

GEOPHYSICAL SURVEY  
HELICOPTER - BORNE  
TWO FREQUENCY  
ELECTROMAGNETIC AND MAGNETIC

BULL RIVER PROPERTY  
STEEPLES 3-10 & 15-30  
IRON CREEK 1-6

FORT STEELE MINING DIVISION  
BRITISH COLUMBIA

115°-23'W : 49°-32'  
NTS : 82G/11

15-8-81 : 17-12-81

Alfred R. Allen, P.Eng.

December 30, 1981.

10,075  
PART  
1 & 2

For:  
R.H. Stanfield  
#350 - Palace Home Building  
4723 First Street, S.W.  
Calgary, Alberta.  
By:  
Allen Geological Engineering Ltd.  
202 - 2025 Bellevue Ave.  
West Vancouver, B.C.

CONTENTS

INTRODUCTION..... 1.

LOCATION AND ACCESSIBILITY..... 2.

HISTORY..... 3.

TOPOGRAPHY..... 3.

PROPERTY..... 4.

GEOLOGY..... 4.

HELICOPTER-BORNE E.M. AND MAGNETIC SURVEY..... 6.

SUMMARY AND CONCLUSIONS..... 7.

RECOMMENDATIONS..... 7.

COSTS STATEMENT..... 8.

REFERENCES..... 9.

CERTIFICATE

CONSENT

MAPS:

1. LOCATION - Bull River Property
2. PROPERTY - Steeples 3-10 & 15-30  
Iron Creek 1-6

\* \* \* \* \*

AERIAL ELECTROMAGNETIC AND MAGNETOMETER SURVEY

THE STEEPLES 3-10 & 15-30 CLAIMS

AND

IRON CREEK 1-6 CLAIMS

FORT STEELE MINING DIVISION, B.C.

INTRODUCTION

An aerial geophysical survey has been conducted over the Steeples property located in southeastern British Columbia, 53 kilometres east of Cranbrook.

The area is serviced by the Canadian Pacific Railway and Highway #3.

The 30 claims , comprising 595 units (more or less), are held by location in the name of R.H. Stanfield, #305 - 4723 First Street, S.W., Calgary, Alberta.

The Helicopter-Borne electromagnetic and magnetic survey was conducted from October 29 to November 5, 1981 by Apex Airborne Surveys Ltd., 512-625 Howe Street, Vancouver, B.C.

A report by Mr. Ronald F. Sheldrake, B.Sc., dated November 20, 1981, has been submitted to Mr. R.H. Stanfield. Copies of this report are to be included with the Statement of Exploration and Development for assessment credit.

Employees of R.H. Stanfield, including T. Thomas, Ross Stanfield Jr., and Alfred R. Allen, P.Eng., provided planning, field assistance, consulting and report preparation.

The purpose of the survey was to detect mineral assemblages on the property by means of the latest airborne electromagnetic and magnetic techniques.

The object of this report is to supply basic auxiliary information pertaining to the Bull River property, which, combined with the survey results, will assist in determining the next phase of the exploration programme.

#### LOCATION AND ACCESSIBILITY

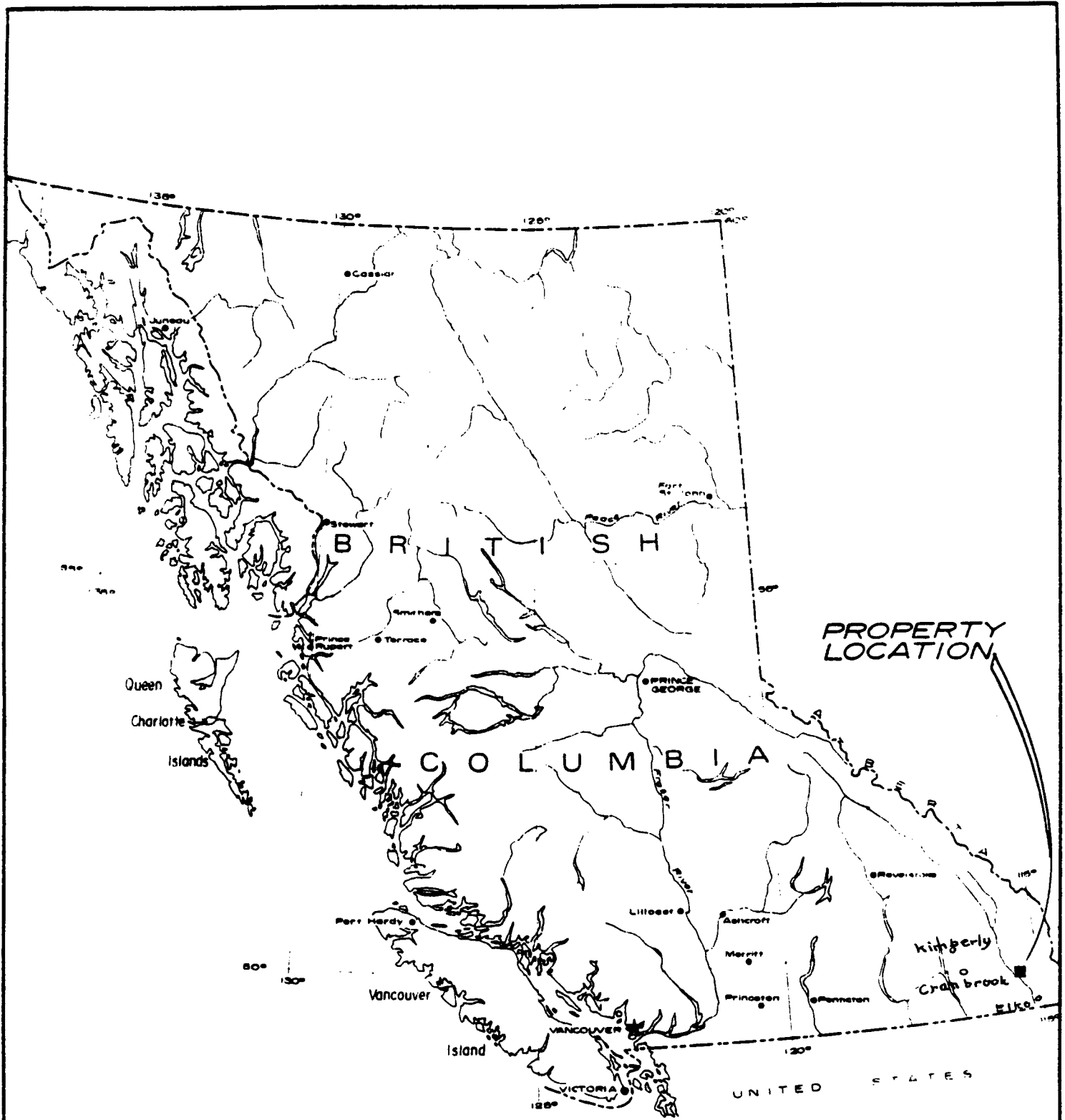
The property is located in the East Kootenay area of south-eastern British Columbia, between north latitude  $49^{\circ} - 28'$  and  $49^{\circ} - 35' - 30''$  and  $115^{\circ} 13' 43''$  and  $115^{\circ} - 30'$  west longitude.

The region is serviced by the Canadian Pacific Railway and modern highways and roads.

Straight line distances between the local towns from the property are as follows:

Kimberley	43 kilometres	N.W.W.
Cranbrook	27 "	W
Fort Steele	22 "	N.W.
Fernie	22 "	E.
Galloway	18 "	S.

The location is shown on Map #1 accompanying this report.



PROPERTY  
LOCATION

BULL RIVER PROPERTY		
LOCATION MAP		
SCALE: 1" = 136 Mls.		
Drawn by	Date	ALLEN GEOLOGICAL ENGINEERING LTD.
Checked by	Dwg no.	
	30/12/81	
	1	

## HISTORY

Prospectors in the Bull River area had located numerous mineral deposits by the late 1800's.

The Bull River showings were partially exposed in 1956 and serious exploratory work was carried out by the Placid Oil Company from 1967 to 1971.

Placid Oil Company developed sufficient reserves of copper, silver, gold and cadmium mineralization to warrant placing the property into production in 1972 on a daily capacity of 700 tons per day.

In 1974, due to the political situation in British Columbia, the Placid Oil Company terminated production.

The mine, mill and property were subsequently purchased by Mr. R.H. Stanfield, who added to the holdings and instigated airborne, surface and underground investigations directed towards acquiring necessary data to plan detailed exploration programmes.

## TOPOGRAPHY

The property is located in an area of high relief. It extends from the Rocky Mountain Trench at elevation 750 metres above sea level, easterly to include the Hughes Range, the Steeples, and the north end of the Lizard Range. The upper ridges and peaks are in the 2,500 metre elevation range.

The principal drainage pattern is the Bull River and tributary streams draining southwesterly into the Kootenay River which flows southerly in the Rocky Mountain Trench.

PROPERTY

The Bull River property includes the following located claims:

Steeple	3-10	1200-1207	Dec. 1980	160 Units
Steeple	15-30	1208-1223	Dec. 1980	320 Units
Iron Creek	1-6	1565-1571	Oct. 1981	120 Units.

The claims are shown on Map #2 accompanying this report.

GEOLOGY

The Bull River claims area is underlain chiefly by Precambrian Aldridge, Creston and Kitchener formations.

The Aldridge formation is composed of dark grey to black siltstone, argillite, argillaceous quartzite and quartzite. Massive bedding is common as are partings of black siltstone and argillite.

The exposed horizon is tentatively classified as Upper Middle to Upper Aldridge. Up to 3% iron content is evident in some sections, evidenced by red to rusty weathering.

The Creston conformably overlies the Aldridge formation. The formation is characterized by well-bedded grey, green, purple and white argillite and quartzite.

The overlying Kitchener formation conformably overlies the Creston and is clearly evident by buff to brown weathering dolomite with lesser strata of grey to green argillite and grey limestone.

The general strike of the Precambrian bedding is northwesterly and the dip moderate to the northeast.

In and near the Bull River valley, in the central eastern part of the claims area, the Creston and Kitchener strata are faulted against the Upper Devonian, Palliser, Fairholme and Alexo formations.

The southwestern part of the property is traversed by a major northwesterly striking normal fault dipping steeply southwest. This fault loses identity to the northwest in the Rocky Mountain Trench.

The Dibble Creek fault complex, near the north central boundary of the area, brings strata of the Creston and Kitchener formation in contact with Middle Devonian limestone, sandstone, conglomerate, shale and quartzite of the Bernais and Harrogate formations.

The northeast area of the property has not been mapped. The well exposed Devonian Mississippian and Permian (?) limestone and shale formations to the southeast appear, however, to strike uniformly northwesterly into the unmapped area.

The Bull River mine, located in the south central part of the claims area, was developed and placed into production by the Placid Oil Company in the 1967-1974 period.

A series of quartz veins contain chalcopyrite, pyrite, traces of sphalerite, galena, gold and silver.

Meta-diorite dikes occur within Aldridge sediments in the Bull River mine area.



The dikes strike easterly and dip southerly from 40 to 80 degrees.

Quartz-siderite veins, near and within the dikes, contain chalcopyrite, pyrite, sphalerite and galena, gold and silver.

HELICOPTER - BORNE E.M. AND MAGNETOMETER SURVEY

Apex Airborne Surveys of Vancouver conducted a helicopter-borne electromagnetic and magnetic survey over the Bull River property October 29 - November 5, 1981.

The survey was supervised and interpreted by Mr. Ronald F. Sheldrake, B.Sc., geophysicist for and president of Apex Airborne Surveys.

Field assistance and backbround information was supplied by R.H. Stanfield employees, including T. Thomas and Ross Stanfield Jr. and Alfred R. Allen.

Mr. Sheldrake's report is included with this report in support of R.H. Stanfield's application for two years assessment credit over 30 claims of the Bull River property.

SUMMARY AND CONCLUSIONS

A helicopter-borne geophysical survey was conducted over the Bull River property by Apex Airborne Surveys Ltd., October 29 to November 5, 1981.

The latest techniques and equipment were used to acquire electromagnetic and magnetic data over the mine and adjoining area.

The survey results and interpretations are incorporated in a report by Mr. Ronald F. Sheldrake, B.Sc. This data will assist in planning surface and underground investigations over selected areas of the Bull River property.

RECOMMENDATIONS

A major exploration programme is recommended over the indicated mineral deposits on the Bull River property preparatory to development and production planning.

Respectfully submitted,

Allen Geological Engineering Ltd.

Per Alfred R. Allen P.Eng.  
Alfred R. Allen

West Vancouver, B.C.

December 30, 1981.

COSTS STATEMENTPersonnel:1. R.H. Stanfield A/C

Alfred R. Allen, P.Eng.	5/8-30/12, 1981	
expenses and	@ \$350.00/day	\$ 14,000.00
Ross Stanfield Jr.,	15/10-5/11, 1981 @ \$8/hr	1,280.00
T. Thomas	15/10-5/11, 1981 @ \$14/hr	2,240.00

2. Apex Airborne Surveys A/C

Ronald F. Shedbrake, Geophysicist, North Vancouver, B.C.  
 David E. Cain, Field Technician, Burnaby, B.C.  
 Edward Morrison, Toronto, Ontario  
 Garry Black, Toronto, Ontario  
 Herman Lorenz, Helicopter Pilot, Calgary

By Contract @ \$184.21/km	\$ 70,000.00
---------------------------	--------------

3. Pacific Surveys Corp. Ltd., A/C

1409 West Pender  
 Vancouver, B.C. V6G 2S4

D. Alexander, Technical Services Consultant	
Photomosaics	\$ 9,000.00

REFERENCES

- Schofield. S.J., G.S.C. Cranbrook Map-Area, Mem 76 1915
- Rice, H.M.A., G.S.C. Nelson Map-Area,  
East Half, Mem228 1937 & 41
- Leech, G.B., G.S.C. Fernie Map-Area, Paper 58-10  
60-11
- Chiang, M.C., Placer Oil Company,  
Reports & Maps, 1973 - 1976
- Swanson, C.O. &  
Gunning, H.C. Geology - Sullivan Mine  
Sullivan Mine C.I.M.M. Trans. V  
XLVIII 1945
- Cominco Staff, The Sullivan Mine, C.I.M.M. Journal 1954
- Macdonald, B.C., Altemont Exploration Holdings 1965-66
- Allen, Alfred R., R.H. Stanfield Holdings 1967
- Allen, Alfred R., R.H. Stanfield Holdings 1973
- Allen, Alfred R., The Bull River Copper-Silver Gold Mine 1976
- Allen, Alfred R., Preliminary Report Strathcona-Empire  
Vein System, 1976
- Allen, Alfred R., Geology and Ore Potential, Stanfield  
Holdings in Southeastern British Columbia  
1976

\* \* \* \* \*

202 - 2025 Bellevue  
West Vancouver, B.C.

CERTIFICATE

December 30, 1981.

I, Alfred R. Allen, certify that:

I am a graduate of the University of British Columbia and hold the following degrees therefrom:

BASc Geological Engineering 1939

MASc Geological Engineering 1941

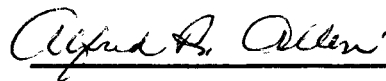
I am a Life Member of the Association of Professional Engineers of the Province of British Columbia.

I have practised my profession for the past thirty-seven years.

I hold no interest in the properties or securities of R.H. Stanfield, or affiliates thereof, nor do I expect to receive any directly or indirectly.

The report on the Geophysical Survey Helicopter-borne, Two Frequency Electromagnetic and Magnetic on the Bull River Property, Fort Steele M.D., B.C., is based on consulting by the writer from August 15, 1981 to December 1981.

I consent to this report being filed with the British Columbia Securities Commission.

  
\_\_\_\_\_

Alfred R. Allen

202 - 2025 Bellevue  
West Vancouver, B.C.

(604) 926-4785

December 30, 1981.

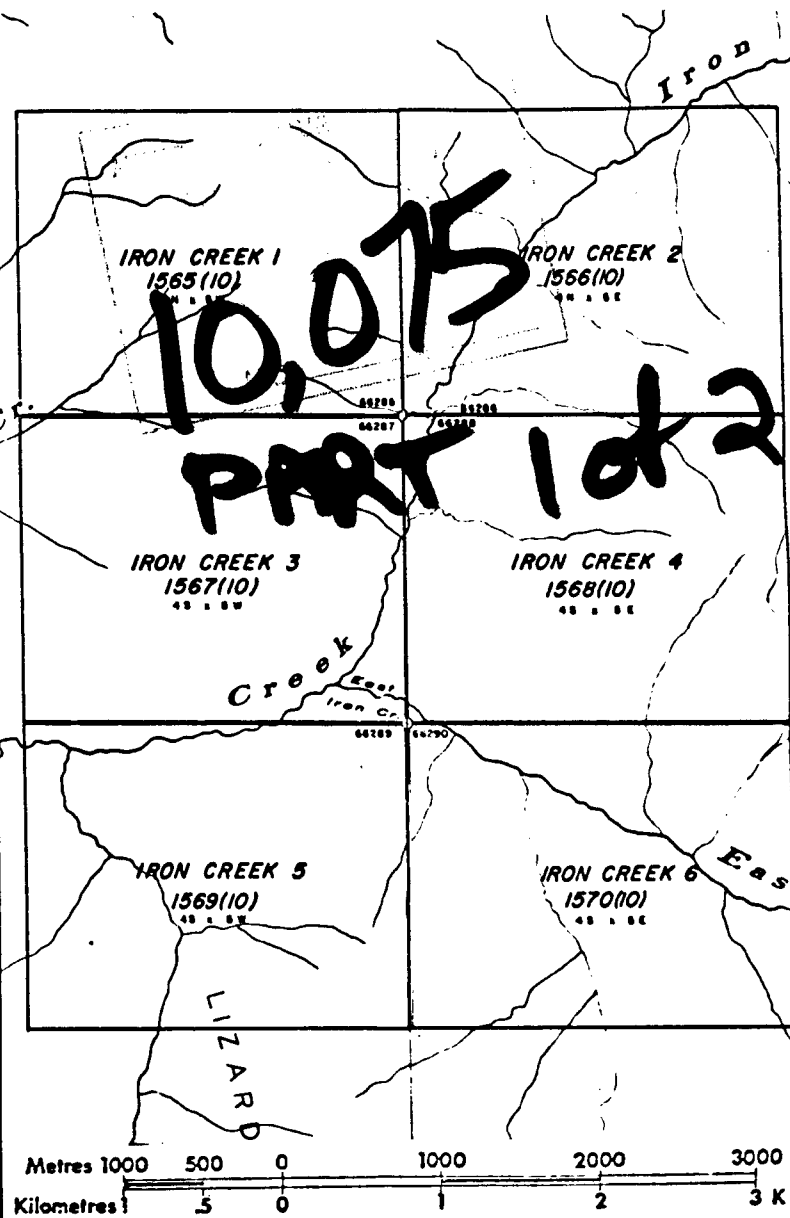
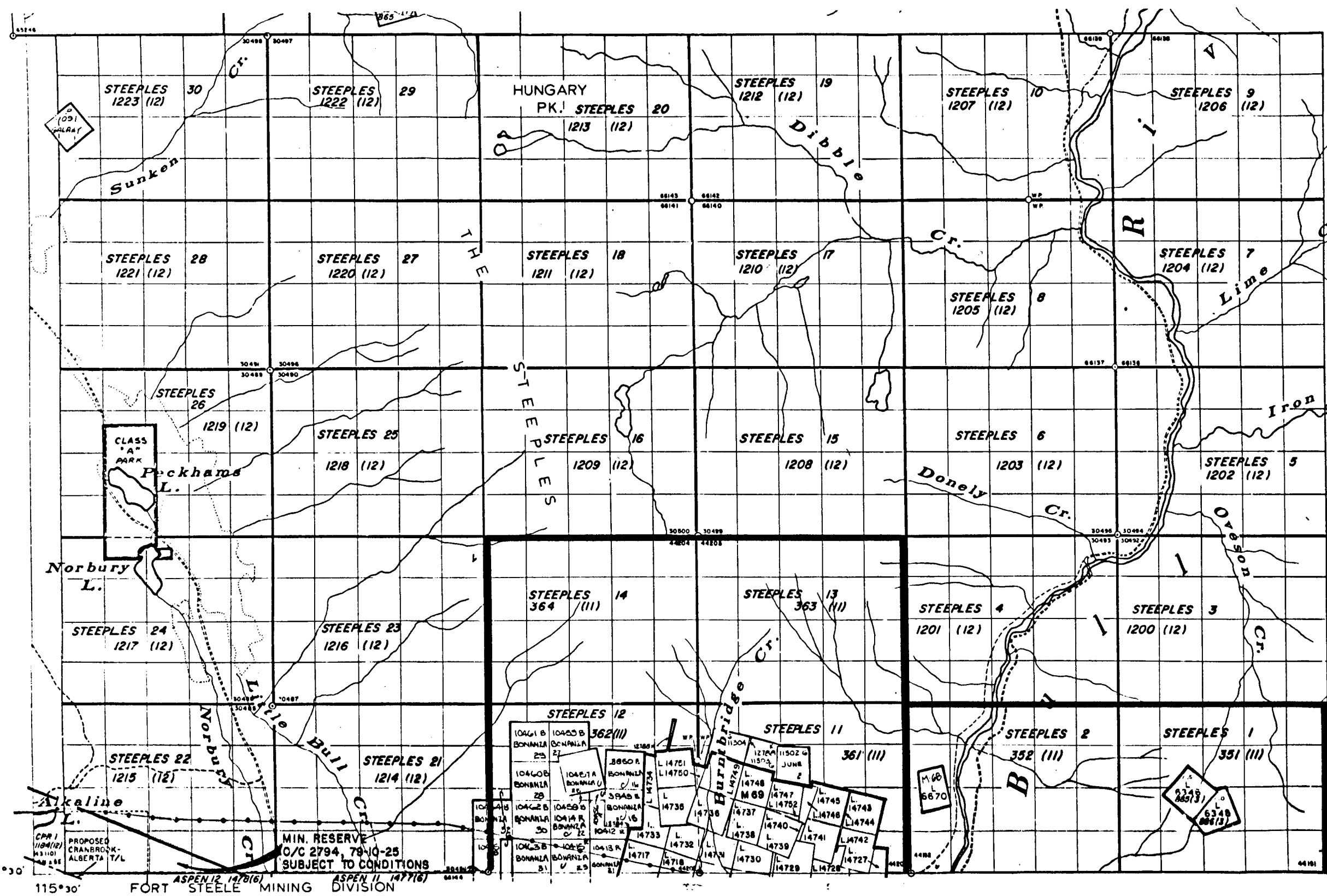
British Columbia Securities Commission  
Vancouver, B.C.

Dear Sirs:                      Re: R.H. Stanfield (Bull River Property)

I hereby consent to the use of my report dated December 30, 1981, on the Geophysical Survey Helicopter-borne, Electro-magnetic and Magnetic on the Bull River Property, Fort Steele M.D., B.C., in any prospectus or statement of material facts or other material to be filed with the British Columbia Securities or the Vancouver Stock Exchange by R.H. Stanfield (Bull River Property).

Yours very truly,

Alfred R. Allen P.Eng.  
Alfred R. Allen



**10,075**  
**PART 1 of 2**

R.H. Stanfield  
BULL RIVER PROPERTY  
 Aerial Geophysical Survey  
 Electromagnetic & Magnetic  
CLAIMS  
 Steeples 3-10 & 15-30: Iron Creek 1-6  
 No. 2 Allen Geological Eng. Ltd.  
 Dec. 30/81 Per Alfred B. Allen P. Eng.

49°30' 115°30' FORT STEELE MINING DIVISION