Joe Ladue opened a trading post and sawmill at Ogilvie, opposite the mouth of the Sixtymile River to support prospecting efforts in that area. That same year, John J. Healy, representing the North

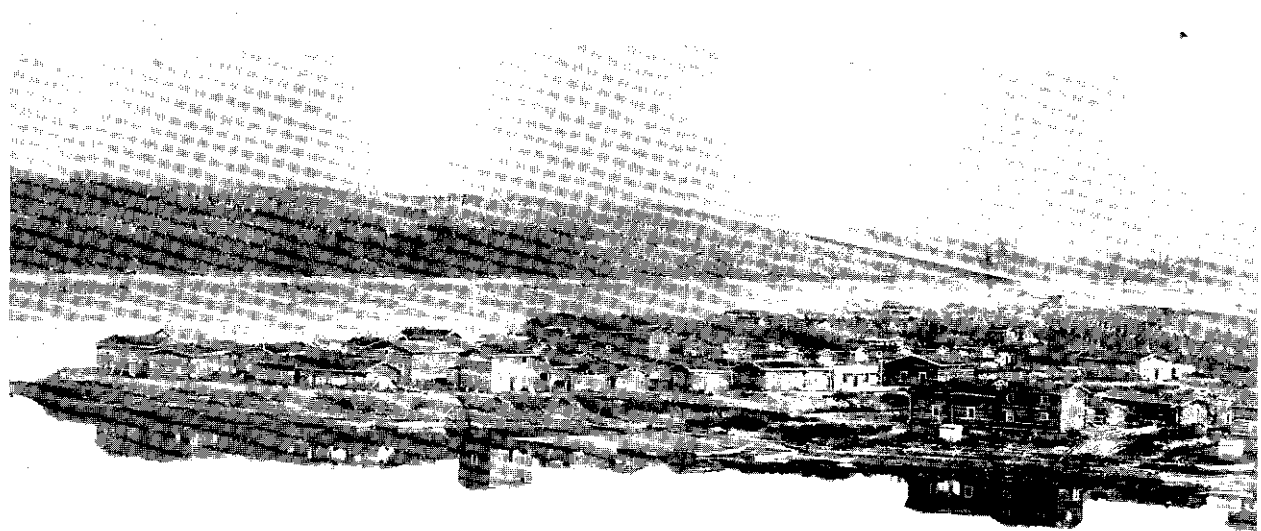
American Transportation and Trading Company (NAT&TCo.), opened a trading post at Fortymile to compete with Jack McQuesten's business.

By 1893, Miller Creek, a tributary of the Sixtymile River, and accessible by portage from the Fortymile near the international boundary, became the centre of attention for the region. Rising to prominence as the most productive creek anywhere in the Yukon basin, it produced good quantities of gold for several years. Production in 1894 was about \$300,000, \$35,000 of which came from a small segment of a single claim. One claim consistently yielded \$50,000 for its owner from 1894 to 1896. In 1896, the total production on the Creek had risen to \$500,000, and one prospector from Miller Creek left that year with 286 pounds of gold, estimated to be worth \$60,000.

By the 1890's, mining was no longer limited to the bars of the main tributaries, but it was still restricted by the weather. Once it started to freeze

Thawing of the ground had been practised occasionally for many years. The first recorded instance when it was employed was in 1882, by Jack McQuesten, Joe Ladue and others, on the Sixtymile River. Just when the thawing method was perfected is unclear, but by the 1890's, it was in general use on Fortymile Creek. Where the overburden was deep enough, around fifteen to twenty feet, fires would be set on a selected location, and as the ground thawed, it was regularly excavated before it could freeze again. Then another fire would be set, and more ground would be thawed and excavated, so that day by day, a shaft was slowly sunk into the permanently frozen ground. Since it was as hard as granite, it was not necessary to crib the walls of the excavation with timber.

Eventually, the shaft reached solid bedrock. From there, horizontal tunnels, or drifts, would be excavated, usually at right angles to the incline of the creek valley so that, it was hoped, the pay



in the fall, which often came by early September, mining ceased due to the lack of free running water, an essential requirement for sluicing. The miners were unproductive for as much as 8 months, unable to work because of the weather, and lying idle in their cabins, often suffering from starvation, scurvy and monotony.

streak would be intercepted. The excavated material, which was dragged along the drifts to the bottom of the shaft, was raised from the bottom using a hand powered windlass, and piled up nearby. This material was tested regularly for the presence of gold. If a paystreak was found, the material excavated would be stockpiled in a "dump" near the entrance of the shaft.

Underground, a series of galleries would be started which would follow the paystreak, with occasional pillars of frozen ground left in place to support the roof and prevent cave-ins.

The underground deposits were thawed using wood fires, and the chamber was evacuated until the fire had subsided. By natural convection, the stale air, smoke and fumes were displaced by fresh, cold air in the winter, and the miners could safely re-enter the drift to excavate the freshly thawed ground. The temperature in the shafts never went above freezing for obvious reasons, but it could be substantially warmer at the bottom of a shaft than the frigid sub-Arctic conditions above, so that labour below was often more comfortable than working outside. Work would proceed in this fashion through the winter, and the drifts would be abandoned in the spring before the warmer temperatures made further work unsafe.

Problems associated with thawing, such as melt water, and the risk of collapse, made it unsafe to attempt this method of mining in the summer. In addition, the convection ventilation was not as effective at warmer temperature, and shafts would remain fouled with smoke, fumes and carbon monoxide.

The next phase of the operation began in the spring. Flumes and sluice boxes were constructed, and as soon as the melt water started to flow, it was directed through the sluices. The material which had been stored up in the dump over the winter was then shovelled in the sluice, and the gold recovered during regular clean-ups.

Drift mining had its advantages. By exploiting the frozen conditions, it was possible to tunnel down to the paystreak without having to remove tons of overlying material. Thus, the richest ground was removed without touching the unproductive overburden. All the mining was performed by hand, so the cost of labour was a major expense in a mining operation. Unfortunately, the use of drift mining was also controlled by the depth of the rocky material which overlay bedrock. In the Birch Creek diggings for instance, Arthur Walden stated that the diggings were so shallow that they could not be excavated in the winter, thus limiting the mining season to a short period during the summer.

In the summer, when drift mining was not possible, and where the deposits were not too deep, open pit excavations were undertaken to remove overburden down to the paydirt zone. The main problem to be overcome was water. In order to successfully dig down to bedrock, the miners had to find a way to keep it out of their excavation. At the upper end of their workings, they would typically construct a dam to control the water, and from it, a waste ditch was constructed around the perimeter of the area to be mined. In this way, the excess water could be diverted around the excavation entirely. If the flow of water in the creek was small enough and could be contained within the dimensions of a typical sluice box, the water could be run from the dam through the excavation in fluming. When this was the case, two flumes were necessary so that one could carry the water, when it was being diverted from the other while the gold was being removed from the riffles during a clean-up.

No matter how successfully the miners diverted water through or around an excavation, it was impossible to keep water from accumulating in the pit. The use of steam equipment was almost unheard of. The main means by which water could be removed from the exposed diggings was by use of a bedrock drain, which was a ditch dug from the lower end of the excavation, to carry water away from the working area. The length of this drain depended upon the grade in the creek being mined, but it could be several hundred feet in length. As a prospector's claim was typically 500 feet long, some cooperation was required with the miners on adjacent claims because the bedrock drain, waste ditches and other activities would encroach on neighbouring mining property.

Open pit mining required the labour of several men. The sluice was designed to pass through the centre of the cut, suspended at grade by upright poles, and braced from either side with more poles. Two men would shovel material into the sluice box from a depth of as much as ten feet, from either side of the box, while a third would stand at the tail race and shovel aside the tailings which were washed out. The hours were long and the work exhausting, but the labourers were paid up to ten dollars a day for their work. The labour cost for opening up a mine cost would quickly accumulate. A.E. Sola, who chronicled the events at this time, estimated that the cost of opening up of a claim in the Sixtymile would not be less than

\$3,500, but that this was well justified, considering the return.

When arriving from upriver in 1894 the Buxton Mission was the first structure visible. It was located on an island four or five acres in size, about one-half mile above the confluence of the Yukon and the Fortymile. Constructed by J.W. Ellington, in 1888, it consisted of two large log buildings, the residence and the school, which also served as the church on Sundays. A cache was situated nearby to store supplies, and a small native community grew adjacent to the mission.

The main settlement of Fortymile was situated on the flat on the south-east side of the junction of the two rivers. It was split in half by a twelve foot deep gully which was spanned by a wooden footbridge. The main businesses, such as saloons, ran parallel to the bank of the Fortymile River. Behind them stood a collection of other businesses and log cabins huddled together without order. One man described it as a: "...collection of eighty or ninety dismal-looking log huts on a mud-bank. The shanties...scattered without any attempt at regularity, the marshy intervening spaces being littered with wood shavings, empty tins, and other rubbish, while numerous tree stumps show the recent origin of this Northern mining-camp... Huge placards with the words 'Hotel', 'Saloon', and even 'Opera House' (the latter a 'dive' of the lowest description) adorn some of the larger dwellings where, though bread is often lacking, whisky is never scarce." The miners' log shacks were covered with sod roofs, which were put to utilitarian use as gardens. Public services such as water or sewer did not exist. If water was required, it was drawn from the river. In the winter, this involved chopping a hole through four or five feet of ice, which froze in immediately after it was abandoned.

The town was dominated, at the intersection of the two rivers, by the trading post of the Alaska Commercial Company, a two story log structure about thirty feet by sixty feet in size, in front of which the river steamers would land to discharge their cargoes on the river bank.

By 1894, the town could boast an amazing variety of services. There were two bakeries; two restaurants, where one could eat for twelve dollars a week; two blacksmiths, and Pat Galvin's tinsmith and hardware business. If a man was

sick, he could visit one of two doctors in town. A watch could be repaired, a dress could be made, or hair could be cut. The precise definition of these services and their quality was variable. The barber shop, for example, consisted of: "one broken down chair and an air of general dilapidation". Jack Smith, an ex-prize fighter, was the barber. Arriving broke in Fortymile, he found the barber shop abandoned. He simply took possession of it and became the new barber. It is difficult to say what kind of service passed for medical care.

George Snow operated a theatre, and there were one or two dance halls, six saloons and numerous distilleries where hootch was prepared. William McPhee and Frank Densmore were soon to open a billiard parlour and saloon to entertain. There were a few prostitutes and three hundred dogs. Later additions to the community for spiritual care included a Church of England mission for the miners and a smaller Catholic mission.

Fort Cudahy was located across the mouth of the Fortymile river from the main community, and half a mile downstream. It was the site of Healy's trading post, owned by the N.A.T.&T.Co.. It consisted of the trading post and warehouses flanking a quadrangle, a sawmill, a free reading room, a billiard hall, and a row of small log cabins stretched out in a straight line paralleling the shore of the Yukon above the trading post.

The men were from all points of the compass, but they were predominantly American. This put Fortymile in the peculiar position of being an American town, which got its supplies from San Francisco, and with a post-office selling American stamps, but located on Canadian soil.

Owing to the peripatetic nature of the miners, their numbers were always in flux as men moved from one creek to another, and then back to town. At its peak, Fortymile serviced a population, of six hundred. This number declined as miners were lured away to the Alaskan gold fields at Birch Creek and its supply centre, Circle City.

After conducting a reconnaissance of the Fortymile district in 1894, Inspector Charles Constantine of the Northwest Mounted police returned in 1895 with a force of 20 officers and men, and established a detachment to administer British justice at this remote district. Arriving at the mouth of the Fortymile River in July, the men

divided into two groups and immediately set about preparing a site (located diplomatically between Healy's post and the town of Fortymile), and securing the necessary lumber to construct the barracks and other buildings, eight in total, which were enclosed within a log stockade.

From this post, the constables patrolled the district, collecting royalties from the miners, and enforcing Canadian law. This culminated in a confrontation on Glacier Creek between the miners and the mounted police in July 1896. The force asserted its full authority over the miners in the Canadian goldfields at this time. Thus, when gold was discovered in the Klondike a few weeks later, a peaceful and orderly development of the new placer deposits was possible.

By 1896, Fortymile had been eclipsed in size and importance by the new mining town of Circle, located down river, on American soil. The population of the town and the nearby goldfields increased to about one thousand by the winter of 1896. Yet the very winter in which the town was flourishing, events were unfolding upriver in Canadian territory which led to its rapid decline.

From his trading post at the mouth of the Sixtymile, Joe Ladue was encouraging newly arrived prospectors to try their luck on the creeks up and down the Yukon near his post. From 1894 onward, a small number of prospectors scattered to the tributaries of the Indian River, most notable being Billy Readford and Robert Henderson. During the summer of 1896, Henderson and four other prospectors headed over the height of land and down to the headwaters of Gold Bottom Creek, which drains into the Klondike River. There, they found some tantalizing prospects, and when Henderson returned to Ladue's post for supplies in mid-summer, he also brought word of this new discovery. Gold had been found several times before on the Klondike River drainage, but never in sufficient quantities to arouse much interest.

Encouraged by the new report, Ladue started advising new arrivals at his post to try their luck on the Klondike. Ladue himself was on his way to Henderson's new diggings, when he heard about a new discovery, on Rabbit Creek, by Skookum Jim, Tagish Charlie and George Carmack. Ladue, with years of experience as a trader, adroitly guessed that there was as much money to be made supplying miners as there was in mining gold, so instead of staking a claim on the creek, he staked real estate at the mouth of the Klondike

River, where a new supply centre was sure to develop. This decision eventually made him one of the wealthiest men of the Klondike.

The discovery which started the Klondike Gold Rush was made on a small unnoteworthy creek near the mouth of the Klondike River. Carmack, Jim and Charlie were returning from a visit to Henderson's prospect on Gold Bottom Creek. Having staked a claim there, but rebuffed by Henderson's attitude toward Jim and Charlie, Carmack and his relatives were returning to their camp at the mouth of the Klondike by travelling down Rabbit Creek. Short on food and camped near a moose kill, it was Skookum Jim who found gold in the bottom of the small stream. The three men staked claims, Carmack convincing the others that it should be he who should stake two claims by virtue of discovery.

Carmack and Charlie immediately set out to file their new discovery with the mounted police at Fortymile, passing the word of their find to all the new arrivals on the creek as they made their way back to the mouth of the Klondike. In a few days, they were back. Inspector Constantine of the Northwest Mounted Police would not grant title to the claims until they were able to produce some gold in evidence that their claim was legitimate. By the time Carmack and Charlie rejoined Jim at their claim a group of about two dozen miners had met on a hill overlooking the small stream and had given it a new name: BONANZA.

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COVER: Dredge working the mouth of the Klondike River.

The Bonanza Basin Company operated a six and a half cubic foot bucket line steam powered dredge at the mouth of the Klondike River 1906-1909. The fate of the dredge is unknown.

Though he lives in Quesnel, B.C., Steve Mills has drawn much of the inspiration for his works from his relaxed saunters around the Yukon.

The underground Gold Series (prints and paintings of gold-bearing sedimentary strata) was based on his wanderings and a desire to do it differently from the way other artists have done it.

Primarily a painter and printmaker, Mills works in a variety of media, including oils, acrylics, watercolours, etchings and woodcuts.

Born in Alert Bay, B.C., Mills' works grace private collections in Canada, Sweden, Israel, Ireland, Australia and the United States.

Our sincere thanks to Steve Mills for the contribution of his art for our cover.

