NTS: 93A/6W Lat: 52' 17" 24 N Lon: 121' 19" 27 W

GEOLOGICAL ASSESSMENT REPORT ON THE FLY CLAIM GROUP

Cariboo Mining Division British Columbia

By

Fayz Yacoub 6498-128 B Street Surrey, B.C. V3W 9P4

December 5, 2003

SUMMARY

The Fly claim group is comprised of six contiguous mineral claims (Fly 1-6). The property lies approximately 60 kilometers east-northeast of the town of 150 Mile House, in central British Columbia.

Geologically, the property is underlain by a sequence of Eocene Volcanic / sedimentary rocks of Quesnellia Terrane. The Quesnellia Terrane is an assemblage of Upper Triassic to Lower Jurassic sedimentary and volcanic rocks, overlain by Eocene volcanics that may correlative with the Kamloops Group.

In 1960, Orofino Mines Limited conducted a preliminary investigation of the deposit. This investigation included a program of pit sinking, bulldozer trenching, and stripping. The deposit was classified as a lightly indurated pozzolanic ash. According to the American Society of Testing Materials, the deposit meets the chemical and physical requirements for N class pozzolanic material and can be used as a mineral admixture in concrete.

In 2002, the Fly 1-6 claim group was acquired to investigate the quality of the horsefly volcanic ash deposit to be used as a source of Vitrolite.

During the 2003 fieldwork program, limited exploration on the Fly 1-6 Claim Group could not verify the previous investigation by Orofino. The writer of this report did not encounter outcrops of ash within a surveyed area of approximately one square kilometer, however several old bulldozer trenches were located and one sample returned over 60% of glass content in volcanic ash.

First phase exploration program consisting of grid establishment, prospecting, and rock sampling is recommended to accurately locate and investigate the potential of the ash deposit as a source of Vitrolite. The total cost of this program is \$ 12,000.

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1.0 INTRODUCTION

The main purpose of this report is to evaluate the industrial mineral potential of the Fly claim group through field work and results obtained during the 2003 fieldwork and from previous work conducted on the property and data gathered in the past. The report also describes the regional geology and the past exploration activities on the property area and outlines a budget proposal for the next work program. The work was performed by the writer and a field assistant.

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This report is based upon data collected during the 2003 exploration work on the Fly claim group, on a review of government minfile reports, regional geological maps, and on line claim data. The writer was on the property between December 7 and December 8, 2002 and May 8-10, 2003.

2.0 LOCATION, ACCESS & PHYSIOGRAPHY

The Fly 1-6 claim group is located in central British Columbia, approximately 160 kilometers east of 150 Mile House,. The center of the claim group is located approximately 9 kilometers southeast of the town of Horsefly.

Access to the property is via Highway # 97 driving north to 150 Mile House, then east for 50 kilometers to Horsefly. To access the east part of the property, follow black creek road going east for approximately 9 kilometers. The west side of the property can be accessed by following Lowden Dr from Horsefly for 300 meters, then follow 108 Mile Rd for two kilometers, then Wood Jam Rd for 9 kilometers, then drive north-east on a rough road for two kilometers.

Topography of the area consists of rolling hills in most parts of the property. Elevations vary from 2750 feet on the banks of the Horsefly River to 3250 feet at the northeast corner of Fly 1 claim with a total relief of 500 feet.

Much of the property is covered by overburden, some outcrops are confined to the main black creek road. Vegetation is sparse and consists mainly of sage brush and scrub pine.

3.0 PROPERTY STATUS

The Fly claim group consists of six contiguous mineral two post claims, totaling six units. The property lies in the Cariboo mining division. The property is owned 100 % by the writer.

Pertinent claim data is as follows:

(Figure 3)

(Figure 1 & 2)

HORSEFLY CLAIM GROUP (GENERAL LOCATION MAP)



Ν

FLY CLAIM GROUP (Topographic Map)



ω

FLY CLAIM GROUP (Claim Map)



Claim Name	Record #	Number of units	Expiry Date
Fly 1	397015	1	October 11, 2005
Fly 2	397016	1	October 11, 2005
Fly 3	397017	1	October 13, 2005
Fly 4	397018	1	October 13, 2005
Fly 5	397019	1	October 13, 2005
Fly 6	397020	1	October 13, 2005

The total area of the property is 1.5 square kilometers, 150 hectares, 370.5 acres. The Fly 1-6 claims were located by the writer.

4.0 **PROPERTY HISTORY**

The Fly claim group hosts the total area of the Horsefly ash deposit (Minfile 093A 134). The Horsefly deposit is a lightly inducated volcanic ash which covers an area of 2.4 kilometers long by 300 to 400 meters wide.

The Horsefly deposit was investigated in the past as good potential for pozzolan. The deposit is high quality volcanic ash that could be used as a mineral admixture to produce high quality concrete

In May 1960, Orofino Mines Limited conducted a preliminary investigation of the deposit. This investigation included a program of pit sinking, bulldozer trenching, and stripping. The purpose of the program was to determine the subsurface extension of the deposit.

The deposit was traced along the south side of the Horsefly River by outcrops, trenches and pits for a distance of approximately one and one-half miles and south and south-west from the river for 1,000 to 1,500 feet (Mr. F.L.JAMES, P. Eng). In places along the river the deposit rises to elevations of 200 feet above the high water mark and along Deerhorrn creek it rises to elevations of 50 feet or more above the creek.

The volcanic ash of the deposit was then classified as a lightly indurated pozzolanic ash. The indicated tonnage within the surface area outlined by this work and to a shallow depth of 100 feet was estimated at 30 million tones (Mr. F.L. JAMES), however the full lateral extent of the deposit nor its average thickness has never been investigated by Orofino Mines Limited.

Analysis and tests by Orofino

Tests carried out by independent testing laboratories show the deposit to consist of an excellent pozzolanic material meeting the chemical analysis and the physical tests specified by the A.S.T.M. as required for pozzolanic mixtures with Portland cement.

1960 Chemical Analysis

	A.S.T.M. Requi	irement	Horsefly Deposit						
Silica	Min. Percent	70.0	89.36						
Magnesium	Max. Percent	5.0	0.21						
Sulphur	Max. Percent	3.0	Trace						
Ignition Loss	Max. Percent	10.0	4.86						
Moisture Content	Max. Percent	3.0	0.55						
1960 Physical Tests									
A.S.1	C. M. Requirement	t	Horsefly Deposit						
Fineness:									
Percent retained when wet									
sieved on No 325 sieve	Max. 12		10.00						
Activity Index									
With cement % of control									
at 26 days	Min. 75		79.00						
Activity Index with lime									
at 7 days	Min 600		697.00						
Water requirement %									
of control	Max 115		114.5						
Drying Shrinkage	Max .03		.0267						
Autoclave Expansion	Max 05		005						
Autoclave Expansion	Max .05		.005						

Note: while some drying may prove beneficial before fine grinding, the material does not requires calcining as most pozzolanic materials do.

FLY CLAIM GROUP (Horsefly Deposit Location Map)



5.0

REGIONAL GEOLOGY

Modified after Andre Panteleyev (1989)

The Fly claim group is situated within the Quesnellia Terrane; the Quesnellia Terrane is an assemblage of upper Triassic to lower Jurassic sedimentary and volcanic rocks, overlain by Eocene volcanics.

Mafic volcanic rocks of calc-alkaline to alkaline affinity belonging to Chilcotin Group and Kamloops Group are the dominant rock type in the region. The stratigraphic succession consists mainly of pyroxene-phyric basaltic flows, flow breccia, debris flow or lahar deposits and locally derived epiclastic rocks. Within this sequence there are at least two basalt units containing relict olivine and/or analcite crystals. Theses mafic rocks overly and interfinger with a basal sequence of basaltic source sandstone and siltstone and are overlain, in turn, by more Felsic polylithic alkalic volcanic-clast breccia and the upper unit of amygdaloidal analcite-bearing olivine basalt flows. Locally, remnants of Tertiary lacustrine deposits, crystal ash flows and sub aerial flows of intermediate composition overlie the mafic rocks. Miocene plateau basalts overlap the Horsefly River. Gray to pale violet plagioclase crystal ash tuff and breccia is dominating the regional area of the claim group, consisting of massive to thin-bedded dust and ash tuff.

The Major regional structures in the area are a north-westerly trending, extensively block-faulted syncline in the volcanic axis of the Quesnel belt and a broad anticlinal structure in sedimentary rocks of Viewland Mtn located north of the Horsefly Lake.

Folding is most evident in sedimentary units, especially at deeper structural levels, as described by Blood good (1987). The sedimentary rocks north and south of Horsefly Lake display open, upright asymmetrical folds with steep southwest limbs and moderately dipping northeast limbs.

FLY CLAIM GROUP (Regional Geology Map)



Geology Legend

PLEISTOCENE TO HOLOCENE

PlHal alluvium, till

MIOCENE TO PLEISTOCENE

CHILCOTIN GROUP

MiPICvk alkaline volcanic rocks

EOCENE

KAMLOOPS GROUP

EKaca calc-alkaline volcanic rocks

EKasf mudstone, siltstone, shale fine clastic sedimentary rocks

UPPER TRIASSIC

NICOLA GROUP

uTrNvb basaltic volcanic rocks

Source: Open File 1994-7 Geological Comilation of the Cariboo-Chilcotin area south-central BC

Author (s): *P.Schiarizza, A. Panteleyev, R.G. Gaba and J.K Glover*

This Database Last Updated: January 1998.

British Columbia Ministry of Energy and Mines Geological Survey Branch

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6.0 THE 2003 FIELDWORK PROGRAM

6.1 Scope & Purpose

The 2003 program was conducted on the Fly 1-6 claim group to:

- 1- Re-locate and sample the Horsefly volcanic ash deposit.
- 2- Investigate the initial potential of the ash deposit.
- 3- Investigate the physical and the chemical characteristics of the ash through the visual analysis and X-ray diffraction to determine the quality of the ash as a source of vitrolite.
- 4- Make recommendations for future investigation.

6.2 Method and Procedures

Prospecting and rock sampling was performed over small areas of the property. Control was established using a topographic map and G.P.S. During the property visit a total of three samples were collected from outcrops located along the main road. These samples were sent to ACME analytical laboratories for whole rock analysis and specific gravity determination. Another two samples were collected from the west side of the horsefly river (the Minfile location of Horsefly volcanic Ash). X-ray diffraction was completed on these two samples in order to determine the glass content of the ash.

7.0 2003 RESULTS

7.1 Property geology

The Fly Claim Group is underlain by a sequence of Eocene Volcanic / sedimentary rocks of Quesnellia Terrane.

The most common rock type encountered within the area of the property, consist of grey, cream to buff unconsolidated sandstone and minor siltstone. These rocks are generally very fine-grained sandstone, outcropping along the east side of the Horsefly River and along the main road. Three rock samples were collected from these outcrops (Fly-02-R1, Fly-02-R2, and Fly-02-R3).

On the west side of the Horsefly River, no outcrops were encountered within the area where the Horsefly volcanic ash deposit is thought to be located (Latitude 52° 17' 24 N- 121° 19' 27 W. However, several old trenches were located in the vicinity during the fieldwork. All trenches are naturally filed back in so that geological information or proper sampling of these trenches was impossible to obtain during the 2003 property visit. One sample (Horsefly R 1-2003) was collected from an old trench across an old road. This sample may represent the Horsefly ash deposit; however it is not as representative as it should be due to the soil accumulation in the trench.

7-2 The Horsefly Ash

The main purpose for acquiring the Fly 1-6 claim group is to investigate the quality of the horsefly volcanic ash deposit to be used as a source of Vitrolite.

Vitrolite is an inert off-white material used to improve the physical properties of plastic polymers. It is produced by a proprietary process from a natural amorphous aluminosilicate glass (high quality volcanic ash with high glass content).

The advantages of using Vitrolite in plastics are:

- Reduces costs by reducing cycle time.
- Lower viscosity of polymer.
- Achieves increased impact strength for higher quality products.
- Increased production by 20%

Vitrolite is also a new product that contains special reinforcements which permit very rigid and light material which is widely used by the leading manufactures of motorhomes in the USA with high success.

The market price for quality Vitrolite ranges from \$7 to \$8 per pound depending on the quality of the ash and the glass content.

All rock samples collected along the main road during the fieldwork consist mainly of high quality sand. Rocks are gray; cream to buff unconsolidated fine-grained sandstone. The visual examination of all three samples did not detect any glass content.

The samples were analyzed to determine their chemical composition (see figure # 6) for sample location. The chemical results are outlined below:

	Fly-02-R1 Wt%	Fly-02-R2 Wt%	Fly-02-R3 Wt%
SiO2	71.82	66.69	70.82
Al2O3	11.25	13.26	11.56
Fe2O3	4.37	5.42	4.80
MgO	1.93	2.27	2.1
CaO	3.57	2.76	3.78
Na2O	2.27	2.24	2.12

Total	97.772	95.756	98.261
Cr2O3	.012	.016	.011
MnO	.08	.09	.52
P2O5	.19	.21	.23
TiO2	.69	.83	.77
K2O	1.59	1.97	1.55

On the west side of the River where the Horsefly ash deposit presumed to be located, rock exposure was very limited. However several old bulldozer trenches were encountered. All trenches were filled back with soil material and fresh, representative samples were almost impossible to collect. Two samples were collected from two trenches; sample Horsefly R1-2003 collected from an old trench across an old road at G.P.S 06142262 E-5794336 N. The sample was not fresh enough to be representative for the volcanic ash of the old trench. Binocular microscope examination of the sample indicates the presence of unaltered volcanic ash with 60-70 % glass content and substantial amounts of soil.

The sample was prepared for x-ray analysis by grinding a small portion of the sample in a mortar and pestle until the powder no longer felt gritty. A two-gram sample was prepared by thoroughly mixing 1.8 grams of powder sample and a 0.2 gram of corundum standard then gently packing it into a stainless steel sample holder then x-rayed with a Philips X' Pert PW 3040.

The X-ray diffraction of the sample indicated 62 % glass content with substantial amounts of clay minerals (see figure # 7).

The second sample, (Horsefly R2-2003) is collected from an outcrop poorly exposed along the same old road, approximately 25 meters southeast of sample R1-2003. Binocular microscope examination and the X-ray diffraction of the sample indicate the absence of volcanic glass (see figure # 6).

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FLY CLAIM GROUP (SAMPLE LOCATION MAP)



2003 Horsefly Samples

Sample ID: Horsefly R1-2003

Glass content = 62% (including substantial amount of clay minerals)



Sample ID: Horsefly R2-2003



8.0 DISCUSSION AND CONCLUSION

According to the information gathered on the Horsefly ash deposit (Minfile # 093A 134). The deposit consists of poorly inducated volcanic ash that covers an area 0f approximately 2.4 kilometers long by 300 meters wide.

In 1960, Orofino Mines Limited conducted a preliminary investigation of the deposit. This investigation included a program of pit sinking, bulldozer trenching, and stripping, and the deposit was classified as a lightly indurated pozzolanic ash. According to the American Society of Testing Materials, the deposit meets the chemical and physical requirements for N class pozzolanic material and can be used as a mineral admixture in concrete.

The deposit was previously traced along the south side of the Horsefly River by outcrops, trenches and pits for a distance of approximately one and one-half miles and south and south-west from the river for 1,000 to 1,500 feet (Mr. F.L.JAMES, P. Eng).

The indicated tonnage or the deposit outlined by Orofino during the 1960 program was 30 million tones, however the lateral extent of the deposit and its average thickness has never been investigated.

Recently, the limited exploration on the Fly 1-6 Claim Group could not verify the previous investigation by Orofino Mines Limited that was completed on the deposit in 1960. During the 2003 fieldwork, the writer of this report did not encounter any ash outcrops within the investigated area of the deposit, however several old bulldozer trenches were located and one sample returned over 60% glass content in the ash.

More work is recommended to accurately locate and investigate the extension of the deposit.

9.0 **RECOMMENDATIONS**

First phase exploration program consisting of grid establishment, prospecting and rock sampling is recommended to accurately locate and investigate the potential of the ash deposit for Vitrolite.

The program should consist of:

- 1- Eight kilometers of grid establishment over the area of the deposit
- 2- Geological mapping and prospecting over the area of the grid.
- 3- Rock sample all ash outcrops within the area of the grid to determine the glass content and the quality of the ash to be used as a source of Vitrolite.

10.0 PROPOSED BUDGET

Geologist and geotechnician-five days

	APPROXIMATELY	12,000
	TOTAL	12,091
G.S.T @ 7%		791
	Subtotal	11,300
Data compilation and report		3,000
Analysis		2,500
Field Costs		1,200
Field Crew		2,500
Mob/Demob		1,500
Project Preparation		\$600

Respectfully Submitted

Fayz Yacoub, P.Geo., F.G.A.C.

REFERENCES

Andre, P	1986 Geology of the Beaver Creek – Horsefly River Map Area
Frank, L	Summary Report on Horsefly Deposit for Orofino Mines Limited
Harben, P.W	1990 Industrial Minerals, Geology and world deposits
Harben, P.W	1992 The Industrial Minerals Handy book – A guide to markets, Specifications & Prices.
Hora, Z.D	1985 New developments in industrial Minerals
Reves, L.E	1968 Factors of particular significance to the economics of industrial minerals
Struik, L	1987 Regional imbrication within Quesnel Terrane, B.C.
Yacoub, F	2003 Assessment Report on the Pumice Claim Group

CERTIFICATE OF QUALIFICATIONS

I, FAYZ F. YACOUB, of 6498-128B Street, Surrey, British Columbia, V3W 9P4, do hereby declare that:

- 1) I am a graduate geologist with a bachelor degree from Assuit University, Egypt (B.Sc., 1967) and a diploma in Mining Exploration Geology from the International Institute for Aerial Survey and Earth Sciences (I.T.C.), Holland (Diploma 1978).
- I am a fellow in good standing with the Geological Association of Canada (Membership # 5490)
- 3) I am a professional geologist and a member of the Association of the professional Engineers and Geoscientists of British Columbia (**Registration No. 20390**).
- 4) I have actively pursued my career as a geologist for the past twenty-three years
- 5) The information, opinion, and recommendations in this report (The Fly 1-6 Claim Group) are based on a geological survey completed on the claim group, published literature, and previous work by Orofino Mines Ltd. The discussion, conclusions, recommendation, and the proposed budget sections of this report are my own personal responsibility.
- 6) I am not aware of any material fact or material change with respect to the subject property, which is not reflected in this report.

I was on the subject property between December 7 and December 8, 2002 and May 8-10, 2003.

7) I am the registered owner of the property

Fayz Yacoub, P. Geo., F.G.A.C.

Dated December 5th, 2003

THE FLY CLAIM GROUP 2003 ASSESSMENT WORK (COST STATEMENT)

Mob/Demob Transportation, Car rentals, fuel	\$650
Food & Accommodation	
Two-man four days @ \$80/day/person	640
Field Crew	
Geologist @ \$350/day x four days 1400	
Assistant @ \$ 150/day x four days 600	
	2000
Field supplies include: flagging, thirds, sample bags, etc	150
X-Ray and analytical Cost	405.40
Report writing includes:	
Data compilation, maps, report, word processing,	
photocopying and binding	2500
TOTAL	6,345.4

APPENDIX A

ANALYTICAL RESULTS

Yacoub, Fayz PROJECT FLY 6498 - 1288 St., Surrey BC V3W 9P4 File # A204618 A																								
SAMPLE#	Si02 %	AL203 %	Fe203 %	Mg0 X	CaO %	Na20 %	K20 X	Ti02 %	P205 %	MnO X	Cr203 %	Ba ppm	Ni ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI X	TOT/C	TOT/	'S S.G. X -	SUM %	
FLY-02-R1 FLY-02-R3 STANDARD SO-17/CSB	71.82 70.27 61.83	11.25 11.56 13.59	4.37 4.80 5.87	1.93 2.10 2.34	3.57 3.78 4.63	2.27 2.12 4.14	1.59 1.55 1.44	.69 .77 .60	.19 .23 .98	.08 .08 .53	.012 .011 .439	737 682 400	51 37 40	422 392 318	239 288 349	25 32 27	12 <10 19	16 17 24	2.0 2.5 3.4	.15 .27 2.43	<.0 <.0 5.3	01 2.66 01 2.64 52 -	99.95 99.95 99.93	
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14.5 DATE RECEIVED:

PHONE (604) 253-3158 FAX (604) 253-1716 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 ACME ANALYTICAL DESCRATORIES LTD. (ISO 9002 Accredited Co.) WHOLE ROCK ICP ANALYSIS Yacoub, Fayz PROJECT FLY File # A204617 6498 - 1288 St., Surrey BC V3W 9P4 SAMPLE# Si02 Al203 Fe203 Mg0 Ca0 Na20 K20 Ti02 P205 Mn0 Cr203 Sr Zr Nb SC LOI TOT/C TOT/S S.G. SUM Ba Ni Y x X X x X X X X X * X % ppm ppm % % X ppm ppm ppm ppm ppm FLY-02-R2 66.69 13.26 5.42 2.27 2.76 2.24 1.97 .83 .21 .09 .016 892 38 378 206 29 <10 15 4.0 .24 .01 2.60 99.93 STANDARD SO-17/CSB 62.16 13.64 5.73 2.30 4.58 4.04 1.41 .62 .97 .52 .428 418 40 313 364 27 11 23 3.4 2.43 5.32 -99.94 GROUP 4A - 0.200 GH SAMPLE BY LIBOZ FUSION, AMALYSIS BY ICP-ES. LOI BY LOSS ON IGNITION. TOTAL C & S BY LECO. (NOT INCLUDED IN THE SUM) S.G. - SPECIFIC GRAVITY. - SAMPLE TYPE: ROCK R150 DATE RECEIVED: OCT 22 2002