#### REPORT ON THE

## MATT-MATHEW AND HUGH CREEK CLAIMS

## WATSON LAKE MINING DISTRICT, YUKON

#### NTS 105 B

#### FOR

#### ORPEX MINERALS INC.

Ьу

## LARRY W. CARLYLE, F.G.A.C., P. Geol

Whitehorse, Yukon

October, 1988

Carlyle Geological Services Ltd. 74 Tamarack Drive Whitehorse, Yukon Y1A 4Y6

October 7, 1988

Mr. Patrick H. Moore, C.A. Director Orpex Minerals Inc. # 203 - 303 Jarvis Street Whitehorse, Yukon Y1A 2H3

Dear Mr. Moore:

Please find enclosed my report entitled "Report on the Matt-Mathew and Hugh Creek Claims, Watson Lake Mining District, Yukon".

This report was prepared to fulfill the requirements of a qualifying report for submission to the British Columbia Securities Commission. I have given my permission for the report to be used for this purpose.

I respectfully submit the report for your review and comment.

Yours sincerely,

Larry A. Carlul

Larry W. Carlyle, F.G.A.C.



#### EXECUTIVE SUMMARY

The Matt-Mathew and Hugh Creek Claims are located in the Shootamook Creek area of the Wolf Lake Map Sheet (NTS 105 B). Shootamook Creek is a tributary of Scurvy Creek approximately 55 miles north of Rancheria Lodge situated at Mile 710 (Km 1143) of the Alaska Highway.

Placer gold has been recovered from this portion of the Liard River watershed since the 1870's. The immediate area of the Winnie Showing at the confluence of Shootamook, Matt and Red Creeks on the Matt-Mathew Claims was placer mined for approximately 7 years in the mid-1930's by Chief Billy Smith of Carcross. Mr. Smith is reported to have recovered coarse gold and silver from his workings.

The Winnie Showing area has had a camp built, line cutting, a soil sampling program and a fan of six BQ diamond drill holes totalling 788.5 metres (2562.6 feet) drilled on it. The soil sampling and diamond drilling programs were not as effective as they could have been but have still provided some insights into the mineral structure on the property. Soil sampling would be an effective tool if sampling is done on a spacing of 20 to 25 metres on cross lines. Samples should also be analyzed for arsenic, antimony, lead and tungsten in addition to gold and silver. Examination of the core has enabled the writer to see similarities in rock type and age with those of a gold mine in the Barkerville area of British Columbia. A test VLF-EM survey done by Carlyle in the Winnie area suggests that this tool will be useful in future exploration.

A \$ 49,550.00 budget for 1988 has been proposed for assessment work to hold the Hugh Creek Claims. The program will consist of helicopter supported stream sediment and rock sampling and assaying. The Hugh, Sid and Sam claim groups should be given preference because they are on strike with the Winnie.

A \$ 78,900.00 1989 budget is proposed for follow-up stream sediment, soil and rock sampling, and for follow-up VLF-EM surveys and blast hole trenching.

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#### INTRODUCTION

On September 26, 1988, discussions were held between Mr. Mel Holloway, Mr. Patrick Moore and Mr. Larry Carlyle concerning the research and preparation of this report. Mr. Holloway and Mr. Moore are the principals of Orpex Minerals Inc. Carlyle is the principal of Carlyle Geological Services Ltd. of Whitehorse.

This report is based on work done during a property visit on October 2 and 3, 1988 in the company of Mr. Holloway. A review of all available private and public reports on the property was also made.

#### PROPERTY LOCATION AND ACCESS

The Orpex Minerals Inc. claims are in the Shootamook Creek area of the Wolf Lake Map Sheet (NTS 105 B). Shootamook Creek is a tributary of Scurvy Creek approximately 55 miles north of Rancheria Lodge situated at Mile 710 (Km 1143) of the Alaska Highway (See Location Map). Access is presently by helicopter from Rancheria. Road access exists to the Fairfield Mt. Logan Property approximately 27 miles south of the Orpex Minerals Property.

The Matt-Mathew and Hugh Creek Claims cover areas from about 3000 to 5000 feet (1112 to 1524 metres) above sea level. The claims are on rounded, moderately to steeply sloping hills and valleys. Most of the property is covered with a thick cover of black spruce, pine, willow, low bush, moss and lichens. Bedrock exposures are largely confined to stream cuts and a few steep cliff faces.



#### CLAIM INFORMATION

The writer checked records pertaining to the claims covered by this report by telephoning the Mining Recorder's office in Watson Lake on October 5, 1988. The data gathered are as follows:

Claim	Names	Grant Numbers	Owner	Expiry Date
Mathew Mathew	1 - 4	YA 71354 - YA 71357	Mel Holloway	Jan. 20/97
Matt 7	- 8	YA 73626 - YA 73627	Mel Holloway	Jan. 20/95 Jan. 20/95
Matt 9	- 48	YA 73721 - YA 73760	Mel Holloway	Jan. 20/95
Hugh 1	-48	YB 11070 - YB 11117	Mel Holloway	Jan. 4/89
Bud 1 -	- 48	YB 11022 - YB 11069	Mel Holloway	Jan. 4/89
Sam 1 -	- 43	YB 10878 - YB 10925	Mel Holloway	Jan. 4/89
Sid 1 -	- 48	YB 10734 - YB 10781	Mel Holloway	Jan. 4/89
Ran 1 -	- 48	YB 10926 - YB 10973	Mel Holloway	Jan. 4/89

Mr. Holloway did some assessment work on the claim blocks on October 3, 1988 while the writer was doing the preliminary VLF-EM survey. This work will be filed shortly.

The Hugh, Bud, Sam, Sid and Ron claim blocks will be collectively known as the Hugh Creek Claims in this report. Additional 1988 assessment work on the Hugh Creek Claims will be recommended in this report.

#### HISTORY

Placer gold was first discovered in the 1870's on the Liard River and its tributaries - Sayyea, Rainbow, Cabin and Scurvy Creeks. The Matt-Mathew claim area was originally placer mined for approximately 7 years in the mid-1930's by Chief Billy Smith from Carcross. Mr. Smith's old workings, cabins and sluice boxes were observed on Matt and Red Creeks during Carlyle's property visit. Mr. Smith is reported to have found coarse gold and silver in his workings. These reports initiated the interest of Mel Holloway (Yukon Yellow Metal Exploration Ltd.) and the staking of the 48 Matt-Mathew Claims in 1983.

Mr. Holloway used a suction dredge to follow the placer gold to its lode source. He then used the dredge as a monitor to open the lode (Winnie Showing) for examination and sampling. This work as well as some blast trenching resulted in the Matt-Mathew Claims being optioned to Total Erickson Resources Ltd. This option agreement prohibited staking by Mr. Holloway within one mile of the Matt-Mathew Claims. The Hugh Creek Claims were staked immediately outside this zone on what Mr. Holloway believes is the continuation of the Winnie Showing.

The option agreement between Mr. Holloway and Total Erickson has been terminated. Total Erickson has built a camp, drilled 788.5 metres (2562.6 feet) of BQ core in six holes, done line cutting and taken 452 soil samples.

Mr. Holloway has now entered into an option agreement with Orpex Minerals Inc. on the Matt-Mathew Claims incorporating these claims with the Hugh Creek Claims.

#### REGIONAL GEOLOGY

The claim area is on the northern edge of the Jurassic and/or Cretaceous Cassiar Batholith intrusive complex and is underlain by limestones, schists, phyllites and quartzites mapped as Lower Cambrian age by Roddick, Poole and Green in 1960. These sediments

have been mapped as Hadrynian by D. Murphy on the adjoining Irvine Lake Map Area (Open File 1988 - 1). Several small plugs of the intrusive have been mapped in the claim area suggesting that the hydrothermal alteration exhibited in mineralized areas is due to their proximity to the intrusive.

A review of aerial photographs covering the area has revealed lineations chiefly striking in a northwest direction. These are probably faults which parallel the Tintina Fault which is followed by the Liard River approximately 16 miles northeast of the property (See Orpex Minerals Property Location Map).

#### PROPERTY GEOLOGY AND MINERALIZATION

Only the Matt-Mathew claim block held by Orpex Minerals Inc. has seen extensive work. The Hugh Creek Claims were staked on the speculation that structures similar to the Winnie Showing will be found on them. Several gossaned areas similar to the Winnie were seen in-stream cuts during the helicopter flights to and from the Winnie Showing. Time only permitted a brief inspection of one of these by the writer on October 3, 1988. No significant mineralization was found. Mr. Holloway did some assessment work on some of these areas during the visit. A small 1988 budget is proposed for the Hugh Creek Claims.

Of prime importance for investigation on October 2, 1988 was the Winnie Showing, the structure 50 metres to the north on Matt Creek, the placer workings of Chief Billy Smith on Matt and Red Creeks and BQ diamond drill core stored at the camp (See Figure 3).



The Winnie Showing is approximately 2 metres (5.5 feet) wide consisting of a siliceous to clay altered fault zone which strikes N 53° E and has a 70° - 75° west dip. Highly clay altered felsic (rhyolite ?) dyke occupies 0.8 metre (2.5 feet) of the hangingwall. This rhyolite has a gritty texture and contains smoky quartz eyes up to 1 inch in diameter and trace pyrite and malachite in fractures. Crushed dark grey to black quartzite with white quartz lenses up to 2 cm. wide occupies 1 metre (3. 0 feet) of the footwall. Strong red-brown limonite and yellow-green scorodite (FeAsO<sub>4</sub> - 2H<sub>2</sub>O) (?). occupy fractures. Mineralization in this zone consists of up to 1 % pyrite and 1 % arsenopyrite.

The structure has graphitic and sericitic schist and phyllite with a shallow west dip on hangingwall and footwall. The Winnie Structure appears to widen with depth. The structure was not sampled by the writer because it has been visited and sampled by geologists such as Dr. Ken Dawson (G.S.C.) (Appendix A), Dr. Jim Morin (formerly with the Geology Section of DIAND, Whitehorse) (Appendix B), Richard Basnett (Total Erickson), and Wayne Reid (Noranda). Sampling of the structure has indicated an increase in gold and silver values with depth (See composite sketch, 1986 and Appendix C). The showing approximately 50 metres north of the Winnie has stronger red-brown limonite staining and stronger pyrite-arsenopyrite mineralization than the Winnie. The mineralization consists of up to 2 % pyrite with trace arsenopyrite blebs in a gritty clay altered rhyolite. This increase in mineralization may be due to a weak capping of quartzite. A large limonitic conglomerate zone (8 -10 feet wide)



rests on the hangingwall of the rhyolite. The conglomerate consists of rounded to angular graphitic and sericitic schist fragments most about 1 inch in diameter surrounded by a black mudstone. The relationship of this conglomerate to mineralization is not known.

The placer workings of Chief Smith on Matt Creek were examined then Shootamook Creek was waded and his workings on Red Creek were also examined. These workings and several test pits located along Shootamook Creek appear to have had a maximum depth of about 8 feet. This is not surprising since Mr. Smith would have been working solely with man and water power without the benefit of pumps.

Approximately 480 metres up Red Creek from its confluence with Shootamook Creek, strong limonite staining observed on rocks in the creek is suddenly greatly reduced. Examination of the rocks in the area revealed some outcrops of graphitic and sericitic schist below this point and only fresh light grey-white limestone above this point. The iron in the schists seems to be the most likely cause for the limonite staining of the rocks. Aerial photograph and helicopter examinations of upper Red Creek indicate the presence of a steeply dipping west striking fault (Figure 2). The limonite stained zone is only a short distance downstream from this fault. There may be a relationship between the two. Further work is warranted. Four stream sediment samples were taken in the One sample was taken 5 metres below the beginning of the area. staining, another 25 metres above it, another 50 metres above the second and the last sample was taken 30 metres below the beginning



of the staining. These assays are awaited.

Twenty metres above the limonite stained area on the south bank of Red Creek, there is a 2 foot wide vuggy quartz vein with a steep dip and trace pyrite mineralization. The quartz vein enters a highly scorodite and sericite altered rhyolite. This quartz vein was sampled by Mark Fekete for Total Erickson (Sample 104-88, Figure 2) and ran 5 PPb gold and 91 PPM silver.

The remainder of the day was spent washing, examining and preparing a rough record of the diamond drill core stored in log racks at the camp. The last four boxes of Hole 88-1 had been examined on September 28, 1988 at the DIAND Core Library in Whitehorse. Most of the core has been recovered except in fault zones, vein zones and alteration zones. In these areas as much as 25 % of the core has been lost. Unaltered sections of the core are limey graphitic schist with contorted schistosity, dark grey to black guartzite, light grey to white limestone and dark green biotite-hornblende diorite (?). (The writer calls this a greenstone because it strongly resembles, in hand specimen, the greenstone in the Keno Hill Camp.) White quartz veins up to 1.5 feet containing siderite, sericite, chlorite and trace pyrite cut all rock types. Much of the core is altered to sericitic and chloritic schist, clay and sericite altered rhyolite and light grey gritty limey quartzite. Alteration zones in the core are typical of hydrothermal systems occurring on both sides of the vein and on both sides of faults. Many zones of the clay and sericite altered rhyolite and gritty grey quartzite have blebs and fine grained secondary (replacement ?) patches of pyrite

(1 arsenopyrite) which have not been sampled.

Dr. Jim Morin has recently revisited the property for his present employer, Inco Gold Ltd. He appears to have the same opinion as the author since he has taken at least 5 samples of unsplit core for analysis. These assays are awaited.

The fan of six holes drilled into the Winnie Showing was to investigate approximately 125 metres of its strike length (See Figure 3). The author does not feel this was achieved because Holes 88-2, 88-5 and 88-6 appear to have ended in the structure. Holes 88-3 and 88-4 have intersected the intrusive before cutting the vein.

On October 3, 1988, five lines of VLF-EM were done using a Sabre 27 instrument owned by the writer (Figure 1). The strike of the Winnie Showing was most closely alligned with the Hawaii transmitter. A baseline having a strike of N 50  $\degree$  E was established. Dip angles and field strength readings were taken at 57 stations at 30 metre spacings on cross lines separated by 50 Erratic fluctuations of the field strength needle during metres. field strength readings make these readings unreliable. A Fraser filter of the dip angle data was considered the only reliable treatment of the information. The Fraser filtered data (Figure 1). shows a weakly developed structure on strike with the Winnie This data also shows the existence of another parallel Showing. structure approximately 200 metres to the east. This preliminary VLF-EM survey demonstrates that such surveys may be effective and cost efficient on the Orpex Minerals Property.



Approximately on strike with the Winnie Showing and 100 metres northeast of the VLF-EM survey is the highest value of the soil sampling program done by Total Erickson in the area of the Winnie Showing. This sample returned a value of 50 PPb gold and 0.2 PPM silver (Figure 1). The soil sampling program was done, for the most part, on a 100 metre by 100 metre grid. It is the writer's opinion that this spacing is too wide for cross lines. Soil sampling on this property will probably be most effective taking samples every 20 to 25 metres along cross lines spaced at 100 metre intervals along strike. Assaying for just gold and silver will probably not produce anomalies of sufficient strength to be useful in further exploration. It is recommended that the elements arsenic, antimony, lead and tungsten be added to the analyses of future samples and that soil samples taken by Total Erickson be assayed for these elements.

#### CONCLUSIONS

Intensely silicified and brecciated hydrothermal vein-fault systems like those exposed on the Matt-Mathew Claims may exist in other areas of the Orpex Minerals Property. The writer's inspection of the core on the property permitted him to see some similarities with replacement-type ore bodies seen in rocks of the same type and age at the Mosquito Creek Gold Mine in the Barkerville area of British Columbia. Mines in this area obtained gold from "feeder" quartz veins and massive pyrite replacement pods trapped in small anticlinal folds.

The fan drilling program done by Total Erickson on the Winnie Showing was not as effective as it could have been. Sludge samples should have been taken when drilling through the vein and alteration zones when core loss was suspected. Many intervals of the core have been left unsampled. The author believes the core should be relogged and unsampled intervals of interest be sampled. When further drilling is done on this property, use of NQ core should be considered to improve core recovery and allow reducing the core size if trouble is encountered in the hole.

The soil sampling program done by Total Erickson in the area of the Winnie Showing should be sampled on the smaller grid pattern described earlier. Soil sampling programs over any additional showings located should use this program as a guide.

The preliminary VLF-EM program done by the writer in the area of the Winnie Showing indicates that this geophysical tool may be useful in further exploration.

#### RECOMMENDATIONS

Sufficient work has been performed on the Matt-Mathew Claims to hold them into the mid-1990's. It is critical that sufficient work be done in the near future to hold the Hugh Creek Claims. Because of the lateness of the season, the 1988 Work Program and Budget consists largely of stream sediment and rock sampling and assaying. The confluences of all major creeks in the Hugh Creek Claims should be stream sediment sampled to confirm the arsenic, antimony, silver and mercury values available in Open File 1289. Samples obtained should also be assayed for lead, zinc and

tungsten; elements not analyzed for in the preparation of Open File 1289. Gossaned outcrop exposed on creek banks should be rock sampled and assayed for the elements listed above. The Hugh, Sid and Sam claim groups should be given preference because they are on strike with the Winnie.

Future work should consist of relogging and sampling drill core stored at the camp, soil sampling the existing Total Erickson grid at closer spacings, doing follow-up stream sediment and soil sampling in areas of interest found by the 1988 Work Program and doing follow-up VLF-EM surveys and blast hole trenching on all areas of interest.

#### 1933 WORK PROGRAM AND BUDGET

Helicopter Wages and Benefits Food and Lodgings Analyses Camp Fuel Report Writing Mining Recorder Fees Contingencies

\$ 15,000.00
\$ 7,200.00
\$ 1200.00
\$ 6,000.00
\$ 6,000.00
\$ 1000.00
\$ 2,000.00
\$ 2,400.00
\$ 8,250.00
\$ 49,550.00

Total

#### PROPOSED 1989 WORK PROGRAM AND BUDGET

Helicopter Wages and Benefits Food and Lodgings Assaying Camp Fuel Report Writing Mining Recorder Fees	ASSOCIATION CALLEDON L. W. CARLYLE	*******	10,000.00 25,000.00 8,000.00 10,000.00 7,000.00 1,000.00 2,000.00 2,900.00	
Contingencies	Pin Ta	\$ 	13,000.00	_
Total	FELLOW	\$	78,900.00	

#### REFERENCES

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- Basnett, R. (1986) "Property Submitted." Private report to Total Erickson.
- 3. Basnett, R. (1987) "Property Examination Shootamook Creek - Matt Claims." Private report to Total Erickson.
- 4. Dawson, K. (1984) Letter to Mel Holloway describing a visit to the Matt Claims on August 2 and 3, 1984.
- 5. Dawson, K. (1986) Field sketches, descriptions and assays provided to Mel Holloway from a site visit July 25, 1986.
- 6. Fekete, Mark (1988) "Assessment Report Shootamook Creek Property." Private report to Total Erickson.
- 7. Fekete, Mark (1988) "Evaluation Report ~ Shootamook Creek Property." Private report to Total Erickson.
- 8. McGuigan, P. (1986) Field sketches, descriptions and assays provided to Mel Holloway by Esso Minerals Canada.
- 9. Morin, J.A. (1987) Letter to Mel Holloway describing analytical results from six rock samples taken from the Shootamock Creek occurrence.
- 10. Murphy, D.C. (1988) "Geological Map of Irvine Lake Map Area" (105 B-14); Open File 1988-1, Canada Yukon E.D.A.
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- 12. Reid, W. (1986) "Property Examination Report, Matt Claims owned by Mel Holloway (Yukon Yellow Metals)." Private report to Noranda Exploration Co. Ltd.
- 13. Rowe, J.D. (1986) "Property Examination; CBC Placer Lease." Private report to Cordilleran Engineering.
- 14. Waugh, D.H. (1986) "Evaluation on MATHEW and MATT Mineral Claims for Yellow Metal Exploration Ltd."

#### STATEMENT OF QUALIFICATIONS

- I, LARRY W. CARLYLE, do certify:
- 1. That I am a professional geologist operating a business registered as CARLYLE GEOLOGICAL SERVICES LTD. with an office at 74 Tamarack Drive, Whitehorse, Yukon Y1A 4Y6.
- That I hold a B. Sc. degree in geology from the University of British Columbia (1970).
- 3. That I am a Fellow of the Geological Association of Canada ( (F - 4355).
- 4. That I am a Registered Professional Geologist in the Association of Professional Engineers, Geologists and Geophysicists of the Province of Alberta (41097).
- 5. That I am a Member of the Canadian Institute of Mining and Metallurgy.
- That I have practiced my profession as a mine and exploration geologist for fourteen years.
- 7. That I have visited the property. The conclusions and recommedations in the attached report are based on work done on the property by myself and a review of all available private and public reports on the property.
- B. That I hold no interest in the property nor in the shares of Orpex Minerals Inc.
- 9. That I have given my permission for this report to form part of a qualifying report on the Orpex Minerals Inc. property.

DATED at Whitehorse, Yukon, this  $7^{th}$  day of October, 1988.



## APPENDIX A

## SKETCHES AND ASSAYS BY DR. KEN DAWSON

Energy, Mines and Resources Canada

Énergie, Mines et Ressources Canada

**APPENDIX III (cont'd)** 

Science and Technology

Science et Technologie

29 August, 1984

Your file Votre rélérence

Our file Notre référence

Mr. Mel Holloway Mile 717 Alaska Highway Watson Lake, Yukon YOA 1CO

#### Dear Mel:

I reviewed the results of rock, Soil and silt assays from specimens collected August 2 and 3, 1984 from the MATHEW claims, Shootamook Creek, located in the northwestern corner of the Wolf Lake sheet; 105B/14. All samples, with the exception of a selected high-grade sample (MAT 25) contained less than anomalous amounts of gold; in fact, three-quarters of the samples assayed at or below the detection limit of 5 ppb Au, proving negligible gold content.

One soil sample from a region of frost-heaved rhyolite dyke float on the south side of Red Creek (MAT 37) contains sufficient Au (35 ppb) and As (90 ppm) to warrant follow-up prospecting. The dyke zone exposed on the ridge north of Red Ck. should be examined, and additional soil samples taken in the area at the base of hills underlain by rhyolite dykes and related arsenopyrite-silica altered schist.

The selected arsenopyrite-pyrite rich specimen (MAT 25) contains considerably more Au (1200 ppb) and Ag (9.7 ppm) than the corresponding 10-foot chip samples MAT 21, which covered the same 2 feet of mineralization and assayed only 25 ppb Au and 0.6 ppm Ag; and MAT 22 (5 ppb Au, 0.5 ppm Ag). Therefore, a relatively narrow gold-rich structure exists at this locality, which possibly may project northwestward across Mat Ck. to the locality of samples MAT 32 and 33 where values of 15 and 25 ppb Au were recorded in silicified, pyritized and arsenopyrite-altered limy schist.

Gold values do not appear to follow the dykes or dyke contact zones exclusively. A direct correlation between arsenopyrite and gold or pyrite and gold has not been verified, since many sulphide-rich specimens contain negligible gold. Gold may be concentrated in veins that postdate the majority of the silica-pyrite-arsenopyrite mineralization that is related to emplacement of a set of northerly trending rhyolite dykes. Alternatively, gold may

Geological Survey of Canada 100 West Pender, Vancouver Commission géologique du Cauada 100, ouest, rue Pender, Vancouver ...2/

Mr. Mel Holloway

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be deposited late in the SiO<sub>2</sub>-FeS<sub>2</sub>-FeAsS mineralization period, possibly with the most intense sulphide deposition.

In conclusion the low gold values over most of the area sampled reduce the mineral potential of the claim block, gold and silver do not correlate consistently with rhyolite dykes or silica-pyrite-arsenopyrite mineralization, and further prospecting and sampling is required before a drill target can be defined.

Good luck with your prospecting.

Best regards,

Ken Dawson

KD/bv

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#### APPENDIX III (cont'd)



SAMPLE LOCATION MAP



CHIP SAMPLE LOCATION MAP





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APPENDIX III (cont'd)

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717 ALASKA Hatson Lake Yda 100	HIGHWAY • YUKON				DATE P.O. #	: 19-A ; None	UG-84
CC1 KENNETH	DAWSON						
Sample	Prep	ę A	AU DDD			<b>.</b>	
description	code	Dpm	FA+AA				
MAT-03	207	0.5	15				
HAT-09	207	0.4	<5				
MAT-11 MAT-14	207	0.7	< 5				
MAT-15	207	0.2	<5	••			
MAT-16	207	0.2	<5	•-			
MAT-17 .	207	5.0	<5				'
MAT-19	207	0.3	<5				
MAT-20	207	0.3	<5			.=-	
MAT-21	207	0.6	25				
- HAT-23	207	0.2	<5				
MAT-24	207	0.6	(5	//			
HAT-25	201	9.7	1200.	.035 oz/toi	n		
MAT-26 '	207	Q.6	20				
MAT-27	207	0.6	रंड				
HAT-28	207	0.4	<5		<b>*</b> -		
MAT-29 MAT-30	207	0.5	<5 <5				
MAT-31	201	0.2	<5				
MAT-32	207	1.0	15		••		
MAT-33	207	0.9	25				
MAT-348	207	0.3	<5		•-	-	
MAT-35	201	0.9	3		•-		
MAT-36	207	0.2	(5	••			
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## APPENDIX III

ASSAY RESULTS

Carestrates tout 13 and las APPENDIX III (cont'd) due to les fe. with the the MC 8 me - by b we 19 weenersh , southeren : A3, A4, U, S2, SA of however - 95 - TN'Edist an may however as 12 We 3 12 thyme in the ; also have a langer of so (property as contants); Be la, K P Z णा 😳 😳 डॉ 1111 0/> ज्र 01) 722 T JF 5703 <10 <10 113 300 10.02 01 22.02 04 \$\*0> TH ज्या 21.0 D 20 0 22 75 2.0> ST D 1-34 1.0 2.9 **30** (10 11 TET 69.0 -دی 01) 0D 10.0> 71 œ 81 130 H 10.0 1> \$0.0 01> TI 0 01> 05.97 6 13 2.0> 21.0 D 2.0> 01 Ħ 1-34 -دي **61** 76 TT 9-36 **(1)** Т 01) **9D** 10:02 9 **3**0 Ŧ T 10.0 1> Ω. 20'0 01> 60'0 01> 37'E 17 1.1 τ 5.9> 80.0 Z) 20 <0.5 π 52.0 NC-2 5 - - 2 œ 0D (IO 0D 10.0> 21 ¥Z. 276 \$1.0 6 67 140 09 10.0 D Ħ 20.0 01> 90.0 01> 5. 5. 11 001 21 5-0 12.0 D 10 <0.5 20 T د ي σt VCS 276 20 0D 11 17 01) **6**D 10.0> 11 85 X 15 10.0 1> 221 01.0 01 01-0 01 11.12 21 201 **E**1 2.0> ST D 2°0> 30 Υ. 57 **6D** (-)) (-)) (10 **0**D 10.0> 122. ग 覧. 068 œ 10.0> 1) 568 2.0 01> 210 1 727 91 87 ET 5.0> TTD 5.0> AL Æ 20 12.0 ٠. -T 1.0 77 (10 π 210 <0.5 87.6 01) ØD 10.0> EI 17 82 021 Ц 10.0 1> 111 20.0 01> 00.0 01> TTTLE OF 86 6Z 51.0 51.0 39 5-9 \_ ٥t 01 19 2.0 11 01> 01> 10\*0> ZI VST 92 0/1 LOT 10.0 D -50.0 01) 10.0 01 π 877 21-0 D CI0 (0.2 100 HC.0 §' - -1-34 description ffm old old ~~ - edd mid wHi . . ble ble add add add 1 bbe bhe add edi ald edd . add - etd entd add i edd odd. oli 1 I 1 1 1 25 13 13 75 95 94 ટે 18 જે બા પર કેસ જ 47 **N** A 0 3 19 #j 11) 5 9 n 5 11 4 4 **1** Ly 1V n alquez ACC: DB' DVR204 SINAHHOZ YOA ICO NOTSON LAKE, TUKON **SNON**: • .0.9 only be considered as semi-quantitative. 717 ALASKA HIGHUAY SB-d35-21 : . 31AQ Ga, La, Mg, K, Wa, Sr, II, IL, W and V can INNOICE . P 2 18219103 values reported for Al, Sb, Be, Ca, Cr, IO : HOLLOWAY, MR. WEL A-100-C013128A : \*\* CEBI. • digestion is incomplete for many minerals, sids estationed by ICP analysis. Since this CERTIFICATE OF ANALYSIS to me 2.0 to notteetb steet-suph-sist 16525·C+0 :meisT ß Telephone:(604) 984-0221 ENEVERSA benessigeft. Elimeusoen. AND VICEN CHAMISTER staviene 901 Jonnale 131un avidestineup imat 871 894 102 FZA PPHURD 5.75 O.B .................. Chemex Labs Ltd. 2 8, JOVUODNAY 212 Brooksbank Ave. 100 MEST ADIDER ST. ADHURD NEVER SURVEY

# APPENDIX B

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## DESCRIPTIONS AND ASSAYS BY DR. JIM MORIN

Geological Survey Of Canada, 100 West Pender Street, Vancouver, B.C. **V6B 1R8** December 15,1987. Mr. Mel Holloway, c/o Gold Rush Inn, 411 Main Street, Whitehorse, Yukon. Dear Mel: I am enclosing analytical results for six rock samples that I collected on the Shootamook Creek occurrence during our July visit this year. The descriptions follow: Vuggy silicified zone; dark grey silicified JAM 87-25 phyllite; vugs 1 mm to 1.5 cm and guartz-lined (5 % by volume); white clay in vugs also; fine grained pyrite occurs as disseminations and as lenses. 21 Showing; guartz stockwork, patchy pyrite. JAM 87-26 replacement all in silicified rhyolite dyke. El Showing; silicified phyllite with minor JAM 87-27 disseminated pyrite and white clay minerals along fracture stockwork. JAM 87-28 Silicified phyllite; vuggy with stockwork of quartz, clay minerals and calcite with trace disseminated pyrite. El Showing; Chip sample across central quartz vein JAM 87-29 for 0.9 m of white and grey quartz. Silicified breccia, vuggy, disseminated and patchy JAM 87-30 replacement pyrite. All samples are from the hanging wall rocks except for É26 from a rhyolite dyke next to the vein and £29 which is from the vein itself. I've marked anomalous elements with an \* and will comment on them below. Au - The vein came out at 1850 ppb. Considering the variability in even high grade systems at this level, I would not consider this a worry. Encouraging elevated Au coming from the HW (hanging wall) rocks. Sb - appropriate high values that confirm a high level epithermal system.

, 44 a.

As - as per Sb above.

Ba - anomalously high and probably due to high K content in hydrothermal fluid.

Cs - as per Ba above.

Fe - these rocks are pretty leached with the highest Fe at 3.8 %.

Ag - pretty silver deficient.

Na - almost zilch and a good indicator of extensive leaching.

Te - modest positive anomalies consistent with gold-tellurium complexing in the system.

W - anomalously high and may be indicative of magmatic input to the hydrothermal system.

Pb - anomalously high and the two highest values are not in vein but rather breccia and silicified zone in HW. I think this tells us that the HW has good potential within the overall system.

Mn - anomalously low and consistent with this being the centre of a system; I would expect the Mn to increase on the flanks of the area.

Se - erratic low and high anomalies but appropriate with the overall geochemistry of this epithermal system.

B - modest positive anomalies that may again indicate some magmatic contribution to the hydrothermal fluid.

F - anomalously high and may also indicate a magmatic association and also may tie this mineralization to the topaz rhyolite suite of Eocene age that occurs at Midway, Fiddler, etc.

Hg - anomalously low and suggests that this volatile gas has totally leaked out of the centre of the system but may be enriched on the flanks.

I hope these numbers are of some use to you Mel and I look forward to seeing further work conducted on the property.

Sincerely Yours

J. A. Morin.

BONE		EGG	Geochemics Lab Repor
127-6708 (PRELIMINARY)		REFFRENCE INFO: REQ. 44	7331-7-1038
INDIAN & NORTHERN AFFAIRS CANADA . NONE GIVEN		SUBMITTED BY: MS. V. KLA DATE PRINTED: 13-DEC-87	AVER
SAMPLE TYPES NUMBER SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK 70 2 -150	70.	CRUSH, PULVERIZE -150 LARGE VIAL SURCHARGE	70 70
REMARKS: ELEVATED DETECTION LIMITS FOR INAA ANALYSIS DUF TO HIGH AB,AS,AU,H,ZN. SAMPLE JAM 87-66 COULD NOT BE ANALYZED DUE TO HIGH SB.			
REPORT COPIES TO: DR. J. A. HORIN	ZNVO	ICE TO: EXPLORATION A	NOGICAL
SHOOTAMOOK CREE	<u>×</u> >	<u>AM7L</u>	
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## Geochemical Lab Report

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_	ELEMENT	Au	SP	As	. Ba	8r	۶۵	Ce	(s	Cr	Co	Eu	Hf
·	UNITS	PP8	PPN	PPN	PPN	PPM	PPn	PPH	PPN	PPM	PPN	PPII	PPN
1 87-3		<4	78.5	69.9	400	<2.0	<5	75.0	11.0	130	<5	<1	2 .
1 8 4		71	42.5	65.8	<50	<2.0	<5	<11.0	<0.5	140	24	. 4	· <1
1 8 5		34	52.1	12.0	<50	<2.0	<5	<12.0	<0 <b>.</b> 5	130	9	1	2
M 87-6		160	42.0	11.0	<\$N	<2.0	<5	<19.0	<0.5	150	160	2	4
n 87-7		120	17.0	1.7	<50	<2.0	5	<5.0	1.5	36	94	<1	(1
n 87-8		232	2.6	6.9	<50	<2.0	<5	<20.0	<0.5	97	45	<1	<1
n <u>87</u> -9		249	22.8	18.0	200	<2.0	<5	48.0	2.6	220	ও	<1	5
n <u>-</u> 10		<b>9</b> 36N	485.N	5710.0	1300	47.0	<18	<13.D	3.9	140	<5	2	<1
ከ 👽-11		2370	196.0	2480.0	200	19.0	<10	<27.0	8.7	220	<5	4	<3
ill 87-12	·	814	213.0	2130.0	1700	19.0	<10	<26.0	10.0	97	<u>د</u>	2	</td
M -13		21600	2930.0	>9000.0	<380	<360.0	<110	<51.0	<2.0	370	<13	<10	<7
神 87-14		180	60.6	375.N	<b>7</b> 90	3.9	·· <b>‹S</b>	64.0	11.0	110	·s	<1	ंदा
jil 👥 -15		110	297.0	258.0	841	11.0	. <5	<22.0	8.0	350	<5	<1	<2
אר, או <b>ב</b> יירו		120	287.0	226.0	<50	10.0	<5	<21.0	5.6	400	<5	d	<1
in 87-17	HAA	15400	296.0	7640.0	35200		<19	2 31.0	11.0	360	13	<3	</td
n -18	1700	633	7-10	153.0	450	<2.0	S	17.0	6.9	100	42	<1	<1
n 87-19		>90000	59.7	108.0	620	<2.0	<5	<24.0	4.9	180	<5	4	<1
An 87-20		110	79.3	43.0	<b>14</b> 0N	4.0	<5	<11.0	6.1	130	<5	<1	<1
n -21		60	18.0	24.0	1100	<2.0	<১	45.0	10.0	<del>9</del> 9	<5	<1	2
01 7-27		40	12.5	31.0	1300	<2.0	<5	93.0	· 13.D	100	·. <b>(</b> 5	<1	<u> </u>
oHT 7-2		61500	30.1	77.9	250	, <2.0			6.5	- 270	.<5	4	<1
AN 7-		2190	4.0	25.0	200	···· <2.0	20	Sr 25-0	1.7		31 33	ંત	2.52
an 87-25		68	247.0	178.0	<130	9.0	S	· • • • • • • • • • • • • • • • • • • •	- 12.0	220	<b>S</b>	<2	
IAN 87-26		51	100.0	196.0	740	3.6	Ś	92.0	20.0	- 200	·· 10	-2	_ <1
Al 17-27		<u> </u>	39.8	87.1	210	- 2.6	·	28.0	.2	240	S	.4	<1
AT 87-28	· — — —		175.0	67.8		5.9	<u>د</u>	41.0	9.4	270		_<1	
A 87-29		1850	119.0	356.TJ		6.7	s CS	52.0	11.0	218	ંંખ્ય	b i	
Al <b>i 87-</b> 30		218	95.9	569.0	-150	6.6	<5	39.0	6.6	240	- <b>'</b> ''	1> ~1	d
AH 87-31	•	18	5.8	16.8	2000	<u> </u>	<b>~</b> 6.	26.1	- 7.9		50	1.	
1A 87-32		3	1.3	12.0	870	<2.0	<u> </u>	52.0	14.0	110	D'A TO	ંેન્ય	2.
AN 87-33			27.9	243.0	-2308	-3:6	<5	79.0		160 -			······································
J <b>412 87</b> -34		2200	91.5	>9000.0	230	<436.0	<67	<36.D	<1.2	85	S		
87-35	_	1380	25.7	>9000.0	2170	<130.0	- 151	36.0	1.7	350	8		<b>7-43</b>
Jan 87-36		2700	87.2	>9000.0	500	<304.0		. 47.0	5.2	-270	- 20	Trand3	
Jon 87-37			2.0	1020.0	1700	6.7	<5	:72.0	4.4	- 120			- AL
Juir 67-38		າກກາຍອ	4070 D	>90001-0			1415	Section and		380	List-173		
JAN 87-39		3-81	25.8	379:1		T.E.T.		<b></b>		321	5	5	
3 87-40			17.3	187.20	1100	< 3.9			· 5.1	140			
87-41		766	2.2	60.1	440	<2.0	2.0	55.0	. 6.7	220	21		- 2.25
JAN 87-42		110	2.5	64.2	- 7500			25.0	2.8	150	-97		
-						·							
Geochemical Lab Report

127-6708 PROJECT: NONE GIVEN PAGE 18 ELEMENT Ir Fe La ňo Ni RЬ S∎ Sc Se Na lυ Ag PPB PCT PPH PPN PPM PPH PPn PPN PPn PPN PPH PCT UNITS 0.58 2.6 6.20 8.0 <5 17 JAN 87-3 <SII 40 0.6 (1 20 140 3 26 1.90 <5 4 0.09 87-4 <50 17.0 0.4 <1 <5 6.1 0.07 87-5 <5N 15.N 3 0.5 <1 <20 <5 4.30 4.2 <5 8 7 0.02 2.8 13 ' JAN 87-6 ۵.5 52 <5 3.00 <50 34.0 <2 <1 <5 <2 0.08 <5 1.70 3.3 87-7 **<**5П 12.0 6 0.2 <1 67 JAH 87-8 12 <20 <5 1.80 2.6 <5 3 0.06 0.3 <1 <50 39.7 <5 D.20 - 78 3.0 14 <u>1011 87-9</u> <5N 1.5 26 0.4 <1 <20 3.กก <20 1.50 2.6 <5 100 <0.09 87-10 20 46 <5II 1.9 11 0.8 .0.05 87-11 9 4 <20 89 1.40 6.5 <11 -17 <50 3.5 0.6 9. 0.08 0.9 <3 <20 2.80 7.9 (11) 2 JAN 87-12 <50 2.0 14 81 ÷53 <0.56 <25 1.2 <24 32 ×50 1.10 30 -<43 87-13 5.9 4.3 35 2 s <2 0.10 2 JAN 87-14 30 1.4 8.4 <20 150 4.20 5.1 <u>-</u> - SD 9 -26 20 1.60 4.3 S <2 <0.07 87-15 1.3 0.5 <sup>ت</sup>ھ \_⊀50 5 **720** ٢S **~**2 <0.07 • - 0.94 2.3 87-16 .0.4 0.8 1 Ś 13 -×0.07 **Å**1 22 5.4 JAN 87-17 ≤0.4 72 3. **x**50 <20 1.30 . 1.6 ර .3 0.05 4.7 1.4 -2 87-18 14 -71 34 . (1.06 S SO ×20 1.50 3.9 G ...9 <0.5 10 . 87-19 0.5 ¥50 **K**2 <5 0.18 - 73 0.43 --1.2 JAN 87-20 0.6 . 6 0.3 17 420 34 × 0 `<20 2.90 5.9 <5 <2 0.14 20 0.4 :160 87-21 0.9 0.19 27:00 <5 <2 87-22 68 0.9 <20 -1020 --3.40 3.1 0.3 0.04 -95 <0.2 **d**7 140 <20 8.83 \_\_\_\_\_\_50 5 1.0 : <4 1.0 87e 87-520 2.60 -6.7 ~<5 L-C50 <0.2 -11 5.6 15 CO.07 5.0 <2 JAN 87-25 25 D.8 3 <20 . 44 1.70 <5 · 150 3.8 5 0.97 26 140 4.80 8.8 <5 M 87-26 -- **- 5**1 3.5 44 0.4 (1 د5 (2 0.10 1.70 6.2 20 -...63 H 87-27 50 0.6 11 0.4 1 0.09 <u>\_</u>\_\_\_\_0 29 -:4 <20 661 2.90 · 6.9 · <5 . . 2 1411 87-28 1.9 0.6 4.6 **<**5 -15 . 52 2.60 AN 87-29 r..:**\*(5**0 27 .4 - : ×20 0.5 0.3 ۲5 \_\_\_\_**≪2**0 - .39 4.2 • • 2.00 17 0.3 JAN 87-30 ିସ୍କେ 1.3 -54 2-2-2-20-2-2170-2-2.00 <5 🛱 5.50 .12 R2 JAH 87-31 3.7 <0.2 . 1.30 Ć 200 7.70 9.3 S AN 87-32 (1 1.1 22 1.0

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. (5 .) 210 4.30 12.0 ₹. **<5**0 <1 <sup>-</sup><20 🔂 JAH 87-33 1.9 36 8.4 38 -<0.56 · <0.7 ×15 · .• <34 <24 1.30 R<sub>2</sub> AM 87-34 S (9 <12 17.0 1.6 2 JAN 0, 2 JAN 87-36 . 🕫 🖏 👫 .3.50 3.7 .**..............** ×1 35 <18 ്ശി 4.8 15 0.8 ×14 🚰 🖓 🕹 🔙 🖬 🖓 🖓 - <24 4.40 .. 35 14 17 14.0 0.8 - 12 3.34 150 5.30 -18.0 - × S ÷ 80 .37 8 0.6 4.1 100 100 .=00.78 4110 4.8 .- 446 "Jan 87-38 -43 8.1 <44 :05 1 177 1.80 <1.4 <20 24 -3.10 3.5 . . . . <5 1.40 R2\_JAN 87-39 2.4 23 5 0.2 150 3.70 6.7 3 <20 Jan 87-40 29 0.4 <1 11.0 ે ના **ના .**62 3 · <5 JAN 87-41 37 .46 - 94 6.40 11.0 5.1 0.5 <1 · **<2** . 0.32 57 96 3.90 10.0 ٢S 2 JAN 87-42 28 0.5 (1 18.0

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# Geochemical Lab Report

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	ELEMENT UNITS	Ta PPN	Te PPN	Ť6 PPM	Th PPN	Sn PPN	N PPN	U PPM	Yb PPM	Zn PPH	Zr PPN	Cu PPM	- <del>רקי</del> רק PP
# 87-3		1.1	<22	0.6	18.0	<100	16	5.2	3	620	<200	67	251
87-4		<0.5	<10	<1.5	3.3	<100	3	1.3	4	510	<200	282	188
in 87-5		<0.5	<10	1.2	0.9	<100	<1	1.1	4	250	<208	284	166
<u>n</u> 87-6		<0.5	<10	<0.5	2.2	<100	8	3.1	<2	110	<200	2817	199
87-7		<0.5	<10	<0.5	0.9	<100	<1	0.8	<2	620	<200	1699	62
fi 87-8		<0.5	<10	<0.5	4.በ	<100	171	2.1	<2	160	<200	5090	14
87-9		0.6	<10	<0.5	13.0	<100	131	2.1	2	<100	220	159	65
87-10		<0.5	<b>&lt;39</b> .	<0.S	1.4	<100	6	<1.0	<2	390	350	57	233
M 87-11		<0.5	<46	<0.5	3.5	<100	7	<u.6< td=""><td>1</td><td>&lt;100</td><td>&lt;450 - 4 90</td><td>284</td><td>12</td></u.6<>	1	<100	<450 - 4 90	284	12
87-12		<0.5	<44 	<0.5	3.5	< <u></u>		(0.6		1/0		61	
n 87-13		<1.4	<160	<0.5	<2.1	<100	<38	<4.6	33	6100	<1400	911	474
M 87-14		<0.5	<10	<0.5	11.0	<100	· 5	3.3	· 3	<10/1	<2011	33	1:
87-15		<0.5	<39	(0.5	1.1	<100	ر ء	<u.5< td=""><td></td><td>100</td><td>520</td><td>13</td><td>2: •</td></u.5<>		100	520	13	2: •
#1 8/-16		<u.5< td=""><td>&lt; 38 • • • • • • •</td><td>&lt;0.5</td><td></td><td></td><td></td><td>(0.5</td><td></td><td></td><td></td><td>7</td><td>ر دور</td></u.5<>	< 38 • • • • • • •	<0.5				(0.5				7	ر دور
in 8/-1/		(0.5	HD	0 <i>T/</i>		00	<u>K</u>	2		- 3'	310		
1 87-18		<0.5	<10	<0.5	7.9	<100	18	18.0	<2	<100	<200	1203	1
# 87-19		<0.5	<40	<0.5	4.0	<100	3	<2.3	<5	<100	<200	25	1
N 87-20		<0.5	<10	<0.5	0.8	<100	2	1.3	<2	<100	<200	1	1
H 87-21	<b>/</b> .	<0.5	<10	<0.5	7.5	<100	4	4./	. E	<100 <100	<200	2	1
an 87-22		· 2.*	<10 	<u> </u>	45.5	<100		12.0		<100	400		
11 87-2	l , etc	<0.5	. <44	<0.5	d.0	<100	8	(1.3	(2	<100	(200	1	
AN 87 44		0.5	, <10	.40.5	· 5.5	<100	11	1:5			200	10	
an 87-25		<0.5	< <u>5</u> 7	<u.5< td=""><td>3.3</td><td>&lt;108</td><td> 21</td><td>1.1</td><td>10</td><td>- 100</td><td>C200</td><td>. 17</td><td></td></u.5<>	3.3	<108	21	1.1	10	- 100	C200	. 17	
AN 97-25		1.1	(26	0.5	12.0	<100	17	2.4	•	~100	2700	7	
an 0/-2/		0.7		<u> </u>	4.7	< <u></u>		<u> </u>					
AN 87-28		0.9	<31	<0.5	5.2	<100	8	1.3	5	**<100	<200	7	
AH 87-29		<0.5	<28	<0.5	6.0	<100	11	1.2	2		<200		 
AN 87-30	-	(0.5	<26	(0.5	1.6		11	1.7 	<b>بە</b> مە <del>ر</del> ەر ئارىچە	52900 A200			
AN 87-31			<pre></pre>	<u.5< td=""><td><u>, 3</u>.6 ∀" 9.3</td><td>&lt;100 &lt;100</td><td></td><td>. ۵.۵۰ (۲۰۰۰) ۲.۵۰</td><td>1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1</td><td></td><td>······································</td><td></td><td></td></u.5<>	<u>, 3</u> .6 ∀" 9.3	<100 <100		. ۵.۵۰ (۲۰۰۰) ۲.۵۰	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		······································		
4// 07 - JZ	·	- 1.0											
AN 87-33		<0.5	<10	0.6	13.0	<100	. 6	3.1	. <2	×100	<200	<b></b>	
AN 87-34		- 30.5	<110	(U,5)	(1.4		· (95	<3.U	17	5/U			
CC~10 DA		~~~~U.S	×18	~(L)	-6./.			• • • • • • • • • • • • • • • • • • • •	14		UC02		2 2 1 1 1 1
AN 97-37	سر سالیہ مراجع		- <b>17</b> 0		- 14 D					- 710			4.
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## Geochemical Lab Report

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Geochemical Lab Report

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# APPENDIX C

# SKETCHES AND ASSAYS BY PAUL MCGUIGAN, ESSO MINERALS

#### ESSO MINERALS CANADA

A Division of Esso Resources Canada Limited 1600 – 409 GRANVILLE STREET VANCOUVER, B.C. V6C 1T2 Telex: 04-55717 Telephone (604) 661-7100

File: 105B/14 MV: D0628 December 8, 1986

Mr. Mel Holloway Mile 717 Alaska Eighway Yukon

Dear Mel:

Accompanying this note are two figures showing sample locations for 8 rocks and 2 silt samples collected on your Matt claims by Paul McGuigan. I found a location map in Paul's field notes. I apologize for not getting them to you earlier.

Yours truly,

R. M. Britten

RMB/jc Encls.

1236D



10. (604) 980-5814 DR	(604) 988-452	24				TELEX:VIA	USA 7601067 UC
company:ESSO M roject:MD-02 tention:PAUL	INERALS	GANADA	ICAT	<u>e_ot</u> _	ASSAY	File:6-761 Date:SEPT Type:ROCK	10/86 Assay
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PHE: (604)980-5814 D	R (604)988-4524			•		TELEX:VIA	USA 7601	067 UC
	Certin	ficate	of	GEOC	HEM	*****		
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705 West 15th Street North Vancouver, B.C. Canada V7M 1T2 -4524 TELEX:VIA USA 7601067 UC

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up Red Cr.	66R-090	0.03	2.5	i	15	16	109	68	
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<u>р и</u>	66R-091	0.01	0.4	5	22	9	83	41	
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,, ,	6GR-094	1.43	1.9	17	1250	.9	44	43	
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#### ADDENDUM

REPORT ON THE

MATT-MATHEW AND HUGH CREEK CLAIMS

WATSON LAKE MINING DISTRICT, YUKON

FOR

ORPEX MINERALS INC.

bу

LARRY W. CARLYLE, F.G.A.C., P. Geol.

Whitehorse, Yukon

December 22, 1988

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Appendix 2: Assay Compilation by Larry W. Carlyle, F.G.A.C.
Acme analytical Certificates File # 88-6175R
Appendix 3: Red Creek Stream Sediment Sample Analyses
Appendix 4: Core Sample Descriptions and Analyses
Panteleyev Figures 1 and 5

#### INTRODUCTION

The camp situated near the Winnie Showing was utilized at various times from October 2, 1988 to December 2, 1988 as a base from which the assessment work needed to hold the Hugh Creek claims was performed. This work was to consist of helicopter supported stream sediment and rock sampling and assaying. Upon arrival on site, it was discovered that most creeks in the area were completely frozen over. Stream sediment sampling must be delayed until the spring. Sufficient helicopter supported rock blasting and sampling were completed during this interval that, when added to the work done by Mr. Holloway in October, 1988, the Hugh Creek claims will have sufficient assessment work filed to hold them for a minimum of one year.

During this visit to the property, a test pit was excavated on the footwall of the Winnie Showing. The test pit dimensions are approximately 10 feet (3 metres) deep, 4.5 feet (1.5 metres) long and 3.0 feet (1.0 metre) wide. The writer sketched and described the walls of the test pit. The north and south walls which exposed segments of the vein were sampled at 1 foot vertical intervals.

The mineralization on the Orpex Minerals Inc. property appears to be closely associated with fault zones. Fault zones can be located by aerial photogragh and satellite photography study. Preliminary review of air photographs has revealed lineations striking chiefly in a northwest direction parallel to the Tintina Fault (Page 4 of original report). The upper section of Scurvy

Creek has this orientation. A recent brief review of the satellite photograph covering the property area shows a strong lineation which suggests to the writer that Shootamook Creek ran through Stoneaxe Lake at some point in its history (See Claim Map). The topographic relief south of this line is much greater than that north of it. Intrusives in this area may account for this. The writer has observed gneissic rocks on the Sid Claim The intrusives may have been responsible for the sharp group. change in the course of Shootamook Creek near the north boundaries Open File 1289 has demonstrated of the Sam and Sid Claim groups. the existance of significant gold and arsenic values in stream sediments from this area.

The Red Creek Fault (See Claim Map) is visible on the satellite photograph. The strength and extent of this structure suggests that it had importance in the mineral deposition of the area. More work is needed to confirm the importance.

Additional aerial photograph and satellite photography study should be done over the winter to assist the 1989 work program. This work can be done at relatively low cost; requiring no change in the proposed budget. The 1989 budget should reflect the combined total of the 1988 and 1989 proposed budgets of my original report; more detailed rock and stream sediment sampling and analyses remain to be done in 1989.



١

SOCIATIO V. CARLYI



#### CLAIM INFORMATION UPDATE

The ownership of the Matt-Mathew and Hugh Creek claim groups has been changed to: 25% Mel F. Holloway, 25% Yukon Yellow Metal Exploration Ltd. and 50% Orpex Minerals Inc. (See Claim Map). Assessment work filed has changed the claim expiry dates to the following:

Claim	Names		Gran	t	Nut	nbers	Expiry 1	Date	
							 	*****	
Mathe	w 1 - 4	4 Y	A 71354	-	YA	71357	January	20,	1997
Mathe	w 5 - a	5 Y	'A 71358	-	YA	71359	January	20,	1998
Matt	7 - 8	З Ү	'A 73626	-	YΑ	73627	January	20,	1995
Matt	9 - 4	48 Y	'A 73721	-	YA	73760	January	20,	1995
Sam	1 - 2	22 Y	B 10878	-	ΥB	10899	January	4,	1990
Sam	23 - 2	28 Y	B 10900	-	ΥB	10905	January	4,	1991
Sam	29 - 3	38 Y	B 10906	-	ΥB	10915	January	4,	1990
Sam	39 - 4	48 Y	B 10916	-	YΒ	10925	January	4,	1991
Ron	1 - 8	3 Y	'B 10926	-	ΥB	10933	January	4,	1991
Ron	9 - 3	16 Y	'B 10934	-	ΥB	10941	January	4,	1990
Ron	17 - 2	24 Y	B 10942	-	ΥB	10949	January	4,	1991
Ron	25 - 4	48 Y	'B 10950	-	YB	10973	January	4,	1990
Bud	1 - 3	10 Y	B 11022	-	ΥB	11031	January	4,	1990
Bud	11 - 3	16 Y	B 11032	-	YΒ	11037	January	4,	1991
Bud	17 - 2	26 Y	'B 11038	-	ΥB	11047	January	4,	1990
Bud	27 - 3	32 Y	'B 11048	-	ΥB	11053	January	4,	1991
Bud	33 - 4	42 Y	B 11054	-	ΥB	11063	January	4,	1990
Bud	43 - 4	48 Y	B 11064	-	YB	11069	January	4,	1991
Hugh	1 - 4	48 Y	B 11070	-	ΥB	11117	January	4,	1990
Sid	<b>1</b> - 1	15 Y	B 10734	-	ΥB	10748	January	4,	1990
Sid	16	Y	B 10749				January	4,	1991
Sid	17 -	25 Y	B 10750	-	ΥB	10758	January	4,	1990
Sid	26 -	32 Y	B 10759	-	ΥB	10765	January	4,	1991
Sid	33 -	40 Y	'B 10766	-	ΥB	10773	January	4,	1990
Sid	41 -	48 Y	B 10774	-	ΥB	10781	January	4.	1991

#### WORK PERFORMED

The rock blast sites done by Orpex Minerals in October, 1988 were located on a claim map as they were performed. These locations have been marked as circles on the accompanying Rock Blast Locations map. The rock blast and sample locations obtained in November, 1988 are designated by letters and a number on the same

# SAMPLE DESCRIPTION TABLE

Sample	#	Description	Au ppb	Ag PPM	As PPM
H -1		Blocky light grey quartzite cut by quartz stringers up to 2 inches,light brown limonite staining, trace pyrite and sericite	5	0.1	15
H - 2		As above	1	0.1	2
н - з		Quartzite as above, strongly vuggy quartz fracture fillings up to 2 inches	4	0.2	2
R - 1		Blocky dark grey to black limestone cut by white calcite stringers up to 1 inch, no sulphides, weak limonite, trace sericite ?	1	0.2	2
R - 2		As above	1	0.3	8
SA - 1		Weakly silicified, blocky limonite stained limestone with calcite stringers up to 1/2 inch	1	0.3	4
SA - 2		2 - 3 inch limestone gouge variable light to red brown limonite staining	5	0.6	7
SI - 1		Weakly sericitic graphite schist, dolomite porphyroblasts minor limonite	1 ?	0.1	2
SI - 2		Light grey limestone cut by 1/2 inch white calcite stringers, minor quartz, prominent folding and fracturing (jointing ?)	1 9	0.3	5
B - 1		Blocky black limestone cut by white calcite (dolomite ?) up to 1/2 inch, trace pyrite and sericite	14	0.1	



map. The letters designate the claim block and the number designates the sequence.

During the November property work, 1.5 to 2 feet of snow covered most of the property. The most common locations of rock outcrop were steep rock bluffs in creek cuts. Wherever possible, blast and sample sites were chosen in areas near stream sediment sample locations from Open File 1289 which had returned elevated values in gold, arsenic and/or antimony. If such locations were not found, areas having significant iron staining and silicification were chosen for blast sites. Large quantities of dynamite were placed in holes and crevices at the base of the bluffs to create as large an area of fresh rock as possible for sampling. Sites were placed on a 1 : 50,000 scale topographic map as they were completed. From this map, they were transferred to the Rock Blast Locations map. Samples obtained during this work have been described by the writer (See Sample Description Table) and have been analysed for 31 elements by ICP methods and for gold by rock geochemical analysis (See Appendix 1).

During the rock blasting and sampling several features were observed which may have a bearing on future exploration of the Hugh Creek Claim groups. Significant silicification existed in all areas sampled on the Hugh Claim Group. Major and minor faulting were observed on the Sam Claim Group. Sericitic graphite schist in the vicinity of sample SI -1 resembles that found at the Winnie Showing. These claim blocks are also on strike with the Winnie. The sample table shows the significant values obtained from the sampling completed. The highly anomalous 95 parts per





billion gold stream sediment sample in Open File 1289 situated near the Bud Claim group suggests this area warrants further work.

A test pit was also excavated on the footwall of the Winnie Showing during this property visit. The test pit dimensions are approximately 10 feet (3 metres) deep, 4.5 feet (1.5 metres) long and 3.0 feet (1.0 metre) wide. For the most part, the rock removed was frozen. The rock was fractured using an electric percussion drill powered by a 2200 cubic centimeter Honda gas-Water seeped into the pit during the sinking powered generator. of the last 2 feet of the pit. This necessitated frequent bailing. The water appeared to be following the footwall gouge zone and is probably seepage from Matt Creek. The writer has sketched and described all four walls of the test pit (See Figures 1 and 3). The north and south walls which exposed segments of the vein were sampled at 1 foot intervals (See Figure 2). The bottom of the pit was arbitrarily called 8 feet with numbers decreasing by one for each foot up the walls. The north wall is designated by an "N" and the south wall by an "S". Samples were given a number in sequence starting from the footwall side. The width of each sample was measured and recorded as it was taken. For example: Sample 6N - 3 is the third sample from the footwall on the north rib at a depth of 6 feet (See Figure 2).

Forty-five rock chip samples were taken from the test pit and were analysed for 31 elements by ICP methods and for gold by rock geochemical analysis (See Appendix 1). A significant 14 of these samples (31.1%) returned values of greater than 1000 parts per billion in gold. Samples BTM - 1 (Bottom -1), HW - 1 (Hanging Wall



TEST PIT FACE SKETCH

DECEMBER 1, 1988 SCALE: 1 inch = 2 feet

NORTH FACE



<u>LEGEND</u>

<u>ASSAY</u> FEET	ELEMENT: <u>Au (ppb)</u>
%	percentage
PFM	parts per million
ppb	parts per billion
opt	troy ounces per ton
Au	Gold
Ag	Silver
As	Arsenic

FIGURE 2

:



SOUTH FACE



ASSAY OVERLAY

# NORTH FACE



LEGEND

ELEMENT: Ag(PPM)
percentage parts per million parts per billion troy ounces per ton
Gold Silver Arsenic

DECEMBER 1, 1988 SCALE: 1 inch = 2 feet

FIGURE 2

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SOUTH FACE





# <u>ASSAY OVERLAY</u>

## NORTH FACE



# LEGEND

<u>ASSAY</u> FEET	ELEMENT: As(PPM)
%	percentage
ԲԲM	parts per million
ppb	parts per billion
opt	troy ounces per ton
Au	Gold
Ag	Silver
As	Arsenic

# DECEMBER 1, 1988 SCALE: 1 inch = 2 feet

FIGURE 2



SOUTH FACE



# EASI FACE (Footwall Rib)

# TEST PIT FACE SKEICHES

# SCALE: 1 inch = 2 feet

DECEMBER 1, 1988



-1) and FW - 1 (Footwall - 1) in Appendix 1 are analyses of grab samples taken from the designated areas near the bottom of the test pit. Fire assaying for gold and silver and arsenic assay were done on 26 of these samples to confirm the high gold values obtained. See Appendix 2 for Figures showing sample values and locations. The test pit has demonstrated that the Winnie Showing continues with strength through approximately 22 vertical feet. Samples continue to show the trend of higher gold values with increasing depth. Samples BR - 1, D - 1, L - 1 and M - 1 in Appendix 1 are analyses of rock samples which do not pertain to this report.

#### AWAITED RESULTS RECEIVED

#### (a) Red Creek Stream Sediment Samples

On page 6 of my original report, I mention four stream sediment samples taken along Red Creek for which assays were awaited. Please see Appendix 3 for a location diagram and geochemical assay results for gold, silver, arsenic, antimony, lead and tungsten. The low values obtained in the analyses may be, at least partially, explained by the samples having been taken from an area placer mined by Chief Smith in the 1930's. The sediments in this portion of Red Creek have only had approximately 30 years to accumulate; this may not have been sufficient to produce anomalous values.

#### (b) Dr. Jim Morin Data

On page 8 of my original report, I indicated that Dr. Jim Morin had visited the property. Dr. Morin took 5 samples of core during

the visit and has kindly returned their descriptions and analyses (See Appendix 4). It is worth noting that Sample RX 040052 which probably comes from the showing extension returned a value of 44 ppb. in gold.

In a personal communication, Dr. Morin suggests that the rhyolite dyke resting on the hanging wall of the Winnie Showing was rich in volatiles, especially hydrogen sulphide gas. He believes this is indicated by the presence of pyrite intimately associated with and as blebs within the dyke. De-gassing of the dyke, perhaps by intersecting a fault zone, would create intense acid leaching and advanced argillic alteration. Morin believes this process is responsible for the "epithermal-looking" alteration adjacent to the Winnie.

Carlyle believes that the acid leaching mentioned by Morin would most strongly affect the rocks in the hanging wall of the Winnie Showing. The leaching would result in depleted metal values where most of the Total Erickson drill holes terminate.

Much of the data obtained from the Winnie Showing to date support a shallow to moderate depth of burial during mineral deposition:

- 1. Strong presence of phyllite, clay and silicification
- 2. Significant amounts of barium, antimony and arsenic
- 3. Generally low base metal values
- 4. Test pit samples returned a silver to gold ratio of 2.2 to 1.
- 5. Pyrite and arsenopyrite mineralization in the system is very fine grained (probably indicating rapid formation)
- 6. Alteration and leaching appear to weaken as gold values increase with depth in the system

Please refer to Figure 5 in Appendix 4 which relies heavily on work done by Panteleyev in the Toodoggone area to demonstrate an

epithermal model for British Columbia. Please also note the location similarity of the Toodoggone and the Cariboo-Barkerville areas (Figure 1 in Appendix 4) to that of the Orpex Minerals Inc. property.

#### SUMMARY

This writer considers the Sam and Sid Claim groups to be where additional mineral deposits will most likely be located on the Orpex Minerals Inc. property. These claim groups are on strike with the Winnie, have significant stream sediment values in gold and arsenic and have evidence of tectonism. The Hugh Claim group is also on strike with the Winnie and all sampled locations exhibit significant silicification. The highly anomalous 95 parts per billion gold stream sediment sample near the Bud Claim group should receive follow-up.

Work on the Winnie Showing continues to demonstrate its significance. Of prime importance is the increasing gold values through the 22 vertical feet of exposure. The Winnie Showing is the only mineral deposit as yet located on the Orpex Minerals Inc. property. Continued work on this showing will provide the exploration keys needed for locating others.

W. CARLYI FELLON

#### STATEMENT OF QUALIFICATIONS

- I, LARRY W. CARLYLE, do certify:
- 1. That I am a professional geologist operating a business registered as CARLYLE GEOLOGICAL SERVICES LTD. with an office at 74 Tamarack Drive, Whitehorse, Yukon Y1A 4Y6.
- That I hold a B. Sc. degree in geology from the University of British Columbia (1970).
- 3. That I am a Fellow of the Geological Association of Canada (F 4355).
- That I am a Registered Professional Geologist in the Association of Professional Engineers, Geologists and Geophysicists of the Province of Alberta (41097).
- 5. That I am a Member of the Canadian Institute of Mining and Metallurgy.
- That I have practiced my profession as a mine and exploration geologist for fourteen years.
- 7. That I have visited the property. The conclusions and recommedations in the attached report are based on work done on the property by myself and a review of all available private and public reports on the property.
- 8. That I hold no interest in the property nor in the shares of Orpex Minerals Inc.
- 9. That I have given my permission for this report to form part of a qualifying report on the Orpex Minerals Inc. property.

DATED at Whitehorse, Yukon, this  $22^{hd}$  day of December, 1988.



# APPENDIX 1

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31 ELEMENT ICP AND GOLD GEOCHEMICAL ANALYSES

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#### GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3NL 3-1-2 HCL-HH03-HZO AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MM FE SE CA P LA CE MG BA TI B W AND LIMITED FOR MA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: ROCE AU\* AMALYSIS BY ACID LEACH/AA PROM 10 GN SAMPLE.

DATE RECEIVED: DEC 7 1988 DATE REPORT MAILED: Dec 12/84 . . D. TOTE, C. LEONG, B. CHAN, J. WANG; CERTIFIED B.C. ASSATERS SIGNED BY. 5

> CARLYLE GEOLOGICAL File # 88-6175 Page 1

SANPLE <b>‡</b>	No PPK	CU PPN	Pb PPM	ZD PPN	λg PPM	Ni PPN	CO PPN	Xa PPN	le t	AS PPN	U PPN	Au PP <del>N</del>	Th PPN	ST PPN	Cd PPH	SD PPN	Bi PPN	V PPN	Ca ł	P R	La PPN	CT PPN	Ng ł	Ba PPN	Ti ł	B PPN	Al 1	Na X	I ţ	W PPN	λu* PPB	
25-1	1	3	18	4	1.4	2	1	4	.78	59	5	ND	9	13	1	53	4	9	.02	.007	32	5	.03	146	.01	3	.37	.01	.14	8	46	
25-2	2	5	34	9	3.1	5	1	35	. 57	309	7	2	6	19	1	38	2	3	. 04	.006	15	5	.03	115	.01	6	.18	.01	.06	- 4	1430	
25-3	1	2	12	1	1.2	1	1	10	. 40	159	5	ND	5	8	1	33	2	2	. 02	.002	18	3	.01	50	.01	2	. 23	.01	.12	4	128	
35-1	1	4	1	3	.9	2	1	6	.72	35	5	ND	6	6	1	60	4	8	.01	.007	17	4	.01	23	.01	9	.41	.01	.10	9	26	
35-2	1	4	16	3	1.2	1	1	2	. 52	59	5	ND	8	11	1	55	2	9	.01	. 005	29	8	. 03	107	. 01	6	. 58	.01	.19	9	40	
38-3	1	1	107	7	16.8	3	1	14	. 46	406	5	ND	6	22	1	33	4	3	.02	.002	21	5	.01	227	.01	2	.20	.01	1.09	3	1510	
35-4	1	2	20	1	2.2	2	1	13	.34	88	5	ND	6	9	1	32	3	2	.02	.002	18	5	. 01	79	. D1	5	.24	. 01	.14	- 4	77	
4S-1	1	2	8	6	1.1	2	1	2	. 28	42	5	ND	8	1	1	61	2	9	.01	.005	27	8	.01	50	.01	8	. 49	.01	.12	12	84	
45-2	3	3	44	5	1.3	5	1	- 4	.56	3244	5	ND	11	12	1	68	2	6	. 02	. 009	41	8	.01	83	.01	5	.34	.01	.10	5	830	
55-1	1	9	8	5	.5	3	1	2	. 94	92	5	ND	9	4	1	44	2	9	.01	. 006	25	6	. 02	30	.01	1	. 45	.01	.12	19	31	
55-2	4	٤.	54	11	3.8	4	1	8	. 76	3969	6	ź	10	13	1	53	2	6	. 02	.012	30	10	.01	53	.01	ß	.32	.01	.10	7	1480	
6S-1	1	35	14	10	.1	27	12	2	5.23	93	5	ND	14	6	1	53	2	10	.01	.005	22	8	.03	17	.01	3	.49	.01	.16	20	25	
65-2	3	4	49	7	1.8	6	1	9	.83	378	5	ND	11	102	1	64	2	1	.02	.012	35	12	.01	84	.01	3	. 29	.01	.17	7	930	
75-1	1	37	17	13	.5	24	12	- 4	4.82	434	5	KD	12	15	1	70	2	11	.01	.007	19	1	.03	12	.01	7	.53	.01	.16	15	270	
75-2	1	6	28	28	1.7	9	2	14	.75	1353	5	2	9	- 19	1	31	2	4	. 02	.006	29	8	.01	51	.01	6	. 27	.01	.14	5	2710	
85-1	1	41	34	21	.6	29	13	Z	5.77	660	5	۶D	24	38	1	76	2	12	.05	.041	19	10	.03	10	.01	3	. 51	.01	.15	16	330	
BS-2	1	18	25	63	1.2	57	10	16	2.26	14055	5	5	8	26	1	44	3	3	.06	.024	10	12	.02	68	.01	2	.18	.01	.10	5	5530	
18-1	1	6	10	2	.3	2	1	3	. 38	31	5	ND	1	8	1	25	- 4	5	.02	.003	17	6	.02	25	.01	8	. 50	.01	.13	1	26	
18-2	1	- 4	22	- 4	4.2	1	1	3	.45	188	5	2	8	16	1	37	2	5	.01	.002	27	· 8	.01	46	.01	9	. 33	.01	.13	10	1520	
1N-3	1	3	18	5	5.2	1	1	12	.31	223	5	5	1	1	1	18	2	2	.02	.003	31	4	.01	20	.01	4	.18	.01	.10	3	4630	
18-4	1	5	19	4	1.4	3	1	21	. 72	145	1	ND	5	9	1	70	2	3	. 01	.001	13	6	.01	101	.01	6	.27	.01	.13	5	102	
28-1	1	3	25	3	.6	6	1	2	.37	11	5	HD	1	13	1	47	2	1	.02	.006	20 -	9	.01	19	.01	8	.42	.01	.08	10	41	
28-2	1	3	28	- 4	1.6	3	1	1	. 84	113	5	ND	8	35	1	49	2	8	.01	.004	26	9	.02	49	.01	1	.48	.01	.20	12	330	
28-3	1	4	79	1	5.2	2	1	13	. 63	374	5	3	4	15	1	16	2	2	. 02	. 993	15	5	.01	35	.01	3	.15	.01	.12	3	2830	
28-4	1	4	12	1	1.6	3	1	11	.50	156	5	hd	6	8	1	31	3	2	.01	.002	20	5	.01	60	.01	4	.26	.01	.14	3	146	
38-1	2	3	14	3	.9	1	1	19	.36	11	5	ND	5	18	1	45	2	7	2.33	.005	15	12	. 02	12	.01	6	.37	.01	.04	1	15	
3H-2	1	4	11	3	1.2	1	1	2	.40	53	5	ND	10	7	1	57	Z	9	.0Z	.003	- 32	6	. DZ	- 41	.01	1	. 46	.01	.14	11	250	
3N-3	2	16	48	13	4.7	10	1	23	1.16	8543	5	5	8	17	1	40	1	3	.12	.045	26	13	.02	73	.01	- 4	.17	.01	. 09	6	4120	
3H-4	1	9	9	5	. 8	4	2	27	1.44	588	5	ND	3	9	1	49	3	3	.04	.007	10	5	.01	49	.01	2	.22	.01	.10	4	105	
48-1	2	3	11	3	1.5	6	1	2	.31	29	6	ND	5	1	1	31	2	6	.05	.004	11	10	.01	10	.01	5	.33	.01	.04	8	32	
48-2	1	1	18	4	1.5	1	1	2	. 18	22	5	ND	10	9	1	70	2	11	.01	.005	31	6	.02	46	.01	11	.58	.01	.14	15	186	
4N-3	2	14	239	36	9.4	21	4	34	1.22	9593	5	1	9	34	1	40	2	3	.04	.013	27	11	.01	65	.01	4	.18	.01	.11	1	6210	
(B-4	2	3	16	1	.7	- 4	1		.29	558	5	nd	9	12	1	69	Z	7	.01	.008	42	11	.01	85	.01	8	.41	.01	.12	4	65	
58-1	2	9	16	1	1.1	20	- 4	2	1.39	18	5	ND	8	12	1	56	3	9	.04	.011	18	13	.01	60	.01	3	. 58	.01	.06	11	36	
58-2	1	24	18	8	8	13	3	3	2.33	36	5	ND	10	13	1	76	2	9	.02	.008	24	9	.03	26	.01	8	.69	.01	. 20	12	74	
5N-3	3	14	170	105	13.8	8	1	26	. 99	1926	5	5	1	97	1	58	2	3	.02	.009	18	9	.01	74	.01	3	.15	.01	.12	9	4880	
58-4	1	6	21	4	.8	6	2	12	.81	640	5	ND	10	14	1	45	2	5	.03	.005	35	8	. 92	76	.01	2	.33	.01	.15	5	198	
STD C/AU-R	18	82	41	132	7.0	69	31	1030	4.08	45	19	8	39	49	19	18	19	61	.48	. 096	40	57	.89	183	.07	38	1.92	. 06	.13	11	510	

CARLYLE GEOLOGICAL FILE # 88-6175

SAMPLE <b>‡</b>	No PPN	Cu PPN	Pb PPN	Zn PPM	Ag PPM	NI PPN	Co PPN	ND PPN	fe 3	As PPH	U PPN	Au PPN	Th PPN	ST PPN	Cđ PPM	Sb PPM	Bi PPN	V PPN	Ca t	P S	La PPN	CT PPN	Ng Z	Ba PPN	Ti 3	B PPN	A1 \$	Ha Z	r t	¥ PPM	Au* PPB
6H-1	1	28	27	23	.3	49	13	6	2.61	BD	5	ND	18	18	1	77	2	8	.10	.067	51	15	. 02	32	.01	6	.55	.01	.07	10	27
6H-2	1	15	40	1	1.6	17	6	13	3.36	391	ŝ	m	10	33	1	12	2	i i	.04	.048	19	10	.03	16	.01	1	.37	.01	.10	1	510
6W-3	2	9	333	17	3.9	5	2	12	1.43	201	Š	ND	4	41	1	35	2	3	. 03	.025	10	1	. 02	172	.01	i	. 19	. 01	. 09	6	2330
6H-4	2	6	17	5	.9	i	2	3	1.32	98	5	RD.	i i	18	1	58	2	2	.02	.008	16	6	.01	85	.01	i	.22	.01	.11	3	200
78-1	1	17	16	59	1.8	17	6	12	1.59	4089	5	HD	9	21	1	33	2	2	.03	.042	12	9	.01	75	.01	2	. 22	. 01	. 05	5	2480
78-2	2	10	9	7	.3	9	3	13	1.25	366	5	RD	4	12	1	21	2	2	. 02	.005	17	9	.02	55	. 01	6	.31	.01	.15	3	200
8N-1	2	46	41	51	.9	69	19	16	2.55	1458	5	ND	42	81	1	65	2	10	.18	.136	62	21	.03	24	.01	7	.84	.01	.10	11	820
88-2	3	16	10	19	1.3	19	7	12	1.84	6072	5	ĦD	1	15	1	27	Z	2	.04	.016	13	11	.02	50	.01	5	. 25	.01	.11	3	1300
B-1	1	1	10	4	.1	1	3	807	. 88	20	6	ND	2	1349	1	2	2	1	35.50	.006	6	1	.21	4	.01	2	.03	.01	.01	2	14
BR-1	I	8	3	31	.1	8	4	240	1.18	2	5	ND	8	46	1	Z	3	10	1.76	.009	8	17	.32	13	.04	2	1.11	.02	.07	Ż	2
- 0-1	1	1	4	3	.1	2	2	371	.35	6	7	ND	1	677	1	2	2	1	39.73	.005	38	ĩ	.13	1	.01	2	.03	.01	.01	1	4
BTH-1	2	18	133	595	1.2	23	8	30	2.40	12526	5	ND	- 7	16	1	50	2	2	.23	.013	11	8	.03	43	.01	2	.20	.01	.06	1	2500
- I-1	1	1	2	- 4	.1	4	1	32	.47	38	5	HD	1	12	1	2	2	1	.34	.005	3	б	.01	6	.01	2	.04	.01	.02	- 4	10
H-1	2	8	4	5	.1	10	3	155	.94	15	5	ND	3	5	1	2	2	1	.05	.008	8	1	.03	13	.01	3	.17	.01	.07	2	5
H-2	2	5	2	1	.1	3	1	50	.36	2	5	nd	2	4	1	2	2	1	.14	.006	7	6	.01	23	.01	2	.09	.01	.08	4	1
B-3	2	4	4	6	.2	11	4	354	1.67	2	5	ND	5	12	1	2	2	1	.22	.011	10	8	.07	13	.01	2	.22	.01	.06	3	4
HV-1	1	10	8	2B	.7	18	7	21	2.07	9576	5	ND	- 4	5	1	28	2	1	.04	.011	10	1	.01	19	.01	3	.15	.01	.07	- 4	1210
PW-1	1	19	22	47	.2	53	15	16	4.80	108	5	ND	15	18	1	119	3	5	.28	.107	32	- 11	.01	22	.01	1	.45	.01	.08	1	18
II-1	1	1	3	16	.2	27	- 4	112	. 43	22	7	ND	1	380	1	2	2	2	38.75	.005	4	3	.05	2	.01	2	.04	.01	.01	1	4
R-1	1	1	1	5	.2	3	2	221	.34	2	7	ND	2	1067	1	2	2	1	38.93	.003	1	1	.27	5	.01	2	.01	.01	.01	1	1
<b>R-</b> 2	1	1	4	1	.3	3	2	76	.32	8	9	ND	2	1148	1	2	3	1	38.96	.001	4	1	.35	4	.01	2	.02	.01	.01	1	1
5X-1	1	2	24	5	.3	1	2	91	.43	4	8	ND	1	303	1	2	2	1	40.13	.010	6	1	.14	3	.01	2	.08	.01	.01	1	1
SA-2	1	3	279	37	. 5	5	5	175	1.57	1	7	ND	3	- 655	1	2	2	3	29.65	.016	9	4	1.00	8	.01	3	.25	.01	.03	1	5
SI-1	1	26	13	81	.1	31	11	235	4.13	2	6	ND	17	97	1	2	2	9	1.70	.041	42	. 22	1.04	24	.01	3	2.00	.01	.11	2	1
51-2	1	2	6	7	.3	1	1	238	.19	5	B	ND	2	145	1	2	2	1	37.6B	.007	5	1	. 39	10	.01	2	.04	.01	.01	1	1
STD C/AU-R	18	62	43	133	6.7	71	31	1037	4.20	42	17	7	38	48	19	18	21	60	.49	.092	40	55	.92	176	.07	37	1.98	.06	.13	11	495

- ASSAY REQUIRED FOR CORRECT RESULT

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## APPENDIX 2

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## ASSAY COMPILATION by Larry W. Carlyle, F.G.A.C., P. Geol. ACME ANALYTICAL CERTIFICATES File # 88-6175R
#### COMPILATION

### OF

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#### ACME ANALYTICAL LABORATORIES LTD.

## GOLD AND SILVER FIRE ASSAY AND ARSENIC ASSAY RESULTS

# File # 88-6175R dated Dec. 23/88 and Jan. 4/89 (Certificates Included)

## Prepared by

## Larry W. Carlyle, F.G.A.C., P. Geol.

Sample #	Au (oz/T)	Ag (oz/T)	As (%)	
				-
28-2	.036	.04	.02	
38-3	.046	.50	.03	
45-2	.024	.03	.27	
55-2	.043	.05	.30	
65-2	.026	.01	.03	
75-1	.008	.01	.04	
75-2	.070	.01	.12	
85-1	.010	.01	.06	
85-2	.153	.01	1.25	
1N-2	.046	.10	.02	
1N-3	.145	.12	.02	
2N-3	.097	.08	.03	
3N-3	. 143	.12	.64	
3N-4	.004	.01	.06	
4N-3	.194	.24	.74	
4N-4	.002	.01	.05	
5N-3	.138	. 44	.16	
5N-4	.005	.01	.05	
6N-2	.015	.02	.04	
6N-3	.065	.07	.02	
7N-1	.076	.05	.31	
7N-2	.005	.01	.04	
8N-1	.023	.03	.14	
8N-2	.041	.02	.44	
BTM-1	.068	.01	.85	
HW-1	.037	.01	.65	



ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: DEC 19 1988 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED:  $Pere. \frac{23}{ft}$ .

## ASSAY CERTIFICATE

CARLYLE GEOLOGICAL FILE # 88-6175R

SAMPLE#	AG**	AU**
	oz/t	oz/t
25-2	-	.036
35-3	.50	.046
55-2	-	.043
7 <b>S-</b> 2	-	.070
85-2	-	.153
1N-2	-	.046
1N-3	-	.145
2N-3		.097
3N-3	-	.143
4N-3	-	.194
5N-3	.44	.138
6N-3	-	.065
7 <b>N-</b> 1	-	.076
8N-2	-	.041
BTM-1	-	.068
HW-1	-	.037

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ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED:

DEC 28 1988 Aan 4/89

## ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp AU\*\* AND AG\*\* BY FIRE ASSAY FROM 1/2 A.T.

SIGNED BY. .]. D.TOYE, C.LEONG, B.CHAN, J.WANG; CERTIFIED B.C. ASSAYERS

CARLYLE GEOLOGICAL FILE # 88-6175R

SAMPLE#	Ag** OZ/T	Au** OZ/T	As %
25-2 35-3 45-2 55-2	.04  .03 .05	.024	.02 .03 .27 .30
75-1 75-2 85-1 85-2 1N-2	.01 .01 .01 .01 .10	.008	.04 .12 .06 1.25 .02
1N-3 2N-3 3N-3 3N-4 4N-3	.12 .08 .12 .01 .24	- - . 004	.02 .03 .64 .06 .74
4n-4 5n-3 5n-4 6n-2 6n-3	.01 .01 .02 .07	.002 .005 .015	.05 .16 .05 .04 .02
7N-1 7N-2 8N-1 8N-2 BTM-1	.05 .01 .03 .02 .01	.005 .023 -	.31 .04 .14 .44 .85
HW-1	.01	-	.65

TEST PIT FACE SKETCH ASSAY OVERLAY

NORTH FACE



<u>LEGEND</u>

<u>ASSAY</u> FEET	ELEMENT: Au opt
%	percentage
PFM	parts per million
ppb	parts per billion
opt	troy ounces per ton
Au	Gold
Ag	Silver
As	Arsenic

DECEMBER 1, 1988 SCALE: 1 inch = 2 feet

FIGURE 2



SOUTH FACE



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<u>TEST PIT FACE SKETCH</u>

# ASSAY OVERLAY

# NORTH FACE



LEGEND

ELEMENT: <u>Ag</u> opt
percentage parts per million parts per billion troy ounces per ton
Gold Silver Arsenic

DECEMBER 1, 1988 SCALE: 1 inch = 2 feet

FIGURE 2



SOUTH FACE



10

<u>TEST PIT FACE SKETCH</u>

# ASSAY OVERLAY

## NORTH FACE



## **LEGEND**

<u>ASSAY</u> FEET	ELEMENT: As %
%	percentage
PFM	parts per million
ppb	parts per billion
opt	troy ounces per ton
Au	Gold
Ag	Silver
As	Arsenic

DECEMBER 1, 1988 SCALE: 1 inch = 2 feet

FIGURE 2



# SOUTH FACE



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# APPENDIX 3

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RED CREEK STREAM SEDIMENT SAMPLE ANALYSES

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SHUL SHEETS BROKE

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ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: OCT 18 1988 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED:  $\mathcal{O}_{\mathcal{A}}$ 

#### GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CE MG BA TI B W AND LIMITED FOR WA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: STREAM SED AU\* AMALYSIS/BY ACID LEACH/AA FROM 10 GM SAMPLE.

SIGNED BY.

#### CARLYLE GEOLOGICAL FILE # 88-5298

SAMPLE#	Pb PPM	Ag PPM	As PPM	Sb PPM	W PPM	Au* PPB
RRC-1	11	.1	23	6	3	2
RRC-2	7	. 2	27	5	2	1
RRC-3	19	.1	54	4	3	2
RRC-4	11	. 2	29	7	4	2

# AFFENDIX 4

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## CORE SAMPLE DESCRIPTIONS AND ANALYSES PANTELEYEV FIGURES 1 AND 5

Core Samples

RX 040050: dyke with sulphides, DDH 88-3 @ 110 m.

RX 040051: dyke with 0 to few sulphide, DDH 88-3 @ 106.0 m.

RX 040052: black pyritic leached zone at DDH 88.1 @ 79.5 m..

RX 040053: talcose pyritic leached zone DDH 88-5 @ 122.5 m.

RX 040054: leached phyllite, DDH 88-5 @ 101.1 m.

## GEOCHEMICAL ANALYSIS CERTIFICATE

Yukon Recon

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MM FE SR CA P LA CE NG BA TI B W AND LIMITED FOR MA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: CORE/ROCK AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

			3	4	5	Ζ		INC	:0 G( 8	OLD	COM	PANY	PR	OJEC	CT 6	1001	-12 7	010	F	ile	# 8	8-43	813									Ŧ
	Sanple‡	Ho PPM	Cu PPM	PD PPM	ZD PPM	Ag PPH	Nİ PPM	CO PPH	Nn PPN	Fe t	As PPH	0 PPH	Au PPH	th PP¥	ST PPM	Cđ PPM	SD PPN	Bi PPM	V Pon	Ca t	P \$.	La PPM	CT PPM	Hg X	Ba PPM	Ti t	B PPN	Al १	Уа \$	۲ ۲	¥ PP¥	Au* PPB
,	EX 040050	1	27	33	62	1.0	86	13	21	7.32	74	7	ND	21	43	1	105	2	7	.49	.175	27	12	.03	14	.01	2	.46	.01	.07	4	1
	RI 040051	1	42	17	52	.4	109	21	549	3.36	18	5	HD	32	188	1	2	2	71	2.47	.274	85	103	2.22	99	.01	2	2.75	.01	.06	35	1
	EX 040052	1	12	23	29	2.3	16	4	7 1	15.01	403	5	ND	6	23	1	240	2	3	.15	.058	9	6	.02	11	.01	2	.23	.01	.10	- 4	44
	RI 040053	1	3	• 3	5	.3	7	3	224	1.03	3	5	ND	6	41	1	3	2	2	2.26	.017	10	3	.88	26	.01	3	.20	.01	.13	2	1
	ZX 040054	1	15	18	14	.3	22	9	15	1.00	2	5	ND	15	13	1	17	2	2	.10	.025	19	5	.02	23	.01	3	.22	.01	.08	3	5





Figure 1 Distribution of gold deposits in British Columbia showing major camps, individual deposits and areas of recent exploration activity. Lines indicate major tectors physiographic boundaries. Crystallinemetamorphic terranes of the Coast Plutonic Belf in the west and Onlineca Belt in the east are shown by the hackuned pattern

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Figure 5. British Columbia epithermal model. The model is based on studies of epithermal deposits in the Toodoggane area by T.G. Schroeter and A. Panialevév, and comparisons with deposits elsewhere. The model infers a continuum exists from parphyry copper and skarn through transitional deposits, to epithermal veins, and hot spring discharge deposits.

# STATEMENT OF COSTS

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# <u>Hugh Claim Group</u>

Geological Consulting and Repor Camp Rental, Labour and Supplie Helicopter Rock Blasting	ting S	\$ 1,225.67 \$ 4,428.69 \$ 831.33 \$ 4,700.00
	Total	\$ 11,185.69
<u>Ron Claim Group</u>		
Geological Consulting and Repor Camp Rental, Labour and Supplie Helicopter Rock Blasting	ting S	\$ 1,225.67 \$ 4,428.69 \$ 935.24 \$ 3,200.00
	Total	\$ 9,789.60
Bud Claim Group		
Geological Consulting and Repor Camp Rental, Labour and Supplie Helicopter Rock Blasting	ting s	\$ 1,225.67 \$ 4,428.69 \$ 883.29 \$ 3,000.00
	Total	\$ 9,537.65
<u>Sam Claim Group</u> Geological Consulting and Repor Camp Rental, Labour and Supplie Helicopter Rock Blasting	ting s Total	\$ 1,225.67 \$ 4,428.69 \$ 779.37 \$ 3,200.00  \$ 9,633.73
Sid Claim <u>Group</u>		
Geological Consulting and Repor Camp Rental, Labour and Supplie Helicopter Rock Blasting	Total	<pre>\$ 1,225.67 \$ 4,428.69 \$ 831.33 \$ 3,100.00 \$ 7,585.69</pre>

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