

UPDATE REPORT

on the

**PLACER MINING CLAIMS,
OTTER CREEK
ATLIN MINING DIVISION
ATLIN, B.C.**

for

**MISTRAL RESOURCES LTD.
302 - 698 Seymour Street
Vancouver, B.C.
V6B 3K4**

by

**W.G. HAINSWORTH, P.ENG.
W.G. HAINSWORTH & ASSOCIATES LTD.
905 - 837 West Hastings Street
Vancouver, B.C.
V6C 1B6**

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INTRODUCTION

At the request of Mr. Bruce Luckman, President and Director of Mistral Resources Ltd., the writer visited the operational Atlin placer property on Otter Creek on October 20th and 21st, 1987. The visit was for the express purpose of viewing operations thereon and reporting in an updated report as requested by the Vancouver Stock Exchange. Mistral Resources Ltd. was, and will be, operating the property as an interim operator until such time as the agreement between Genie and Mistral receives official sanction.

The writer had been associated with this particular property during 1986 when the operation was under the control of Genie Resources Ltd. During that year the property was visited on three occasions: March 28 and 29th, June 27th and August 26th, 1986. The initial visit being for the preparation of a qualifying report while the latter two visits concerned the surveying of the pit face and the relocation of a fence of the 1983 drill holes.

The writer entered into the Genie picture when their consultant of the past three years declined to continue. The qualifying report of April 14, 1986 was primarily based on the past reports of Mr. M.D. Kierans, P.Eng. This report was amended on October 5th, 1986 to meet certain deficiencies as requested by the Superintendent of Brokers office.

Certain sections of the stated report of the writer have been included herein for clarity purposes while additions have been made where warranted.

Final yardage, production and cost figures were made available to the writer by Genie Resources following the end of the 1986 season. These figures form a section of their own. Mistral Resources has similarly supplied the writer with 1987 figures.

LOCATION AND ACCESS

The placer claim group under the guidance of Mistral Resources Ltd. is located 12 miles (20 kilometers) east of the town of Atlin in Northwestern British Columbia.

Atlin, some 115 miles south of Whitehorse in the Yukon Territory, is best reached by paved highway cutting off from the Alaska Highway at Jakes Corner, 62 miles south of Whitehorse.

A new airstrip recently opened east of Atlin is available to light aircraft.

Access within the placer claims is achieved through a series of dirt roads extending southward on both sides of Otter Creek.

See figure 1.

MISTRAL RESOURCES LTD.

ATLIN, B.C.

LOCATION MAP

To Accompany Report
by: W.G.Hainsworth P.Eng.

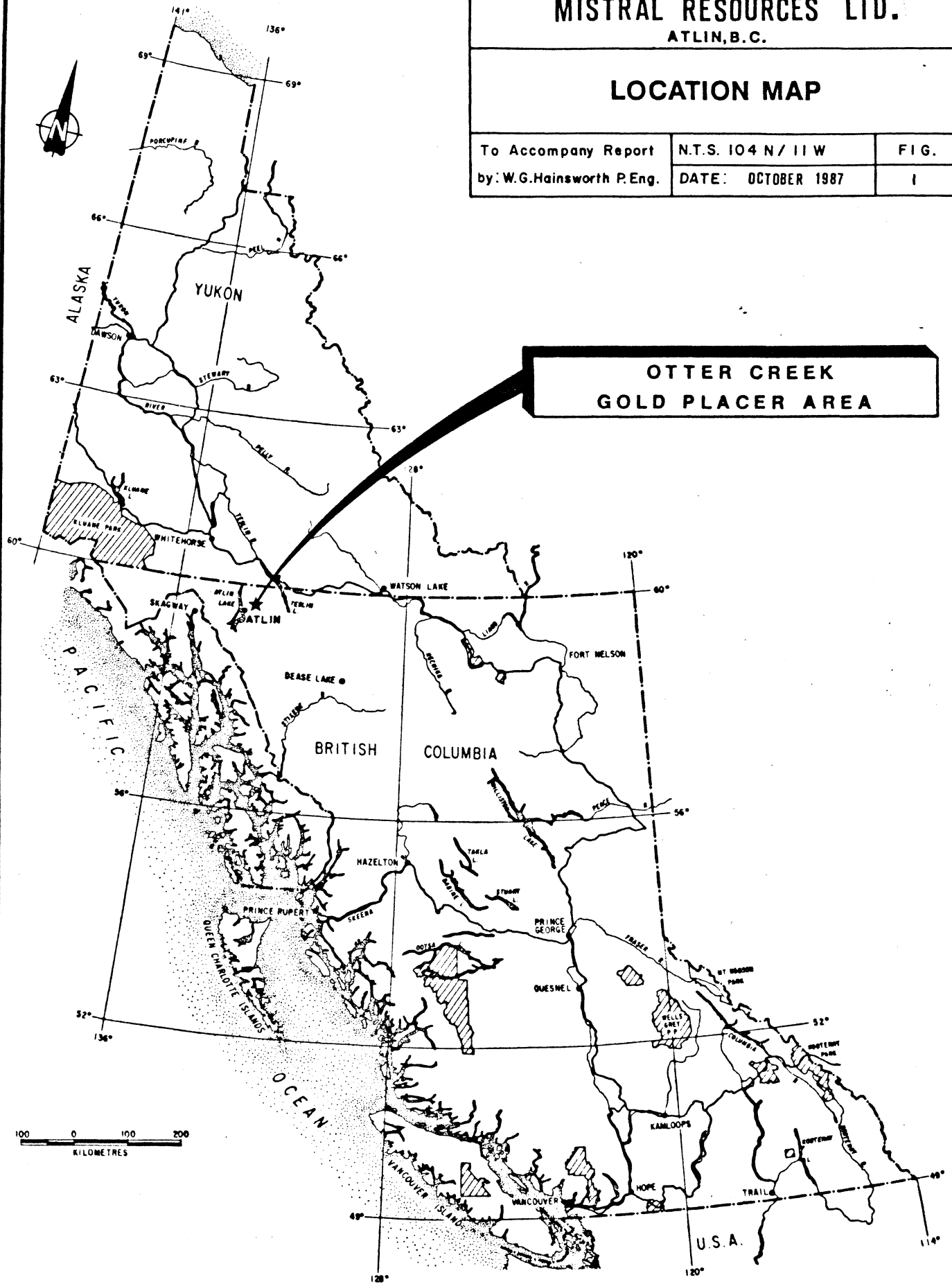
N.T.S. 104 N/11W

FIG.

DATE: OCTOBER 1987

1

**OTTER CREEK
GOLD PLACER AREA**



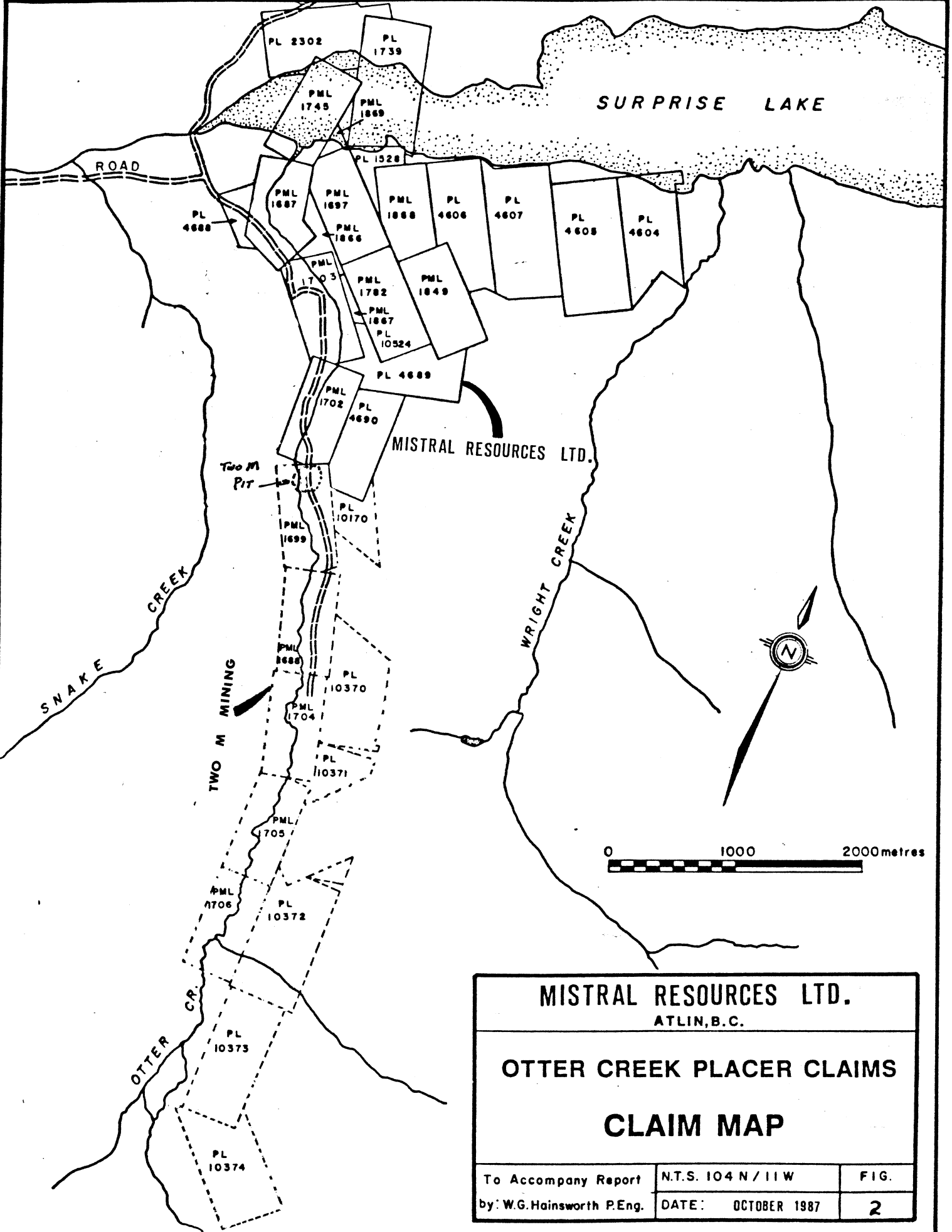
PROPERTY

The 21 claims and fractions constituting the placer group under the direction of Mistral Resources Ltd. are contiguous, extending in a north-south configuration over a distance of 1.2 miles (2 kilometers) from the north shore of Surprise Lake along the lower reaches of Otter Creek.

The claim group is located in the Atlin Mining Division of British Columbia and is centered on latitude 59 deg. 37' north and longitude 133 deg. 23' west. Its N.T.S. location is 104N/11W. See figure 2.

The following claims constitute the group:

<u>Number</u>	<u>Expiry Date</u>
PML 1697	OCT. 12/89
PL 1528	OCT. 12/89
PL 1739	OCT. 12/89
PL 2302	OCT. 12/89
PL 4604	OCT. 28/89
PL 4605	OCT. 28/89
PL 4606	OCT. 28/89
PL 4607	OCT. 28/89
PML 1745	OCT. 12/89
PML 1869	OCT. 12/90
PML 1687	SEPT. 30/90
PL 4688	OCT. 17/90
PML 1866	OCT. 12/90
PML 1868	OCT. 12/90
PML 1849	OCT. 12/90
PML 1867	OCT. 12/90
PML 1702	SEPT. 30/91
PML 1703	SEPT. 30/90
PML 1782	OCT. 12/90
PL 4689	OCT. 17/90
PL 4690	OCT. 17/90



MISTRAL RESOURCES LTD.
 ATLIN, B.C.

OTTER CREEK PLACER CLAIMS

CLAIM MAP

To Accompany Report	N.T.S. 104 N/11W	FIG.
by: W.G.Hainsworth P.Eng.	DATE: OCTOBER 1987	2

HISTORY

The history of Atlin Placer mining is interwoven with the Klondike gold finds. When the great rush of 1898 was in progress into the gold fields of the Klondike, two prospectors discovered gold in Pine Creek several miles east of Atlin. The resulting swell of placer miners led to further discoveries in adjoining creeks. A combination of small size placer claims plus easily worked Quarternary gold gravel soon resulted in an exhaustion of the then known finds. The buried channels of the earlier Tertiary era were not known or considered in those early days.

Otter Creek was subjected to its first mining in 1901 when prospectors panned, rocked, sluiced and hydraulically mined sections midway up the 9 mile length of the creek. A small but continuous hydraulic operation in 1905 is testified by the present Rose Pit outline in PL 1702. In 1908, a French financed operation began hydraulically mining the gravels near the mouth of the creek but this proved financially unsound. A French engineer later concluded that the ancient creek channel was located about a half a mile east along the shoreline with the result that operations spread to this area. Hydraulic operations over a period of 8 seasons resulted in weak values and it is considered that most of their operation was done in the gravels overlying the ancient Tertiary channel. The hydraulic cut was continued up the creek until 1922 at which time underground mining was carried out intermittently for some 6 years.

In 1928 a new French backed company was formed to continue the hydraulic work and in the ensuing years continued the cut up the ancient channel while exposing three gold-bearing gravel horizons. During these operations bedrock was never exposed. A shaft, termed the "Strand" was sunk in the bottom of the cut in 1932 and upon encountering bedrock on the right limit began drifting procedures in values reported to run 0.048 ounces of gold per cubic yard. Two years later an inclined shaft, developed at the face of the cut, encountered the true bedrock trough at bedrock level with values running as high as one half ounce per cubic yard. Further prospecting from the cut disclosed a higher pay horizon lying some 30 feet above the bedrock floor. This was termed the Moran Level. Later investigations resulted in another pay zone called the Suoboda Level which was discovered above the previous levels. Extensive drifting

operations were carried out on these four levels from the cut face. From 1934 to 1938 practically all production resulted from drift mining. Hydraulic mining during part of this period still continued the cut upstream, principally in the overlying non-productive glacial till material.

Downstream efforts both in the cut by hydraulic methods and underground following these productive levels were unsuccessful, probably from the standpoint of a fixed gold price and escalating cost factors, with the result that in 1943 tracks and pumps were pulled and the drifts abandoned.

Prior to 1939 several other shafts had been put down in the higher reaches of Otter Creek. One shaft, known as the Berthard, was sunk to 100 feet without reaching bedrock. Another shaft on the opposite limit of the claim, close to the Berthard shaft, also failed to reach bedrock at its 40 foot depth. In August, 1939 the "Main", or Dorflinger, shaft located 8000 feet upstream from Surprise Lake was put down to a depth of 103 feet before encountering water problems. A vertical drill hole from the shaft bottom is reported to have cut bedrock and values at 24 feet. No locations have been established on these upcreek workings.

Over the 1939 - 1940 winter prospect drilling was initiated with 14 holes being completed on three section lines. In the spring of 1940, a further 9 holes were put down. The prospect drilling was organized to locate the upstream extension of the old Tertiary channel. No logs or co-ordinates are available for these holes.

Work was suspended during the war but resumed with three more drill holes in 1945.

A bedrock profile utilizing an electrical resistivity survey proved of little advantages when undertaken in 1939.

From 1946 until 1976 little work was done on Otter Creek. In 1978 hydraulic activity was again initiated in the old cut.

In early 1983, some 13 placer claims lying south (up stream) of the hydraulic cut were acquired by Genie Resources Ltd. of Vancouver, B.C. The new owners ran a location

survey of the claims and to assist future mining operations, an overburden drilling program. The drill program consisted of 86 vertical holes aggregating 6092.1 feet of overburden material.

Total cost of the two phase drilling program was \$392,564.33. As a result of these programs reserves of placer ore were assigned along the located and presumed sections of the old channel. Approximately 1,500,000 cubic yards of channel pay with approximately 103,000 ounces of fine gold were assigned in reserves of various categories on the property.

After reviewing the results of the Phase I and II exploration programs and drilling 14 holes for a total of 705 feet in the Drain Lease Mine pit, the management of Genie decided to acquire the Drain Lease Mine located downstream and adjacent to Genie's Otter Creek Property. The Drain Lease Mine is a fully operational mine that had been in continuous production since 1978. The cost of the Drain Lease purchase was \$3,250,000. The acquisition included the property, camp, earth moving equipment, gold recovery plant and gold cleaning equipment.

During 1984 the major emphasis of Genie's Otter Creek program was to consolidate the overall mine plan, re-evaluate the previous operations on the Drain Lease and redesign and upgrade pit operations, and strip and prepare ground for the 1984 and 1985 mining operations. In particular, the state of development of the Drain Lease pit resulted in a major time and cash commitment to redesign the pit access, berms and sideslopes to provide greater efficiency with a larger operation. Production from the Drain Lease recommenced about July 15th and ended for the season on October 12th, 1984.

A total of 456,000 cubic yards of overburden was stripped during 1984 leaving sufficient pay gravels exposed for the 1984 mining season and the greater part of the 1985 mining season. Stripping was performed by an earth moving contractor at a cost of \$2.25 per cubic yard.

A total of 150,000 cubic yards of material was mined and sluiced during 1984. Of this, approximately 80,000 cubic yards of material known to be of marginal grade was

sluiced because it had to be removed to cleanup the pit and it was anticipated that the recovery would pay the cost of removal, which it did. Another 30,000 cubic yards of low grade material from above the west side of the channel was mined because the previous operator, who did not have the advantage of drilling information, stripped this area thinking there was a split in the tertiary channel, and it became necessary to move this material to keep the pit properly organized (there was no split at this location). Gold recovery from this area was much less than the average grade assigned to the deposit but because there was no stripping cost incurred by Genie in this area mining and sluicing this material more than paid for the cost of processing. Mining was performed by the same earth moving contractor who performed the stripping at a cost of \$5.00 per cubic yard.

Near the end of the 1984 season the stripping program had exposed the main channel and the mining operation was conducted directly in the tertiary channel. Gold recovery was consistent with the drill indicated grade which provided Genie management with confidence in the results of the 1983 drill program. The majority of gold recovered during 1984 was from this main tertiary channel area.

In total 3290 ounces of gold were produced during 1984. Gold production was less than was projected for the year because of a late start and the necessity to remove large amounts of material from the pit that was not tertiary channel material (waste material that was left in the pit and sloughage from the pit walls).

During 1985 the Drain Lease Mine was not in operation due to delays in negotiating the major financing required to place the property in full large scale production. Work on the property consisted of a stripping program on the upper leases of the property which consisted of removing 350,000 cubic yards of overburden worth approximately \$800,000, a bulk sample test on the upper leases and construction of a groundwater drain. Results from the bulk sample test on the upper leases of the property were very encouraging. The test indicated that gold recovery from a simulated production situation utilizing a recovery plant similar to the new unit proposed by the Company was higher than the drill indicated grade. This information is important for two reasons: (1) it confirms the drill results and indicates that the grade of the tertiary channel is seemingly consistent throughout the entire structure, and (2) a unit similar

to the proposed new recovery plant works very efficiently when processing material from the Otter Creek tertiary channel.

In 1986, Genie Resources Ltd. assembled machinery purchased from several locations. Time was spent in assembling the new plant with the result that mining operations did not proceed until July 15th. Shutdown was effected October 12th, 1986.

During the first quarter of 1987, an agreement was worked out and signed between Genie and Mistral Resources Ltd. whereby the latter would take over the operation of the Otter Creek placer property. In June - July 1987, Mistral purchased a complete new wash plant which was put into full operation on October 16, 1987. However, stripping operations were underway effective May 16, 1987. The operation ceased October 26, 1987 due to weather conditions.

Ratification of the agreement is still pending by the Exchange authorities.

GEOLOGY

From 1896 to 1981 the total recorded production from the Atlin Placer camp is stated as 745,738 crude ounces of gold. In effect this was 19.1% of the total British Columbian placer production. Otter Creek itself is recognized as producing, up to 1945, some 22,135 ounces of gold ranking #6 among the Atlin Placer producers.

The geological record of deposition begins with schists and gneisses of the Yukon group of Pre-Permian times. Following folding and metamorphism, bodies of quartz monzonite intruded the metamorphosed formations. Overlying these altered rocks are sedimentary rocks of the Cache Creek group thought to have been emplaced during the Permian era and folded into the traditional northwest trend. The Atlin ultramafic intrusions are simultaneous or slightly later than the Cache Creek rocks.

Following several marine depositions, the Coast intrusions were emplaced followed closely by the Surprise Lake batholith of Jurassic times.

Locally the favourable bedrock consisting of argillites, quartzites and altered limestone interbeds are referred to as the "Gold Series". These favourable formations underlie the placer claims of Genie Resources Ltd. Peridotites of the Atlin intrusion are apparent within the pit area, with the rim rocks being of highly schistose argillites.

1986 PRODUCTION

The Genie 1986 wash plant was claimed to be a 300 yard per hour operation. The hopper fed through a grizzly into a 20 foot trommel which had an internal spray bar. The discharge end had a large 2" screen for the undersize which fed to four live bottom sluices. In addition to water being fed within the trommel, additional sprays were located at the grizzly and the sluice heads. The oversized was rejected as tailings out the open end of the trommel.

During 1986, Genie managed 231,565 yards of stripping at \$2.25 per yard. Mining which began July 15th and finished October 12th saw some 92,475 yards of pay gravels run through the wash plant. Over the 91 day operation, 33,257 grams (1,069.3 ounces) of gold were recovered. This is a recovered grade of 0.012 ounces gold per cubic yard and is well below the 1984 total of 3,290 ounces of gold. The above throughput averages 1,016 yards per day. On the basis of two 10 hour shifts, this averages about 51 yards per hour, well below the stated design of the plant. However, the number of down days due to maintenance, or other factors, is not known.

In addition to that amount put through the plant, Genie states that the amount of pay dirt stockpiled amounted to 56,975 yards. In total some 149,450 yards of pay dirt (at \$5.00 per yard) were moved.

At a grade of 0.012 ounces gold per loose yard, it appears obvious that Genie was having recovery problems.

1986 EXPENDITURES

The following unaudited operating statement was passed to the writer in November 1986 by Genie Resources Ltd. for its Otter Creek operating company, 307784 B.C.Ltd.

Sales: \$256,151

Mining Costs

Engineering and geology	\$	3,931	
Equipment rentals		11,851	
Equipment repairs		4,885	
Field expenses		6,112	
Fuel		29,623	
Stripping and mining		1,329,240	
Taxes and licenses		906	
Travel		8,286	
Trucking and cartage		709	
Wages		<u>118,829</u>	\$ 1,514,372
Direct Mining Loss			<u>\$(1,258,221)</u>

Administration and General Costs

Insurance	\$	1,585	
Legal		494	
Office management and supplies		14,034	
Telephone		<u>2,486</u>	\$ 18,599
Less interest earned			<u>(11,141)</u>
			\$ 7,458
Operating Loss			<u>\$(1,265,680)</u>

An unaudited balance sheet provided the writer showed a balance due to the operating company (307784 B.C. Ltd.) of \$112,640 by Degussa for treated gold. In effect the company received \$368,790 from sales of its products. This is \$344.89 Cdn per ounce gold. No mention is made of royalties.

The same balance sheet puts a figure of \$293,678 on the mining equipment.

1987 OPERATION

Following the April take-over offer, coupled with Genie's acceptance but awaiting authorization by the Vancouver Stock Exchange, Mistral Resources Ltd., on money advanced by a Genie shareholder, organized for the coming 1987 season. In effect, they were acting as agent for Genie on the Otter Creek claims.

A completely new wash plant capable of 250 yards per hour throughput was ordered from Goldfield Engineering of Utah while surface surveys were undertaken to change the course of water flows.

A drainage ditch was laid out from the pit surface water area to the lake; a new location was established for the purchased wash plant; a new settling pond was set up some 200 feet from the plant with an outlet from here feeding into the previous three settling pond closeby the lake and a stronger water supply line was built. Additionally, Mistral did some 400 to 500 yards of measured sampling including the Genie stockpile which they discarded as being of too low a grade. In the meantime, stripping in advance of the pit face proceeded from May 16th through to August 19th. During this period Mistral conducted what was referred to as "bulk sampling" by putting pit material through the Genie wash plant.

The new wash plant arrived and was assembled by mid August. From that time until October 16th intermittent loads were put through it while working out the "bugs" and readying the operation as mentioned above for full production. The old Genie plant was shut down and winterized at the beginning of October.

The wash plant operation consists of a 2 cubic yard Caterpillar 235 front end loader feeding through a hopper into a grizzly with 8" openings. From the grizzly the material passes into a vibrating scalper unit and is treated by a water bar of 27 jet sprays before being shunted on to the 30 foot central spraying trommel. A 5 foot nugget trap underlies the scalper unit and is said to recover some 50% of the gold present. The trommel at midpoint has two four foot screens of 1/2" punch plates which feed four 16 foot stationary sluices. Lying below the sluices are 4 sets of

recovery jigs which reportedly gather some 35% of the gold. Below the four jigs are an additional four sluices which serve as a quality control unit. Little, if any, gold is recovered from these boxes. The recovery jigs feed through two slurry pumps to a secondary jig then onto a gold table for the fines. At the end of the trommel a 1" punch plate empties into a single sluice box. Between this sluice box and the gold table a 5% recovery is effected.

The wash plant offers 12 opportunities of gold recovery throughout with the quality control units acting as safety valves re tailings losses.

The wash unit is fed by a water line delivering 3,000 gallons per minute from the lake some 1,800 feet away. The 400 horsepower Cummings diesel unit at the lake lifts the load 145 feet to the wash plant.

The scalper unit effectively eliminates the oversize boulders while minor amounts of tailings are ejected from the trommel.

The wash water is carried through a ditch some 200 feet to a new settling pond from where the overflow runs some 1,100 feet through ditching into three previously established settling ponds.

The nugget trap and the sluices are emptied daily, generally at noon while the operational crew is having lunch. The trap material goes through a series of screens varying up to 8 sizes while the sluice fines are fed to a Helix inclined concentrator. The collected gold is airshipped to the Degussa plant in Vancouver for refining.

The Mistral personnel while operating the old Genie wash plant in the early part of the summer discovered that the unit operated most effectively at an 80 yard per hour throughput. They have also modified the header to feed two of the previous four live bottom sluice boxes. The plan for the 1988 season is to operate this unit at its more effective recovery rate when breakdowns occur in the other units.

Mistral mine personnel said that the pit face was in bad condition with a steep wall allowing sloughing out of large boulders. A considerable time was spent in the early

part of the season on ledging the face and rendering it safe. The property has been visited on several occasions by safety engineers from the B.C. Department of Mines who expressed appreciation of the safety considerations being applied and the obvious willingness of management to comply with Department requests.

The pay gravels show the three levels of cobble-pebble till, crudely stratified and separated by coarse sand layers of variable thickness in the face of the pit. The three levels are from top to bottom: Suoboda, Moran and Strand. In addition the Bedrock level carries gold values up to 6 feet in rock depth. In places Mistral has excavated to this depth to recover values. The present face attests to the drift mining of the 1930's era. It would appear that the drifting has proceeded further upstream than was originally surveyed.

Some 100 feet back from the present face close to the left rim is an altered peridotite sill of 60 to 100 feet thickness which has intruded the main channel making for a narrow east channel splitting off and parallelling the main channel. Grades are said to increase within this 30 to 40 foot wide steep sided channel which has been advanced some 140 feet. The bedrock level has been cleaned some 60 feet while the upper lift (12 feet) has been carried an additional 80 feet allowing for a recessed brow. The talc alteration of the intrusive has allowed recession of the sill. The rim rock shows argillites and locally, soap stones.

Approximately a mile below the present workings of Mistral, the Two M Mining Company is working on the Tina Group of claims. These workings several hundred feet below Mistral's south border of PL 1702 are operating in the present water course of Otter Creek. The gravels are similar to those within the Mistral pit but one of the pay levels may be missing. This operation is "reported to have mined in excess of 5,000 ounces of gold in 1987".

1987 PRODUCTION

The 1987 season began on May 16th and ended October 26th, a total of 162 days. During this period of time, 375,120 cubic yards of stripping was completed (72 days), 87,900 yards of pay gravels were put through the two wash plants and 9,800 yards of pay dirt was stockpiled.

The old wash unit which operated from June 12th to early October processed 49,000 cubic yards for a gold production of 643 troy ounces. This was a grade of 0.013 ounces gold per unconsolidated yard. This figure is not unlike the recovery that Genie had from this unit during the 1986 season.

The new wash unit, operating on a restricted basis put 38,900 yards through from October 16th to the 26th. It recovered 1,272 troy ounces for a recovered grade of 0.033 ounces per unconsolidated yard.

In total, 1,915 ounces of gold were recovered from the Otter Creek gravels during the 1987 season.

1987 EXPENDITURES

The following unaudited operating expenses (up to September 30th, 1987) was supplied the writer by Mistral Resources Ltd. concerning the 1987 season operation at the Otter Creek placer property.

Mining Expenses

Stripping and Mining (160,000 yards deferred to 1988)	\$ 945,640
Equipment rental	12,600
Payroll, supplies, etc.	310,652
Taxes	7,576
Consulting	<u>30,992</u>
	\$ 1,307,460

Capital Expenditures

Plant	\$ 250,433
Equipment	275,877
Vehicles	<u>11,454</u>
	\$ 537,764

General Administration \$ 111,652

Total Expenditures \$ 1,956,876

There are no figures available at the time of writing of the 1988 sales. However, it was stated by management that the average price per ounce gold paid by Degussa throughout 1987 was \$460 US per ounce. Of the total gold recovered during 1987, that percentage (27.5%) due to LSH Investments Ltd. has been waived for this year. However, the 10% (191.5 ounces) due the unit holders of Genie will be paid.

1988 OPERATION PROPOSAL

If the regulatory authorities consent to the agreement between Mistral and Genie, Mistral proposes to put the following mining plan into operation.

A new wash plant is to be installed on the premises. The plant, Canadian in manufacture, would utilize a dual trommel each capable of 350 yards per hour but would likely be operated at a combined 500 yards per hour. The ore buggies would feed directly into a 6" or 8" grizzly. The long feeder chute from the grizzly would have a dual gate accessing to either trommel. Spray bars would operate at the entrance to the trommels and at all split points. A long header out of each of the trommels would feed four (per trommel) live bottom sluices. The jigs, as in the present set-up, would be maintained.

A local earth moving contractor has estimated that 1988 stripping and mining could be done at slightly more than half the present cost.

Respectfully submitted,

W.G. Hainsworth, P.Eng.

CERTIFICATE

I, W.G. Hainsworth, P.Eng., of Vancouver, B.C. do hereby certify:

- (1) That I am a Consulting Geologist residing at 836 West 13th Avenue, Vancouver, B.C.
- (2) That I am a graduate of the University of Western Ontario, London, Ontario, Bachelor of Science Degree, Honours Geology.
- (3) That I have practiced my profession for some 35 years.
- (4) That I have been a continuous member of the Association of Professional Engineers of British Columbia since 1965 and am a Professional Geologist registered with the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 1979.
- (5) That I have no financial interest, direct or indirect, in Mistral Resources Ltd., and do not expect to obtain any such interest.
- (6) That the information contained in this report is based on a visit to the Otter Creek property on October 20 and 21, 1987 and perusal of all pertinent information available.
- (7) That consent is herewith given to Mistral Resources Ltd., to use any or all material from this report in information circulars, offerings or shareholders' brochures.

W.G. Hainsworth, P.Eng. (B.C.)
P. Geol. (Alta.)

To accompany:
UPDATE REPORT ON THE
PLACER MINING CLAIMS,
OTTER CREEK,
ATLIN MINING DIVISION,
ATLIN, B.C.

for

MISTRAL RESOURCES LTD.
302 - 698 Seymour Street
Vancouver, B.C.

October 30, 1987