# Report on Activities for the STAN 1,2,3 and 4 Claims, Bighorn Creek Project, Atlin Mining District, British Columbia, CANADA. NTS 109M/9

RECE

APR 2 8 2005 Gold Commissioner's Office VANCOUVER, B.C.

Approximate Property Location: Latitude: 59° 32' N Longitude: 134° 26' W Approximately 45 km west of Atlin, British Columbia (NTS 104M/9) Atlin Mining District M104M058 🔊 Bighorn Creek Area, British Columbia

> Completed By: APEX Geoscience Ltd. Suite 200, 9797-45 Avenue Edmonton, Alberta, Canada T6E 5V8

> > Completed For:

J.P. Armstrong

&

Micrex Development Corp. **156 Laurier Drive** Edmonton, AB T5R 5P9

April 28, 2005 Edmonton, Alberta, Canada John P. Armstrong Ph.D.

# Report on Activities for the STAN 1,2,3 and 4 Claims, Bighorn Creek Project, Atlin Mining District, British Columbia, CANADA. NTS 109M/9

ł

# TABLE OF CONTENTS

	PAGE
SUMMARY	1
PROPERTY DESCRIPTION AND LOCATION	2
ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY	5
HISTORY	6
GEOLOGICAL SETTING	9
DEPOSIT TYPES	11
MINERALIZATION	11
2004 EXPLORATION	
INTERPRETATION AND CONCLUSIONS	
RECOMMENDATIONS	
STATEMENT OF COSTS	
REFERENCES	
CERTIFICATE OF AUTHOR	
TABLE TABLE	PAGE
1 LEGAL CLAIM DESCRIPTION	5
FIGURE	PAGE
1 PROPERTY LOCATION	

CLAIM LOCATION ......at back

2

	, ,	
4	REGIONAL BEDROCK GEOLOGY	
5	SAMPLE LOCATIONS	13

# APPENDICES

<u>APPE</u>	NDIX	<u>PAGE</u>
1	2004 EXPLORATION EXPENDITURES	AT END
2	2004 SAMPLE LOCATIONS	AT END

# Report on Activities for the STAN 1,2,3 and 4 Claims, Bighorn Creek Project, Atlin Mining District, British Columbia. NTS 109M/9

ŧ.

### **SUMMARY**

The Bighorn Creek project is located approximately 45 kilometres west of the town of Atlin, in northwest British Columbia, Canada. This area has been the focus of base and precious metal exploration since the turn of the century. The STAN 1,2 3 and 4 claims are contiguous with the Pit, Stan, Sheron, and Glen claims. STAN 1-4 ownership is in the name of John Armstrong in trust for Micrex Development Corporation of Edmonton Alberta, and is the latest of many claims to cover the auriferous Lawson vein. The immediate vicinity of the Lawson vein, located on Bighorn Creek, has been staked in the past under various claim names including Spokane, Mohawk, Edwin, Norm and Sephil. The project will be referred to as the Bighorn Creek Project throughout this report.

The Bighorn is being explored for potential precious metal vein-type mineralization of either mesothermal or epithermal affinity. The property is underlain by hornblende orthogneiss that has undergone Cordilleran deformation and has been intruded by feldspar porphyry dykes. Quartz veins developed within these rocks that contain significant concentrations of gold, with elevated silver, lead, zinc and copper. No significant production has been achieved on the property to date; however, a number of adits have been opened along the Lawson vein, and historical values include 9.4 grams per tonne (g/t) gold (Au) across 0.76 metres and 10.6 g/t Au across 0.91 metres from the "Incline Adit".

From September 29 to October 4, 2004, APEX Geoscience Ltd. of Edmonton, Alberta, completed preliminary prospecting and sampling within the STAN, SHERON, GLEN, and PIT claims and the surrounding area in order to evaluate the potential for economic precious metal mineralization (Armstrong, 2004). Results of prospecting during this program led to the staking of the STAN 1, 2, 3, and 4 claims (STAN 1-4) and further prospecting. After staking STAN 1-4, limited sampling of boulders and outcrop took place. Total costs related to exploration by APEX in 2004 are 25,141.31, total cost attributed to work within the within the Stan 1-4 claims, subsequent to staking are \$2199.13 (Appendix 1).

Based on the preliminary results of the 2004 exploration and previous work by APEX on the Bighorn Creek Project, further work is warranted. Further prospecting and detailed sampling and mapping is required on the STAN 1-4 claims and in the area of the "unnamed creek" to better delineate additional mineralization.

### PROPERTY DESCRIPTION AND LOCATION

The Bighorn Project is located on the west side of Bighorn Creek approximately 45 kilometres west of the town of Atlin in northwestern British Columbia, and 48 kilometres east of Skagway, Alaska, U.S.A. (Figure 1). More specifically, the property is located 11 km upstream of the confluence of Bighorn Creek and Fantail River, on the western slope of the Bighorn Creek valley. The property is located within the Skagway 1:250 000 scale National Topographic System (NTS) map sheet 104M. More specifically, the property is located within the Fantail Lake 1:50 000 scale NTS map sheet 104 M/9. The claims are located in Atlin Mining District minerals titles reference map sheet M104M058.

ŧ

A legal claim description for the claims is provided in Table 1, and the claim boundaries are shown on Figure 2. STAN 1-4 encompasses a total of 4 claim units (4 2-poster claims).



+

Figure 1.



1 -



Claim Name	Record Number	Number of Units**	Expiry Date
STAN 1	414754	1	2005/OCT/03
STAN 3	414755	1	2005/OCT/03
STAN 4	414756	1	2005/OCT/03
STAN 2	414757	1	2005/OCT/03

# TABLE 1 LEGAL CLAIM DESCRIPTION

ŧ.

\*\* 1 unit = 500 m<sup>2</sup>

Claims are 100% owned by J. Armstrong on behalf of MICREX Development Corp.

# ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Bighorn Property is accessed by helicopter from Atlin, British Columbia. For the 2004 work program a Bell 206 Jet Ranger was chartered from Discovery Helicopters of Atlin BC. Alternatively, the area can be accessed by float plane from Atlin or Whitehorse to the east end of Fantail Lake, where in order to reach the claims, it is required to trek approximately 7 km south on a trail located on the west side of Bighorn Creek (Figure 2). Also, the property area may be accessed from Tagish or Carcross by boat, traveling to the west shore of the Taku Arm of Tagish Lake (Carlyle, 1993a).

The property is situated at the boundary of two geomorphological subdivisions, the Boundary Ranges of the Coast Mountains and the Teslin Plateau of the Intermontane Belt (Mihalynuk, 1999). The Bighorn Property claims are located on the eastern edge of the Boundary Ranges on a steep eastern-facing slope along Bighorn Creek. Elevations range from 800 metres to 1300 metres above sea level (a.s.l.) at the property, and from 700 metres to 2300 metres a.s.l. regionally. Tree line elevations vary from 1100 to 1400 metres a.s.l. with lower slopes timbered by lodgepole pine, spruce, aspen, balsam poplar, black spruce, and hemlock, while near tree line subalpine fir, juniper, and dwarf birch dominate (Mihalynuk, 1999). Bighorn Creek flows to the northeast into the Fantail River, which in turn flows east into Tagish Lake that is part of the extensive headwater reservoir for the Yukon River.

Environment Canada data for Atlin indicate that historical daily mean temperatures range from -16°C (-20°C minimum) in January to +12.5°C (+20°C maximum) in July. The normal work season extends from late May through October (Mihalynuk, 1999).

Provincial government services, accommodations, groceries and supplies are available in the town of Atlin, British Columbia.

ŧ

### **HISTORY**

To facilitate the great influx of gold seekers to the rich gold fields discovered in the Klondike in 1896, a southern rail route was sought from tidewater across the Coast Mountains (Mihalynuk, 1999). Engineers working on this route discovered gold-bearing quartz veins on the east shore of Tagish Lake in 1900. These veins became known as the Engineer Mine, which produced 597,176 grams, or 17,318 ounces (oz), of gold between 1913 and 1932 (Baldys, 1991).

Other gold-bearing quartz veins in the area include the Venus deposit, located north of Tutshi Lake and the Mount Skukum Mine, and northwest of Tagish Lake. The Venus deposit hosts a significant quartz-sulphide vein that averages 0.8 m to 1.0 m in width with reserves estimated at 68,300 tons of 11.03 grams (0.32 oz) per ton of Au, and 306.90 grams (8.9 oz) per ton silver (Ag) (Morin, 1989). The Mount Skukum Mine also hosts gold in an epithermal quartz-vein which yielded 29,622,270 grams of Au from 201,461 tons of ore before recently closing (Mihalynuk, 1999).

Closer to the currently held Bighorn Property claims, rock samples from the Main and Camp Showings on Teepee Peak, north of Fantail Lake, yielded values up to 10.83 grams (0.31 oz) Au per ton and 147.4 grams (4.27 oz) per ton Ag (Olson, 1987).

In addition to gold, copper deposits are historically significant in the area. The Whitehorse Copper belt's southern-most extension is located just north of Carcross. This belt comprises 28 separate copper-iron skarn deposits that are hosted within the same geological environment as that found in the northern Tagish Lake area. Roughly 10,250,000 tons of ore were mined from the Whitehorse Copper belt between 1967 and 1982 with 2,850,000 tons grading 1.06 percent (%) copper (Cu) and 7,400,000 tons grading 1.5% Cu (Mihalynuk, 1999).

Fueled by the discovery of gold at the Engineer Mine, many prospectors began exploring the area around Tagish Lake. The first intensive prospecting in the vicinity of the present-day Pit Claim was conducted by Mr. Fred Lawson and associates during the early 1900's which led to the staking of the Spokane Group (Baldys, 1991; and Carlyle, 1993a). This group consisted of the Spokane, Mohawk, and Edwin claims, which were trenched and developed with adits between 1921 and 1932. The North Tunnel (830 m a.s.l.), Peter's (at an elevation of 1035 m a.s.l.), Blacksmith (1080 m a.s.l.), and Incline (1265 m a.s.l.) adits traced a quartz vein, with an average exposed width of 1.1 m, over a

horizontal distance of 920 m and a vertical distance of 460 m (Carlyle, 1993a). Figures 3 illustrates the historical workings and geology at the Pit Claim.

ŧ.

In 1933, the Spokane Group was bonded to Norgold Mines Limited which later changed its name to Atlin-Pacific Mining Co. Ltd. It was at this time that the quartz vein was channel sampled in six places along underground workings driven from the Incline Adit. The channel samples averaged 9.4 grams (0.27 oz) per ton Au over an average width of 0.76 m (Baldys, 1991). In 1934, an independent engineer obtained assay results of 10.6 grams (0.31 oz) per ton Au over an average width of 0.91 m (Baldys, 1991). Also during 1934, Bobjo Mines acquired an interest in the Atlin-Pacific Mining Co. Ltd. and assumed management of the Spokane Group property until relinquishing its interest in 1935 (Carlyle, 1993a).

In 1975, Lobell Mines Ltd. obtained 20 samples from the property, with 8 samples assaying over 3.45 grams (0.1 oz) per ton Au. The highest value obtained was 17.93 grams (0.52 oz) per ton Au across 1.52 m from the Incline Adit drift (Carlyle, 1993a). Further prospecting was undertaken in 1981 by Silver Ice Mining Ltd., which obtained 20 samples, two of which yielded over 3.45 grams (0.1 oz) per ton Au (Carlyle, 1993a).

In 1985, the British Columbia Ministry of Energy, Mines, and Petroleum Resources sampled the adits on what is currently known as the Pit Claim. These assays returned values as high as 297 grams (8.61oz) per ton Au and 120 grams (3.52 oz) per ton Ag (Carlyle, 1993a).

Baldys (1991) collected 29 samples from the property (Pit Claim) and conducted geological mapping at the request of the directors of 489166 Alberta Limited (Figure 4). Of these samples, 11 assayed greater than 0.1 oz/t gold with the highest assay being 0.48 oz/t gold from a 0.8 m thick section of vein in the Blacksmith Adit (Baldys, 1991). The average length-weighted gold grades for samples collected from three of the adits (drifts) were as follows;

Peter's Drift - 0.06 oz/t gold across 1.3 m vein Blacksmith Drift - 0.13 oz/t gold across 0.9 m vein Incline Drift – 0.20 oz/t gold across 1.0 m vein

Based upon the assay results obtained, Baldys (1991) calculated a resource estimate of 76,000 tons of material averaging 0.17 oz/t gold between the Blacksmith and Incline drifts.

In 1993, Larry Carlyle was retained by L. Whelan and Associates to review all available information regarding the Bighorn Creek Property on behalf of Micrex Development Corporation. Upon reviewing the data from Baldys (1991), Carlyle (1993a) concurred with the reserve calculation arrived at of 76,000 tons grading 0.17 oz/t gold. In addition to data review, Carlyle (1993b) also conducted



Figure 3.

geological and geophysical exploration over the property (Figure 4), which included chip sampling of the existing adits and grab sampling of the adit dumps. The highest assays obtained for the adits were as follows:

١

North Tunnel Drift – 1.78 oz/t gold Peter's Drift – 0.371 oz/t gold Blacksmith Drift – 0.612 oz/t gold Incline Drift – 1.375 oz/t gold

Additionally, Carlyle (1993b) conducted a short (6 line) Very Low Frequency Electromagnetic (VLF-EM) geophysical survey at an approximate strike of 100° over the Incline Drift. In total, 2400 metres of VLF-EM surveying was completed at 10 metre stations and 50 metre line spacing.

### **GEOLOGICAL SETTING**

The Taku Arm area of Tagish Lake is underlain by Upper Triassic to Middle Jurassic strata of the Whitehorse Trough, Pre-Permian metamorphic rocks of the Yukon Group, and intrusions of the Mid-Jurassic Coast Plutonic Complex (Baldys, 1991; Carlyle, 1993a; Jackaman and Matysek, 1993). The geological setting of the Bighorn Property claims is illustrated on Figure 4.

There are two major subparallel north-northwest-trending faults in the area. The Nahlin Fault marks the western extent of the Cache Creek Terrane, and is a steeply dipping to a vertical fault, or series of faults which have been intermittently active since the Triassic into the Tertiary (Mihalynuk, 1999). The Llewellyn Fault forms the contact between regionally metamorphosed rocks and Mesozoic strata of the Stuhini Group (Mihalynuk, 1999). Similar to the Nahlin Fault, the Llewellyn Fault is believed to have been sporadically active over the Late Triassic into the Tertiary, with displacements being greatest during earlier episodes (Mihalynuk, 1999).

The Bighorn Project is underlain by the meta-intrusive Bighorn Creek Orthogneiss which is found within the Yukon-Tanana Terrane, and contains localized schistose zones (Mihalynuk, 1999). This unit outcrops over an area of about eight square kilometres and is characterized by Mihalynuk (1999) as being a well foliated, medium-grained, leucocratic body containing 50% quartz, and 40% feldspar with 6 to 7% combined muscovite, biotite, hornblende, chlorite, and accessory pyrite. Intruding into the orthogneiss are dykes of andesite and feldspar porphyry (Carlyle, 1993a). The feldspar porphyry is composed of phenocrysts of white feldspar in a fine-grained pyroxene matrix.

The rocks within the property strike north-northeasterly and are generally found to be dipping gently to the east. A large north-south striking fault is recognized at an elevation of 1220 metres with a right-handed, horizontal displacement of roughly 75 metres (Carlyle, 1993a).



#### 104M SKAGWAY - BEDROCKGEOLOGY (modifiedfromMihalynukandSmith, 1993)

#### QUATERNARYDEPOSITS

	and a state of the
	INTRUSIVEROCKS
eTp.eTge	CONTRACTOR CONTINUES AND ANY
KTg .	Condentation with Caloring and all departments and the medicate strength

#### 10,10,0 Later conversion and an even of spread spread spread on the number of participants of the spread of

- ig.Ken Until the entropy of a submanian granitation day in a submaniant side
- sig pite CATVON MICESUPING THE WINA HAD CONTAINED AND THE MICES
- 19.00 knowed the owner ships are to be
- 1.95 1.11 MakeWingthamproduction and establish "Observational and an William
- 1792.072. Or encoderable, an encoderable, quartz danhe compatibilitation faite frances, age Mayter administrative supervised are made to a supervised and the sets.

### Periodical and a comparison of the second se

- LATEMESOZOIC/TERTIARYINTRUSIVEASSEMBLAGES
- 58-хилистопископе налистические со солигате со учити на натично и солига.
- Stoff to roug, which ded, een advectuation thy an example of the sector pro-Carry Economics of the sector of the
- To provide a single standard system of the provide and the second structure of the second system  $\sigma_{\rm eff}$  is a structure space of the second system  $\sigma_{\rm eff}$  is a structure space of the second system  $\sigma_{\rm eff}$  is a structure space of the second system  $\sigma_{\rm eff}$  is a structure space of the second system  $\sigma_{\rm eff}$  is a structure space of the second system  $\sigma_{\rm eff}$  is a structure space of the second system  $\sigma_{\rm eff}$  is a structure space of the second system  $\sigma_{\rm eff}$  is a structure space of the second system  $\sigma_{\rm eff}$  is a structure space of the space of the second system  $\sigma_{\rm eff}$  is a structure space of the second system  $\sigma_{\rm eff}$  is a structure space of the spa

#### Werten Weath alsole Manufacture Laborate scrattered has a

- whey taken and the Grand shares were an and the second state of the second state.
- Television of the television of the television of a function of the television of televi
- 18.
- Laterprise of press and the second state of th 1064
- Categothog, manly technologies in gents being same ULE Laberge Group, manifestight the Mundor de Messifeliar enders de

# OLDER VOLCANICASSEMBLAGES.SEDIMENTARY, ANDMETAMORPHICROCKS

#### STIKINE(?)TERRANE

- An an electron processing of the intercent of particular of particular physics and physics and the second processing of the second physics of the second p
- SAUNT GEOLD, COMMING COVIC CANADAMINATION COMMING COMPARISON OF A COMPANY OF A COMMING OF A COMM

110 \*Zahari dreve, com v Mecas Si de collegi e class andovrata se disvisajem spanjer, en interne distanti di spinde ancienti.

Be an device providence processing, we determine a device of each rates, properties of provident a secondary consequence of the set of a processing construction is replaced being processing of the secondary of the secondary of the second secondary of the second secondary of the secondary of the

#### CACHECREEKTERRANE

- Unoffected and disease these champles to ear edite any education again date uniferent children grie en transmissionen, an erst and date to ear educationen again date any griegen date in griffete Monimissionen als in all the united to
- MTON: United and interchange in provide the state
- 9108 Marting-mentions.

1715

- STO: Pilostard gibes a kineal restriction
- One we die die een waard dat werk faan van aan ook die een merspronte terding mit een af die die een Bruit. Is effektie Staar van die die die die een waard aan daag e

#### NISLING(7)TERRANE

- Parent Province Provident and explorition is such a the compatible, previous and benefits, why how the emblance live of explorition regions as in the description of the Western State and the second structure at the se
- Oversion Probability and all in the section, responsible Managementation



Oct 14,2004 Figure Ø

### DEPOSIT TYPES

The goal of exploration efforts within and near the Bighorn Property Claims is to identify economically viable precious metal-bearing quartz veins. According to Mihalynuk (1999), the quartz veins found on the Pit Claim most closely resemble mesothermal precious metal vein deposits that form at temperatures of 200 to 400°C. Analysis of fluid inclusions from samples of quartz veins give average temperatures of more than 250°C. These veins are podiform, sheared, and concordant with enclosing schists of a transitional greenschist-amphibolite grade (Mihaynuk, 1999). The veins are located along second or third-order structures related to the regional Llewelyn Fault zone.

١,

### **MINERALIZATION**

As previously mentioned, mineralization at and near the property consists of mesothermal precious metal-bearing quartz-sulfide veins, which appear to be located along second or third-order structures related to the regional Llewelyn Fault zone. The veins are podiform, sheared, and discordant with enclosing schists of a transitional greenschist-amphibolite grade (Mihaynuk, 1999 and Baldys, 1991). Numerous small quartz veins were observed around the property, however, the majority of exploration efforts to date have been focussed on the Lawson vein.

The Lawson vein has been traced intermittently along a horizontal distance of 920 m and a vertical distance of 460 m (Figures 3 and 4). The vein strikes roughly east-west and dips 85° to the north. The vein averages 1.1m in thickness and contains pyrite and minor chalcopyrite, galena, sphalerite and native gold. Baldys (1991) notes that the wall rock does exhibit significant alteration or mineralization and that feldspar porphyrytic dykes were observed underground to cross-cut the vein. Baldys (1991) also notes that gold content appears to correlate well with sulfide (pyrite) content, both of which appear to increase in a vertical direction from the Lower adit to the Incline adit.

The most thorough evaluation of the Lawson vein to date was conducted by Baldys (1991), during which a total of 29 chip samples were collected from 3 of the 4 adits. The length-weighted average gold grades are presented below.

Peter's Drift - 0.06 oz/t gold across 1.3 m, (the vein was sampled over a 135 m horizontal length)

Blacksmith Drift - 0.13 oz/t gold across 0.9 m, (the vein was sampled over a 47 m horizontal length) Incline Drift – 0.20 oz/t gold across 1.0 m, (the vein was sampled over a 23 m horizontal length)

٠

# 2004 EXPLORATION

From September 27, 2001 to October 4, 2001, APEX Geoscience Ltd. conducted exploration within and near the Bighorn Claims on behalf of the Grubers' and Micrex Development Corp. This work was summarized in Armstrong (2004). During this program the westward strike extension of the Lawson vein was identified in outcrop in proximity the claim boundary. At this time it was decided to stake 4 additional 2-post mineral claims to cover the continued extension of the vein. After staking of the claims (Stan 1-4) limited sampling and prospecting was completed. A total of 7 grab samples were collected. Exploration expenditures within the claims, total \$2199.13. In total, APEX collected 7 rock, boulder grab (identifiers 04JAP241-043 and 04JHP015-017), on the STAN 1-4 claims. Appendix 2 lists all sample locations and descriptions and geochemical results, Figure 5 shows sample locations.

Overall results from the sampling were somewhat disappointing, 04JAP242 turning the highest gold value at 50 ppb. Several samples were anomalous in Cu, Mo, and V (see Appendix 2).

# INTERPRETATION AND CONCLUSIONS

The 2004 exploration effort (Armstrong, 2004) was successful in extending exposed expression of the Incline vein 400 metres to the west, where the vein disappears under cover. An additional 4 mineral claims were staked to cover the westward extension of the Lawson Vein, subsequent to staking 7 samples were taken on the Stan 1-4 claims, overall results are disappointing, however further sampling and mapping is required.

# **RECOMMENDATIONS**

Based on the results of the 2004 exploration and in conjunction with previous exploration by APEX in 2001 and by others, further work is warranted. Detailed sampling and mapping is required on the Bighorn group of claims to better delineate additional mineralization. Given the new results it is reasonable to assume that mineralization is of greater extent than previously thought.





# STATEMENT OF COSTS

A cost statement is supplied in Appendix 1. The field portion of the 2004 program took place during the period of September 27 to October 8, 2004. Exploration and prospecting took place on the SHERON, GLEN, STAN, and PIT claims as well as regional prospecting. After assessing observations and findings on the Stan claim it was decided to stake an additional 4 two-post claims immediately west of the STAN claim. Helicopter costs are allocated to the specific days that were spent on the Bighorn Creek Property claims, general field costs (hotel, food, car rental, field supplies) are allocated on a pro rata basis. The pro rata basis was arrived at by:

ŧ

Total field time=8 days (3 travel, 4 field, 1 weather) 50% allocated to Bighorn, so all general field costs have been split and 10% charged to the STAN 1-4 claims.

Office charges (1 day) for preparation and report writing are directly charged to the STAN 1-4 claims. (See Appendix 1).

Total costs applied to the STAN 1-4 claims is 2199.13 or 314.16/sample.

For the STAN 1-4 claims – only a portion of the helicopter time for the return trip is being charged and the 7 samples that were taken after the claims had been staked.

### **REFERENCES**

Armstrong, J.P. (2004). Report on Activities for the SHERON, STAN, GLEN and PIT Claims, Bighorn Creek Project, Atlin Mining District, British Columbia. NTS 109M/9. Unpublished Assessment Report filed Oct. 2004.

ł

- Baldys, C. (1991) Rock geochemistry surveys on Lawson Vein, Sephill and Norm Claims, Atlin Mining Division. Unpublished report prepared for Oro Quest Inc. and 489166 Alberta Ltd.
- Carlyle, L.W. (1993a) Summary report on Gold Cord Property and Bighorn Creek Property. Unpublished report prepared for Micrex Development Corp. and Dalton Gold Mine Ltd.
- Carlyle, L.W. (1993b) Addendum report on Bighorn Creek Property. Unpublished report prepared for Micrex Development Corp. and Dalton Gold Mine Ltd.
- Dominy, S.C., Johansen, G.F., Cuffley, B.W., Platten, I.M., and Annels, A.E. (2000) Estimation and reporting of mineral resources for gold-bearing veins. Exploration Mining Geology, Vol.9:1. Pgs.13-42.
- Jackaman, W. and Matysek, P.IF. (1993) Stream sediment and water geochemical maps, NTS 104M Skagway. British Columbia Regional Geochemical Survey MEMPR BCRGS 37.
- Mihalynuk, M.G. (1999) Geology and mineral resources of the Tagish Lake Area (NTS 104M/8,9,10E,15 and 104N/12W) Northwestern British Columbia. British Columbia Geological Survey Branch, Bulletin 105.
- Mihalynuk, M.G. and Smith, M. (1993) Geology compilation of map sheet 104M Skagway (unpublished).
- Morin, J.A. (1989) Yukon gold-silver file; exploration and geological services division, Yukon. Indian and Northern Affairs Canada, Open File 1989-3.
- Olson, R.A. (1987) National Hydrocarbons Ltd., Proposed Exploration, TP Mineral Claim, Atlin Mining Division. Unpublished report prepared by Trigg, Woolett, Olson Consulting Ltd. for National Hydrocarbons Ltd.

# **CERTIFICATE OF AUTHOR**

I John P. Armstrong, Ph.D. P.Geol., do hereby certify that:

 I am currently a senior geologist at: APEX Geoscience Ltd., Ste.200, 9797 – 45 Avenue, Edmonton, Alberta, T6E 5V8

١

- 2. I graduated with a degree (B.Sc.) in Earth Sciences (Geology) from the University of Western Ontario, London, Ontario in 1989 and a Doctorate degree in Geology from the University of Western Ontario in 1997, and have practised my profession continuously since 1989.
- 3. I am responsible for the preparation of the report titled 'Report on Activities for the STAN 2,3,4 and 5 Claims, Bighorn Creek Project, Atlin Mining District, British Columbia. NTS 109M/9' and dated April 28, 2005 relating to the Bighorn Creek Project. I visited the Property and surrounding area on September 27, 2004 for 8 days.
- 4. The author has no direct interest in the Bighorn Creek Project Claims that basis for the report.

Cost Statement										
Days worked	Days	Rate					Total			STAN 1-4 Cost
J.Armstrong (APEX)		8 55	0				4400			
J. Heimbach (Contractor)		8 35	0				2800			
							7200	x10% for STAN 1-4 C	laims	720.00
Office Days (Armstrong)		1 45	0				450	x100% for STAN 1-4	Claims	450.00
Helicopter Support	Hour	s Rate		Fuel	GS	т	Total			
29-54	ep 1.	4 92	5 1295	150.13	1445.13	115.6104	1560.74	no charge to STAN 1	-4	
30-S	ep 1.	.7 92	5 1572.5	175	1747.5	139.8	1887.3	no charge to STAN 1	-4	
1-0	ict 1.	5 92	5 1387.5	157.32	1544.82	123.5856	1668.406	no charge to STAN 1	-4	
3-0	ict 2.	.3 92	5 2127.5	241.22	2368.72	189.4976	2558.218	30% to STAN 1-4		767.47
Accommodation (Brewery Bay - Atlin)							854.39	x10% for STAN 1-4 C	laims	85.44
Food							542.1	x10% for STAN 1-4 C	laims	54.21
Vehicle Rental/Fuel							785.86	x10% for STAN 1-4 C	laims	78.59
Supplies							176.06	x10% for STAN 1-4 C	laims	17.61
Sample Shipping							258.24	x10% for STAN 1-4 C	laims	25.82
	Total 2004 Program 25141.31 Total S cost/sc cost/sc				Total STAN 1-4 cost/sample = 219 cost/sample = 314	2199.13 99.13/7 .16				

•

Appendix 1 - Cost Statement

Appendix 2 STAN 2.3.4.5 Sample Descriptions											
Sample	Date	Easting	Northing	Description	Au ppb	File Name					
04JAP240	3-Oct-04	529511	6600337	banded gneiss, wkly gossanous, 2inch wide discordant veins, tr sulph, boulder	10	S15294					
04JAP241	3-Oct-04	530012	6600424	gossanous biotite schist, tr sulph, bldr	5	S15294					
04JAP242	3-Oct-04	530052	6600426	rusty purple weathered, sio2, py altd, 2% vfg diss py	50	S15294					
04JAP243	3-Oct-04	530348	6600572	sio2 altn, on edge of cliff by stream, It br, tr sulph,	<5	S15294					
04JHP015	3-Oct-04	529621	6600351	rusty bslt schist, tr py	10	S15294					
04JHP016	3-Oct-04	530129	6600658	sugary qtz bldr, rusty,	10	S15294					
04JHP017	3-Oct-04	530124	6600689	1.5 inch rusty qtz vn in gossanous felsic schist	5	S15294					

NAD 27 Zone 8V

Appendix 2

30 Element ICP Results STAN 2.3.4 and 5 Mineral Claims

01 Alt 2, 3, 4 al	IC 2 MILLAIS																		
ELEMENT	Ag	Al	As	Au	В	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	к	La	Ma	Mn
SAMPLES	ppm	%	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%	ppm
04JAP240	0.1	1.45	15.3	2.2	1	192	0.1	0.44	0.1	3.6	205.2	18,4	2.14	4	<,01	0.54	10	0.57	195
04JAP241	0.1	1.95	0.9	8	<1	57	0.2	0.78	<.1	8.9	117	54.9	3.92	7	<.01	0.53	15	0.93	519
04JAP242	0.5	0.59	<.5	78.2	1	20	0.5	0.5	0.1	18.3	198.2	206.9	3.21	2	<.01	0.03	12	0.16	123
04JAP243	<.1	0.48	0.5	2.4	<1	105	0.1	0.36	0.1	3.9	153.1	3.3	1.72	2	<.01	0.25	42	0.21	567
04JHP015	0.2	1.72	<.5	2.5	3	101	0.4	0.06	<.1	3.9	122.3	41.1	3,43	5	<.01	0.68	16	0.82	213
04JHP016	0.1	0.08	1.8	6.7	1	21	<.1	<.01	<,1	1.3	128.3	23.7	0.59	<1	<.01	0.02	1	0.04	30
04JHP017	<.1	0.17	0.9	1.2	2	28	<.1	<.01	0.1	0.8	276.5	6.8	0.62	1	0.01	0.12	12	0.03	130
ELEMENT	Мо	Na	Ni	P	Pb	S	Sb	Sc	Se	Sr	Te	Th	Ti	ті	U	v	w	Zn	
SAMPLES	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	
04JAP240	1.6	0.072	11.4	0.031	1.9	<.05	<.1	3.9	0.6	24	<1	4.7	0.102	0.2	0.8	45	0.1	36	
04JAP241	2.6	0.158	6.7	0.07	5.2	0.39	<.1	5	<.5	40	<1	7.1	0.219	0.3	1.8	98	0.2	47	
04JAP242	2.7	0.052	20.3	0.028	3.2	1.61	0.1	1	9.8	18	<1	4.3	0.08	<.1	1	26	3.7	11	
04JAP243	5.9	0.033	4.3	0.015	2.9	<.05	0.1	1.2	<.5	14	<1	11.6	0.008	0.1	1.8	4	0.1	28	
04JHP015	11.8	0.017	12.3	0.051	8.7	0.1	0.1	3.4	1	10	<1	11.2	0.05	0.3	3.7	148	0.2	38	
04JHP016	1.7	0.006	5.8	0.002	1.1	0.09	0.1	0.5	1	1	<1	0.5	0.008	<.1	0.2	6	0.1	2	
04JHP017	2.8	0.017	7.4	0.002	0.3	<.05	Ŭ.1	0.4	<.5	1	<1	3.6	0.003	<.1	0.6	2	0.2	6	