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GCNL #174 10 SEPT 1986

MINER 6 OCT 1986

STANDARD GOLD MINES LTD. (SDA-V)

HOLE	LENGTH	OZ. GOLD/T	GOLD CLAIMS IN QUEBEC, B.C. & YUKON ARE BEING EXPLORED
S84-2	2.8 ft.	0.41	R.W. Hughes, president of Standard Gold Mines Ltd., announces that a \$2,000,000 exploration program has started on its Duvernay gold prospect near Val d'Or, Quebec. This program will be financed by St. Genevieve Explorations Ltd. who may earn 50% working interest in
and	2.4	.52	
and	7.4	.20	
S84-2W1	5.5	.25	the property by spending a total of \$5,000,000 by 28Feb88. Construction of a head frame and hoist along with service buildings and compressor is under way. The existing 1100-foot shaft is being dewatered. Extensive exploration will be carried out in 1986-7 with the aim of reaching a positive feasibility and production decision in 1987.
S84-2W2	1.8	.40	
S84-3	5.0	.26	To date, the Duvernay property has inferred reserves of 500,000 tons grading 0.18 oz. gold per ton to a depth of 800 feet. Deep drilling to a depth of 2,000 feet indicates major additional tonnage and vein structures, see table above. Shuksan 104N/11W, 12E (104N) 098
and	1.1	.77	
S84-4	4.6	.19	At Atlin, B.C., work is continuing on the Surprise Lake Syndicate's ground by Placer Development Corp. Standard Gold, through its 50% interest in the Syndicate, has a major land position in this new gold camp. Part of Standard's ground lies adjacent to Homestake's recent gold discovery.
and	2.1	.38	
S84-6	2.7	.31	Near Dawson City in the Yukon Territory, a program that will include trenching and drilling is now underway on Standard's Dawson gold prospect.

Placer to drill on B.C. prospect

Placer Development says it has completed a geophysical program on the 20-unit claim near Atlin, B.C., optioned from Claymore Resources and E. Z. Ventures.

Under the option terms, Placer can earn a 66.6% interest in the property through expenditures of \$510,000 before Dec. 31, 1990.

Shuksan
Karen
104N/11W, 12E
(104N) 098

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Near Dawson City in the Yukon Territory, a program that will include trenching and drilling is now underway on Standard's Dawson gold prospect.

In addition to the \$2,000,000 arranged for the 1986 program in Val d'Or, Quebec, Standard has raised \$300,000 from a recent public financing and \$200,000 through a flow-through share agreement with N.I.M. Partnership and Company, Limited.

GCNL #190 2 OCT 1986

CLAYMORE RESOURCES LTD. (CVA-V) E.Z. VENTURES LTD. (EZV-V)
PLACER DEVELOPMENT LTD. (PDL-V, T) Shuksan Karen
DRILL TEST STARTS SOON - E.Z. Ventures Ltd. director
ON GOOD PLACER AT ATLIN Anthony Rich, P. Geol. has
completion of a geophysical exploration program on the
20-unit claim optioned from Claymore Resources Ltd. and
E.Z. Ventures (formerly Gator Resources Corporation).
This claim lies in the Spruce Creek valley, upstream of
most of the highly productive gold placers at Atlin, B.C.
Geophysical targets discovered by Placer on the claims
will be drilled in the next few weeks.
Placer may earn a 66.6% interest in the property by
spending \$510,000 on exploration by Dec. 31, 1990, and
making annual option payments totalling \$155,000.
Claymore may retain a 23.4% and E.Z. a 10% working
interest or revert to 10.5% and 4.5% net proceeds
interest.

GCNL #115

14 JUNE 1984

SHUKSAN, KAREN,
JWA, SURPRISE (104N) 076, 098
104N/11W, 12E

STANDARD GOLD MINES LTD. (SDA-V)

NEW GOLD ZONE FOUND - Recent geologic mapping on the property of Standard Gold Mines Ltd. in the Atlin gold camp of NW ON ATLIN PROPERTY B.C. has indicated a new gold bearing zone about 5 miles NE of last year's discovery. It appears to exist in the same geologic setting. That zone, exposed by trenching, returned several very high assays, 7 over 1 ounce gold per ton, 1 of 5.334 oz. gold/t and 1 of 9.635 oz. gold/t.

A 10-person field crew is now mapping the geology between the 2 zones and follow-up ground geophysics to tie in a recently completed airborne geophysical survey have been initiated. Contracts have been awarded for trenching and drilling to test the structures both at surface and at depth.

A recent public offering of 500,000 shares netted Standard Gold \$740,000. Should all warrants issued in this financing be exercised, Standard could receive an additional \$1,260,000. Standard shares remain in primary distribution, pending completion of a secondary offering.

PLACER DEVELOPMENT LTD., PDL-V,T,M

G.C.N.L # 79 April 24/86.

3 MONTHS ENDED 31 MARCH

	1986	1985
Revenue	\$15,862,000	\$9,747,000
Earnings (Loss) Available to Common Shares	171,000	(165,000)
Per Common Share	1¢	5¢

A.J. Petrina, president of Equity Silver Mines Limited, attributes the improved first quarter results to forward sales, firmer gold prices and greater precious metal sales. Also, financing measures virtually eliminated interest expense.

These factors more than offset the effect of weaker silver prices.

Construction of increased milling capacity is within the \$12,100,000 budget, financed from operating cash flow. The new facilities are expected to begin operating before the scheduled completion date of July 1986. He said the higher throughput of 8,500 tons per day will maintain annual metal production, increase and accelerate cash flow, and allow main zone ore to be treated more economically than originally projected.

Shuksan 104N098

G.C.N.L #135 15 JULY 1986

STANDARD GOLD MINES LTD. (SDA-V,MO.)

- + ATLIN GOLD CAMP, B.C. GENERATES FIRST IMPORTANT DISCOVERY RESULTS FOR 1986
- + FOUR MAJOR EXPLORATION TARGETS TO BE TESTED IN 1986

Exploration in 1986 by Standard Gold Mines Ltd. has been budgetted at \$700,000 to cover four major property programs and several smaller projects. The funds are from: a current underwriting by Canarim Investment Corp.Ltd., McDermid St. Lawrence Limited and Haywood Securities Inc. of 600,000 units at 62¢ each to provide \$372,000; a further \$200,000 from sale of flow-through shares to NIM; and \$168,000 from a private placement sold in December 1985. The underwriting is effective 11 July 86 with each unit consisting of one share and one share purchase warrant. Each two warrants can be exercised to buy one further share within six months. Prior to the underwriting, the company had 4,760,936 shares issued and working capital at 31 Mar 86 of \$38,000.

The major programs are: SHUKSAN 104N112
 1-Surprise Lake Exploration Limited Partnership, (104N 098)
 Standard Gold Mines Ltd. holds a 42.5% interest in the Surprise Lake Exploration Limited Partnership which owns 528 claims located along Pine Creek and Birch Creek in the Atlin B.C. gold camp. Since the properties were acquired in 1982 the companies have spent a total of \$621,000 seeking the source of the placer gold produced in the area (12,898 ounces from Birch Cr. and 138,144 ounces from Pine Cr.) just west and up stream of the claims held by the company. Following the discovery by Standard and partners of important gold showings in 1983 and further extensive exploration, the Shuksan and related groups of 177 claims, which are 33% of the total, were optioned to Placer Development in 1985. Placer is to pay \$150,000 and spend at least \$900,000 over four years to earn a 66.6% interest in the claims. In 1985 Placer spent \$50,000. Following these expenditures, the Surprise Lake Exploration Partnership can either maintain a 33.3% working interest (Standard 14.16%) or revert to a 15% carried net profits interest. Work to date has included airborne geophysics, geological mapping, soil sampling, VLF-electromagnetic, magnetometer and induced polarization surveys, seismic refraction, backhoe trenching, chip sampling and diamond drilling.

The area is geologically similar to that in the Motherlode gold belt of California. R.W.Hughes, president of the company, pointed out that the company staked in the Atlin Camp to seek the sources of the placer gold and because the geology at Atlin is similar to that in the Motherlode gold fields of California. Company geologists feel there is an excellent potential for the discovery of a large tonnage stratabound deposit on the property. The exploration target is gold in shear zones of carbonatized quartz veins along the edge

of a host of ultramafic rock formations which are magnetic highs. The shear zones are magnetic lows and readily traceable with magnetometer surveys in combination with VLF-EM work.

The 1983 discovery was made by trenching in an area of soil sample gold highs. The trench yielded a sampling assaying 9.6 oz./gold in narrow veinlets. Follow-up work found additional similar narrow veins but nothing of commercial size. Five miles north east of the 1983 discovery, in what appears to be the same geologic setting and along the same magnetometer low, trenches in the Lakeview zone owned by Cream Silver Mines Ltd. yielded: 7 samples over 1 oz.gold/t including 1 of 5.334 oz.gold/t and 1 of 9.635 oz./gold/t.

Adjoining to the southwest of the Standard property along Pine Creek, Homestake Mining Co., the largest gold producer in the U.S.A., announced in mid-July 1986 an important discovery including drill hole assays of: 10 ft. grading 0.523 oz.gold/t; 9.5 ft. grading 0.227 and 11 ft. grading 0.313 oz.gold/t. (SEE PROPERTY LOCATION MAP OVERLEAF PAGE ONE, NO.133, July 11,1986) The importance of this discovery by Homestake is that it is situated along the edge of an ultramafic intrusion which continues for some two miles on the Standard property and passes through an area where gold values have been found on the Standard claims. The magnetometer low which covers the Homestake discovery continues over the same five miles of favourable structure on the Standard ground and will be drilled in the next few weeks by Standard. The discovery and the target areas on the Standard ground are just north of the claims being explored by Placer Development on similar but different geological structures.

2.-Duvernoy Township property, Abitibi East county, 15 miles north of Amos, Quebec. Standard Gold owns 100% interest in 14 claims subject to a 3% net smelter return royalty or 10% net profits interest. To a depth of 800 feet the inferred reserves are 500,000 tons grading 0.18 oz.gold/t, including probable 53,960 tons grading 0.2 oz.gold/t and possible 26,400 tons grading 0.13 oz.gold/t.

1984 DEEP DRILLING ON THE Duvernoy property results:

Hole No.	Length	OZ.GOLD/T	Hole No.	Length	OZ.GOLD/T
S84-2	2.8 ft.	0.41	S84-3	5.0	.26
S84-2	2.4	.52	S83-3	1.1	.77
S84-2	7.4	.20	S84-4	4.6	.19
S84-2W1	5.5	.25	S84-4	2.1	.38
S84-2W2	1.8	.40	S84-6	2.7	.31

Six deep holes and 2 wedge holes for a total of 14,945 feet were drilled. The holes confirmed the depth extensions of the known veins to 2,000 feet below surface and uncovered new veins. This indicated a much larger tonnage potential.(SEE LOCATION MAP OVERLEAF)

YELLOW JACKET
 104N112E (104N 043)

In January 1986, an option to earn a 49.9% participating interest in the property was granted to Ste.Genevieve Resources Ltd. exercisable by spending \$5,000,000 by Feb.28,1988 of which \$2,000,000 must be spent within the first year. A major program has been planned for the current season with first results expected in the next few weeks. Ste.Genevieve Resources has scheduled the closing to a flow through financing for this program for July 15,1986.

3-Vior claims, Vanier-Celoron Township, Quebec, 50% interest

Standard Gold holds an option to earn a 50% interest in the 83 claim, 20,750-acre property crossed by forestry roads and located 40 miles north of Amos, Quebec, by paying a total of \$45,500 over several years and subject to a 1% to 1.5% net smelter return royalty. The joint venture partner is Gallant Gold Mines Ltd.

A program of line cutting, magnetometer and electromagnetic surveys has been recommended along with geological mapping and reverse circulation and diamond drilling. The work is to test the underlying rock formations which are believed to be similar to those at the very significant three zone gold discovery at the Societe d'Exploration Miniere Vior Inc. property made in 1984 which is located 8 miles southeast of the company claims.

4-Enjalran township, 57 claims, 56 miles north of La Sarre, Casa Berardi gold belt, Quebec.

Standard Gold acquired this property for \$10,000 plus 50,000 shares and a 1% net smelter return royalty. It is considered to cover an equivalent volcanic sequence to that which hosts the Golden Knight-Inco major Golden Pond discovery which is located 13 miles to the south east of the Enjalran claims. There is a zone of magnetometer input survey anomalies over a length of 2.3 miles on the claims block. This anomalous trend is considered favourable for volcanogenic gold mineralization. The three drill holes which have tested a limited portion of this trend indicate zoning of pyrite mineralization along the strike anomalies. Further testing of these targets has been recommended.

5-Dawson Claims, 38 located near the junction of the Bonanza and Klondike River, 5 miles southeast of Dawson City, Yukon. The option to buy a 100% interest was acquired in 1984 and calls for payments to a total of \$80,000 over several years, plus 20% net profits or 2% net smelter royalty on production. The claims are adjacent to some of the richest placer gold gravels in the Klondike and have never been subjected to modern sophisticated exploration of the sources of that gold. The Klondike is estimated to have yielded in excess of 10,000,000 ounces of gold in its short boom life. Since the area is unglaciated, the sources are expected to be close by. A program including aerial photogrametric interpretation, geologic mapping, prospecting, geophysical and geochemical surveys, trenching and diamond drilling has been recommended.

GCNL #144 26 JULY 1984

STANDARD GOLD MINES LTD. (SDA-V)

104N/11W, 12E 104N 076,098

DRILL TEST OF ATLIN AREA - Diamond drilling was started on 22 July 84 on Standard Gold Mines Ltd.'s Shuksan mineral GOLD PROSPECT HAS STARTED claims in the Atlin, B.C. area. F.A. Lang, director, says the first hole, No. 84-1 is collared at -45 degrees East on the 1983 discovery and is presently at a depth of 160 feet. It has encountered an intensely altered zone in which 5 veins have been intersected with apparent widths varying from 2 to 8 inches, locally mineralized with pyrite, galena and the occasional speck of free gold. The projected depth of hole 84-1 is 200 feet but may be extended if warranted. Initial assay results are expected in about 10 days. A second hole, 84-2, at -65 degrees East is planned for the same location. A backhoe trenching program is underway on a second zone recently reported some 5 miles NE of the discovery zone.

NMINER

9 AUG 1984

104N/11W, 12E 104N 076,098

Standard Gold drilling in B.C.'s Atlin area

Diamond drilling has commenced at the Shuksan gold-base metals property of Standard Gold Mines in the Atlin district of British Columbia.

The first hole, No. 84-1, is collared at -45° east on the 1983 discovery. It has encountered an intensely altered zone in which five veins have been intersected with apparent widths varying from 2-8 ins., locally mineralized with pyrite, galena and the occasional speck of free gold.

The projected depth of hole No.

84-1 is 200 feet but may be extended if warranted. Initial assay results are expected in approximately 10 days. A second hole, No. 84-2, at -65° east is planned for the same location.

A backhoe trenching program is currently under way on a second zone recently reported, approximately five miles northeast of the discovery zone.

Exploration results from Standard's Shuksan property one 1983 highlight

NAGMIN JULY 6 1984

VANCOUVER, British Columbia
 —The exploration program on the Shuksan (Surprise Lake) property near Atlin, British Columbia, stands out as a significant highlight for Standard Gold Mines Ltd. in 1983, an otherwise difficult year for natural resource companies, President

Richard W. Hughes reported. Another highlight was the listing of the company's shares on the Montreal Stock Exchange, a move that will increase Standard's exposure to residents of eastern Canada and broaden its investor base.

The trenching and sampling program on the Shuksan discovered gold-bearing quartz stockwork of 12 veins, ranging from two inches to three feet wide that assayed between 0.006 to 9.3 ounces of gold per ton. These results indicated the presence of an important new gold discovery by Standard and sparked a staking rush in the area, Mr. Hughes stated in the company's annual report.

A Digham airborne geophysical program is presently being carried out on the Shuksan property in order to trace the favorable geological horizon in areas of extensive

overburden. Following this, geological mapping, ground geophysics, trenching, and diamond drilling will be performed to further explore the prospect.

In his report to shareholders, Mr. Hughes said that in an attempt to build an income base, the company has diversified into the oil and gas field. Standard is working with other Hughes-Lang companies and Tiburon Petroleum Corp. of Midland, Texas, to identify low-risk development wells which offer a short pay-back period and a long productive life. This year, the Tiburon 1984 Development Drilling Joint Venture will drill and complete up to 100 Spraberry Trend Development wells in 10 well units in the Permian Basin of west Texas. Oil and gas activities are being conducted by Standard's U.S. sub-

Continued on page two

INT. PROS. + DEV. DEC 1985

104N098

104N/11

Standard Gold Mines VSE-SDA

Standard, one of the Hughes-Lang Group Companies, has announced that the Surprise Lake Exploration Limited Partnership, in which Standard holds a 42.5% interest, has entered into an agreement with Placer Development to explore its Shuksan Group property near Atlin, B.C. Placer has the option to earn a 66 2/3% interest in this gold prospect by completing \$900,000 of exploration work within a maximum of five years and making payments to Surprise Lake totalling \$150,000. Surprise may maintain a one third joint venture by making pro-rata contributions or to hold without cost a 15% carried interest.

Exploration results from Standard's Shuksan property one 1983 highlight

(104N/110W, 14E)
 (104N) 076,098

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The Hughes-Lang companies that are involved in the venture may together earn a 7.75 net revenue interest (10.335 percent working interest) before payout, converting

to a 14.8 percent net revenue interest (24.667 percent working interest) after payout. Standard's interest in the Hughes-Lang group's interest is eight percent. This may vary as drilling progresses and additional funds are required.

Completion costs, estimated at \$50 million for 100 wells, will be paid by a group of Houston and Dallas equipment and drilling contractors, while lease acquisition and project generation costs, estimated at \$5 million, will be paid by Tiburon, operator and manager of the venture, and its joint venture partners.

Negotiations are underway for the completion of a limited partnership unit offering by a number of Quebec underwriters, with a view to realizing approximately C\$3 million for the continued development of the Duvernay gold property near Amos, Quebec. This work program will involve rehabilitation of the old workings and approximately 18,000 feet of diamond drilling toward increasing reserves.

Last year Standard drilled eight holes, including an inclined hole for 2,586 feet, and wedged an offset hole for 1,386 feet. These holes were designed to test the depth extension of veins developed at higher elevations. As a result, it was shown that the gold mineralization extends to a minimum depth of 2,000 feet.

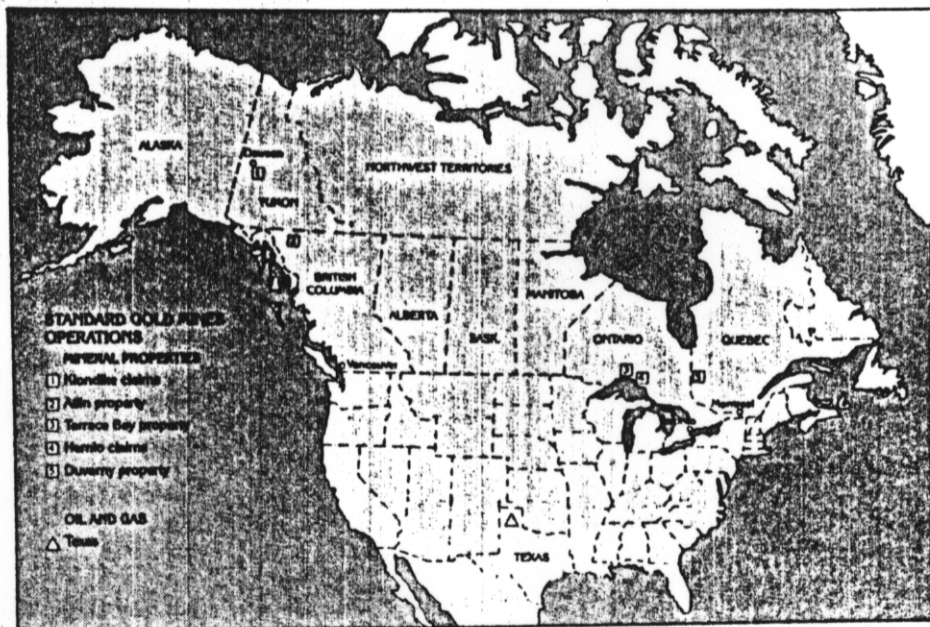
An agreement was reached in September 1981 with Esso Minerals Canada for further exploration and development of the Duvernay

property, and C\$1.76 million of exploration costs were incurred by Esso over the next 12 months. Esso will retain a 15 percent net production proceeds interest in the property until its costs are recovered, at which time its interest will revert to two percent net production proceeds.

Standard's two east Hemlo properties, totalling 42 claims adjacent to the Long Lac Minerals property, are targeted for work this year by joint venture partner Noranda Exploration Co. Ltd. This exploration program will consist of surface exploration including geochemical, induced polarization, and geological surveys, and will earn Noranda a 60 percent interest in the claims. At the end of this program, Standard has the right to participate to 40 percent of further exploration costs or retain a 20 percent carried interest without further cost.

Standard will also participate with other Hughes-Lang companies this year in a regional exploration program in the historic Klondike Gold Camp, where the company has optioned a block comprising 33 mineral claims. This area is similar to the Atlin area, as very little regional exploration for lode gold deposits has been undertaken in an area very rich in placer gold. More than 10 million ounces of gold were recovered from Klondike placers.

Last year also saw an initial exploration program on the company's Terrace Bay property, approximately 25 miles west of Hemlo. *



Standard Gold Mines Ltd. is a wide-spread junior resource company with exploration targets in many different parts of North America. The Shuksan property, near Atlin, British Columbia, was the site of a significant discovery last year, and in 1984 Standard will conduct an airborne geophysics program and more at this location. Samples have ranged from 0.006 to 9.3 ounces of gold per ton.

NAGMIN JULY 16/84

Standard Gold Mines

Continued from page one

subsidiary, Standard Minerals Inc.

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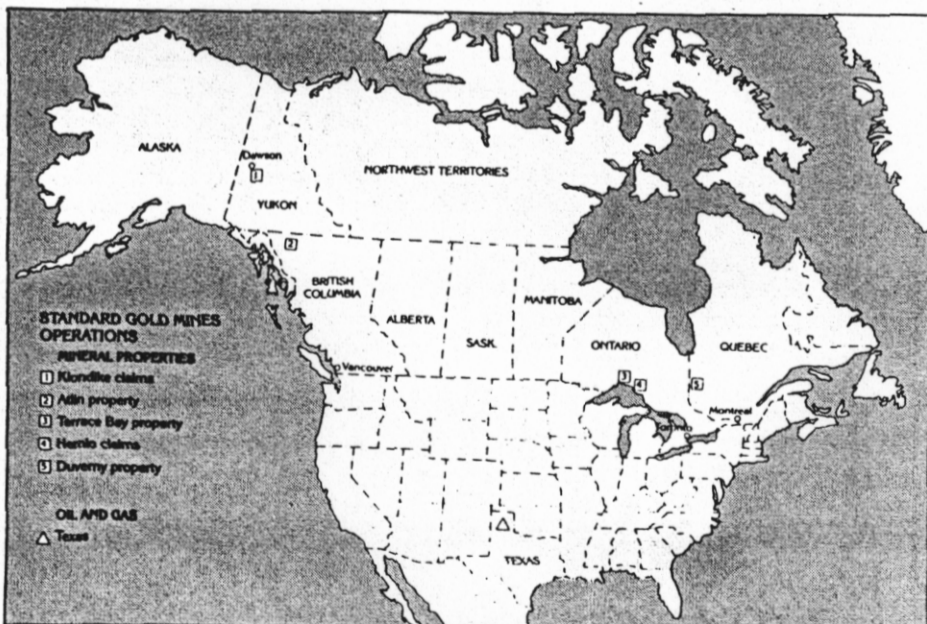
gold mineralization extends to a minimum depth of 2,000 feet.

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1.2 PHYSIOGRAPHY, VEGETATION AND CLIMATE

The Atlin area is located just east of the Coast Mountains on the Teslin Plateau. The town of Atlin lies on the east shore of Atlin Lake, the largest natural lake in British Columbia, at an elevation of 2,200 feet. The topography is moderately rugged with slopes of up to 30° rising from the Pine Creek valley floor at an elevation of 3,000 feet to mountains well over 6,000 feet. The immediate area of the property consists of short steep hills and wide, U-shaped valleys striking northeast and northwest. Glaciers occupied the Spruce Creek valley in Pleistocene time and deposited up to 300 feet of glaciofluvial till during their retreat. Meltwater channels are prominent on Spruce Creek just above its confluence with Dominimon Creek and near its confluence with Little Spruce Creek. Till cover is thin or non-existent above the valley floor, giving way to felsenmeer and outcrop at higher elevations.

The tree line is at approximately 4,500 feet on north facing slopes and 5,000 feet on south-facing slopes. Below 4,500 feet, the valleys are forested with lodgepole pine, black spruce, aspen and dwarf birch. Mountain alder and willow grow near streams with stunted buckbrush covering the hills above tree line.

Atlin enjoys a pleasant summer climate with temperatures averaging 20°C and little precipitation. Winter temperatures average -15°C in January with moderate snowfall. Total annual precipitation has been measured at 279.4 millimetres of moisture. "Winter" conditions can be expected from October to April.

1.4 HISTORY

Gold was first discovered in the Atlin area in 1897 by a man named Miller while en route to Dawson. The first workings were on Pine Creek and by the end of 1898, more than 3,000 people were camped in the Atlin area. Only eight creeks - Spruce, Pine, Birch, Boulder, Ruby, Otter, Wright and McKee - have been important producers in the Atlin camp. Gold production from these creeks in the period 1898 to 1946 is listed in Table 2. By far the most important producer was Spruce Creek with a reported total of well over 260,000 ounces of placer gold (1946). Almost all the gold was recovered from a Tertiary channel which appeared as a claybound orange-red gravel about three metres thick overlying bedrock. The channel was worked more or less progressively upstream from west to east for a distance of five and a half kilometres. The eastern limit of the worked channel is located at the old Noland Mine at the confluence of Spruce and Dominion Creeks. By 1957, the workings had been advanced underground a further 1,266 metres upstream. Gravels worked underground are reported to have averaged 0.65 ounces of gold to the cubic yard.

TABLE 2 (from Holland, 1950)

Gold Recovery from Productive Creeks in the Atlin Area, 1898-1946.

<u>Stream Name</u>	<u>Ounces of Gold Produced</u>
Spruce Creek	262,603
Pine Creek	138,144
Boulder Creek	67,811
Ruby Creek	55,272
McKee Creek	46,953
Otter Creek	20,113
Wright Creek	14,729
Birch Creek	12,898
All Others (21 creeks)	15,624

Gold-bearing quartz veins were first discovered in the Atlin area in 1899 and by 1905 most of the known showings had been discovered. Although the original showings have been repeatedly worked and re-examined there is no record of regional exploration for lode mineralization since 1905. Recently, Yukon Revenue Mines Ltd. acquired and re-examined the old Lakeview property. Work done in 1981 by Yukon Revenue showed low-grade gold values over an extensive but delicate stockwork of carbonatized and silicified andesite adjacent to a serpentinite intrusive.

The discovery by Yukon Revenue Mines Ltd. and the similarity of geology in the vicinity of major placer gold producing streams prompted the Surprise Lake Syndicate to stake the Shuksan property.

2. GEOLOGY

2.1 REGIONAL GEOLOGY

Geologic mapping of this area was undertaken in 1951-55 by J. D. Aitken and in 1975 by J. W. H. Monger of the Geological Survey of Canada. Aitken's work is compiled as map 1082A (Fig.3).

The Atlin region is located in a eugeosynclinal area composed of three distinct northwest striking tectonic belts; the St. Elias and Insular Belt, Coast and Cascades Belt and Intermontane Belt. The rocks of the area belong to the Atlin Terrane, which represents an independent tectonic entity of the oceanic sequence of the Intermontane Belt in the Canadian Cordillera. The Atlin Terrane consists of radiolarian cherts, pelites, carbonates, volcanics and ultramafics of the Paleozoic. These rocks are intruded by Mesozoic granite, alaskite and quartz monzonite. The youngest rocks of the Atlin Terrane are composed of Tertiary and Quaternary volcanics. Till deposited by receding Pleistocene glaciers extensively covers the valleys.

Structurally, the Atlin Terrane is characterized by northwest striking overthrusts, underthrusts and apparent right strike-slip faults. Fold axes generally strike northwest or trend southwest.

2.2 PROPERTY GEOLOGY

Outcrop exposure accounts for 30% of the surface area on the property. Felsenmeer is present in areas of no outcrop and is assumed to be close to outcrop. Till covers the valleys below 4,300 feet elevation.

Reconnaissance mapping of the Julia 4 claim agrees closely with the GSC mapping. The Shuksan property is underlain by Cache Creek Group metasediments and volcanics intruded by Pennsylvanian and Permian talcose ultramafics (Fig.4).

The Cache Creek Group rocks are of Pennsylvanian and Permian age and consist of limestone, chert and andesite. The andesite is typically drab grey-green in colour, siliceous, sometimes weakly carbonatized and contains up to 1% primary pyrite. The carbonatized ultramafic and carbonatized andesite are often difficult to distinguish apart because of their indistinct contact. The fetid limestone is ash grey in colour and contains fossil fragments believed to be crinoids. The dark grey to black coloured chert is a useful marker bed. Bedded chert is noted in only one location on the property. Cherty argillite also occurs in the chert horizon but is not mappable.

The Pennsylvanian and Permian ultramafics are part of the Atlin Intrusions and consist of serpentinite, carbonatized serpentinite and gabbroic dykes. Serpentinite is by far the most common ultramafic present. Usually it is dark green to dull waxy green in colour, slightly talcose, weathered and carbonatized and quartz veined near its contact with the chert. The quartz veins occasionally contain minor disseminated pyrite and mariposite. The carbonatized serpentinite is characterized by rusty orange-brown weathering and occurs as a recessive unit. It is rarely seen in outcrop although areas where numerous frost heaved carbonatized serpentinite chips are found are believed to be close to outcrop. The gabbroic dykes occur on Spruce Creek in the vicinity of the Noland Mine. The dykes are composed of medium grained pyroxene in a plagioclase groundmass.

Stratigraphically, from top to bottom, the units are as follows: andesite, carbonatized andesite, chert, carbonatized serpentinite, serpentinite and limestone. Locally pods of limestone are seen to lie stratigraphically above the serpentinite and below the chert. This incongruity is explained by the rafting up of limestone pods by the serpentinite as it intruded upwards through the limestone. In terms of age, the serpentinites are youngest. The true thickness of each unit is uncertain. The lower contact of the limestone is not mapped, making a determination of its thickness impossible. The chert horizon is believed to be thin; certainly not more than a metre thick. Due to erosion, the thickness of the andesite is indeterminable although it is believed to exist only as a thin capping.

The intrusive nature of the serpentinite suggests that sills and dykes of it pinch and swell in thickness. The gabbroic dykes extend into the andesite and measure up to five metres in width.

No faults were mapped on the property although hidden major faults may occur parallel to or underlie Spruce, Dominion and Rant Creeks. Folds as indicated by the mapped chert horizon are of the open type. Fold axial traces, southwest of Spruce Mountain, plunge to the northeast and southwest towards the Noland Mine. Two phases of folding are evident on the Shuksan 2 mineral claim. The primary antiform trends southwest and the secondary very low amplitude synform trends north-northwest (Figure 5).

2.3 ECONOMIC GEOLOGY

The Atlin area has enjoyed a history of productive placer mining and to a lesser extent, lode gold mining. Of special interest is the Noland Mine located at the confluence of Spruce and Dominion Creeks on the Karen 6 mineral claim and the Surprise lode showing on the Surprise 1 claim.

The Noland Mine was an underground operation worked until 1957 when static gold prices (\$35 Cdn per ounce) made further underground mining unattractive. During the period 1950 to 1957, a reported total of 41,000 ounces were produced from the underground workings. Many ounces of gold still remain and there are current plans to re-open the mine. Gravels mined from the gold-bearing Tertiary channel gave values as high as \$133 per cubic yard (gold valued at \$31 Cdn per ounce) although average values were 1/7 this amount. The gold occurs as coarse grains and nuggets, as is common in the Atlin area. Peculiarly, the highest grade gravel is in a short 300 feet stretch of the Tertiary channel where 200 feet of apparent left-lateral offset occurs (See Figures 6 and 7). Coincidentally, this high grade stretch of gravel is along strike of the gabbroic dykes mapped along Spruce Creek. The present-day Spruce Creek channel also shows this offset near the gabbroic dyke.

This suggests the possibility that the dyke acted as a mineralized solution guide and is related to gold mineralization.

The Surprise showing is located on the northeast shoulder of Spruce Mtn. at an elevation of approximately 4500 feet. The showing consists of a quartz vein emplaced in andesite measuring up to six metres in width and striking 170/70 W. Exploration with an adit prior to 1925 uncovered minor amounts of argentiferous galena, pyrite, chalcopyrite and siderite. Resampling of this showing in 1982 returned values of 0.042 ounces of gold per ton and 1.20 ounces of silver per ton. A series of 1980 bulldozer trenches located south of the Surprise showing exposes a carbonatized serpentinite stockwork containing pyrite and pervasive mariposite. Chip samples collected from the trenches assay as high as 0.018 ounces of gold per ton. The geology in the trenches appears very favourable. The presence of mariposite in the carbonatized serpentinite stockwork lends credence to the hypothesis that gold mineralization occurs at this stratigraphic level.

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