

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. **3088** MAP

GEOCHEMICAL RECONNAISSANCE SURVEY

on

Little Joe Crown Grant, Gypsy  
Crown Grant, Jules Fraction  
and Frank Fraction

at

Portland Canal, B.C.  
(55 deg. 59'N, 129 deg. 57'W)

for

103 P / 13W

STARBIRD MINES LTD. (NPL)

by

D. ARSCOTT, P. Eng.

3083

1st to 3rd June, 1971

C O N T E N T S

	<u>Page</u>
INTRODUCTION .....	1
CLAIMS .....	2
LOCATION and ACCESS .....	3
GEOGRAPHY .....	4
GEOLOGY .....	5
RECONNAISSANCE GEOCHEMICAL SURVEY :	
General .....	6
Soil Types .....	6, 7
Interpretation .....	8, 9
CONCLUSIONS .....	10

\*\*\*

APPENDIX:

Soil Sample Descriptions  
Soil Sample Analyses  
Field and Laboratory Procedures  
Expenditures  
Declaration of Personnel Time and Cost  
Certificate

\*\*\*

FIGURES:

1. Claims Location Map
2. Reconnaissance Geochemical Survey (pocket)
3. Profiles of Soil Metal Values

\*

## INTRODUCTION

On the 1st and 2nd of June, 1971 the writer and Mr. T. Wilkinson of J.R. Woodcock Consultants Ltd. carried out an initial reconnaissance soil sampling survey on claims owned by Starbird Mines Ltd. (NPL).

The purpose of the reconnaissance was:

1. To test the validity of the soil sampling method for further work on the property.
2. To reconnoitre the terrain for planning and estimating of further work.
3. To fulfill assessment requirements on two of the claims.

\*\*\*

C L A I M S

The property consists of the following:

<u>CLAIM NAME</u>	<u>CLAIM TYPE</u>	<u>RECORD NO. OR LOT NO.</u>
LITTLE JOE	Crown Grant	873
GYPSY	" "	416
LUCKY SEVEN	" "	874
GLACIER KING	Mineral Claim	32295
BETH	" "	32296
ED	" "	32297
ALYCE	" "	32298
ANN	" "	32299
DORA	" "	32300
RON	" "	32301
BOB	" "	34543
VERNE	" "	34544
BILL	" "	Ownership in doubt
LU	" "	" "
JULIE	" "	" "
VIC	Fractional Mineral Claim	32808
FRANK	" "	32807
SU	" "	32302
KITTEN	" "	34476
CAT	" "	34477
JULES	" "	34478
JOHN	" "	34479

In this survey ground work was carried out on the Little Joe, the Gypsy, the Frank and the Jules.

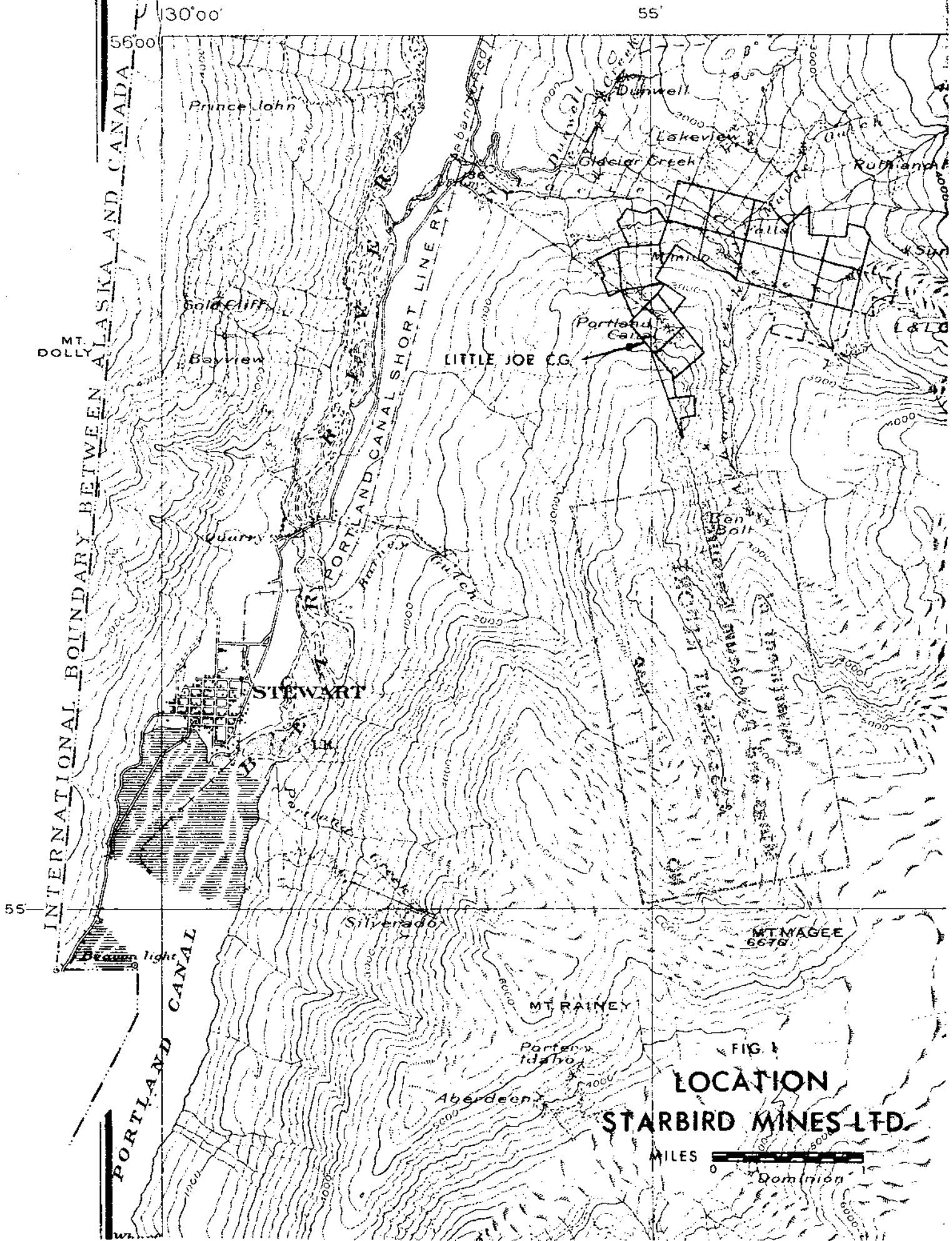
The remaining claims were reconnoitred from the air.

LOCATION and ACCESS

The claims lie 4 miles NNE of Stewart, B.C. on Glacier Creek.

A Vancouver Island Helicopters 3-place helicopter is based in Stewart and provides fast, inexpensive access to the old workings at a 2500 foot elevation on the Little Joe claim.

In addition, there is a long, formerly corduroyed trail of low gradient from the Bear Valley Road. The trail is relatively clear but the climb from the road to the main workings would take 3 to 4 hours.



Department of  
Mines and Petroleum Resources

ASSESSMENT REPORT

3083  
92779

NO.

MAP

~~72~~

## G E O G R A P H Y

The terrain is characterized by very steep slopes with typical coastal rain forest cover.

The vegetation consists mainly of mature hemlock, fir and cedar, wide spaced and relatively free of deadfall. Devils club is, unfortunately, plentiful.

However, the only real problem in negotiating the property is Glacier Creek, which is virtually a canyon over a distance of two miles. One or two logs lie across it. Except for these it is impassable at elevations lower than about 1200 feet.



## G E O L O G Y

Very little note of geology was taken on this trip, except to verify the presence and orientation of mineralization wherever possible.

For more specific geological information reference is made to the geological Report on the property by W.G. Timmins (October, 1969), and to the regional reports by G. Hanson (G.S.C. Memoir 159, 1929) and R. McConnell (G.S.C. Memoir 32). In addition, there are a number of references to this and neighbouring properties in the B.C. Minister of Mines Reports.

## RECONNAISSANCE GEOCHEMICAL SURVEY

### GENERAL:

Soil samples were collected on four short lines. These lines were related to each other, and to the old workings, by a 3600 foot base line (See Fig.2), and were positioned such that 3 of them would cross the theoretical location of the main vein structure.

The samples were collected, for the most part, at frequent intervals, (25 to 50 feet), to determine the geochemical "sphere of influence" of the vein. Wherever possible, two or more samples were taken from the same location to compare the metal retentions of the different soil horizons. Each sample was analysed for silver, lead and zinc.

### SOIL TYPES:

The soil horizons, where fully developed, included the following:

Upper horizon, ("A"), 2" to 4" in depth, consisting of dark brown to black humus, with varying proportions of undecayed organic matter.

Intermediate horizon, 0" to 2" in depth, consisting of a grey clay.

Lower horizon, ("B"), 0" to 10' ? in depth, consisting of a reddish brown clay loam.

Reference to the soil analyses indicates a general trend of higher lead and zinc values in the "B" horizon than in the "A". There are definite exceptions, however, and the correlation is erratic. This is interpreted to mean a

greater mobility of the metals in the "A" horizon. Only a couple of comparisons are available between metal content in the intermediate grey clay horizon, and the other horizons. This layer may have originated from a volcanic ash and, therefore, have derived its metal values indirectly via the humus, or the residual "B" horizon. Priority for sampling choice should be "B" horizon, "A" horizon, and grey clay, in that order.

INTERPRETATION:

The configuration of the lines sampled, and the soil sample metal contents are shown in Figure 2. As a further aid to interpretation of the results, Figure 3 has been constructed, showing profiles of the metal values along each line.

The profile along line 32+00N is relatively flat. It is, therefore, assumed to represent background metal values of no special significance. On this basis, tentative threshold figures have been selected as follows:

Silver	4 ppm (parts per million)
Lead	50 ppm
Zinc	250 ppm

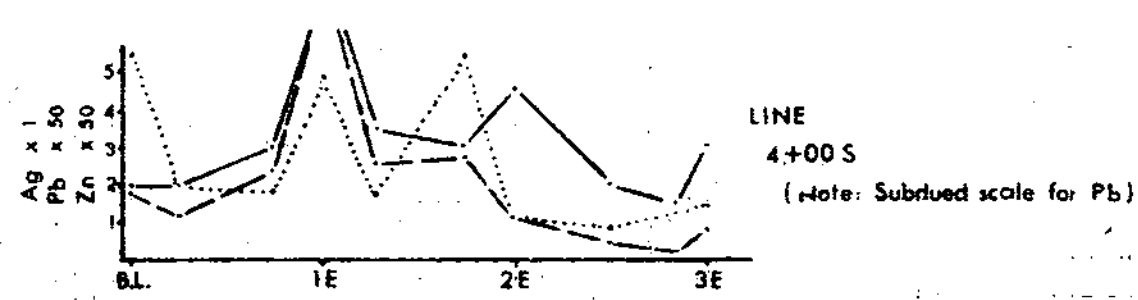
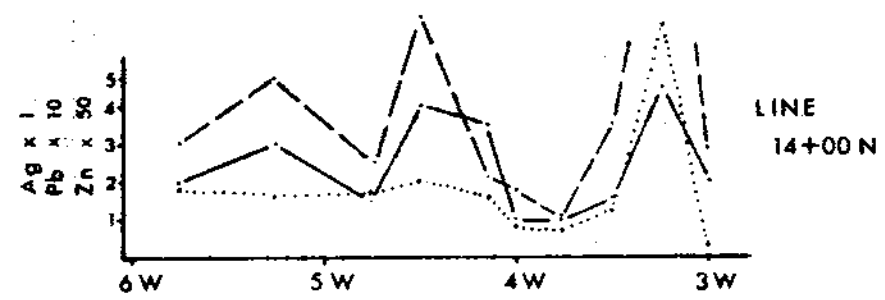
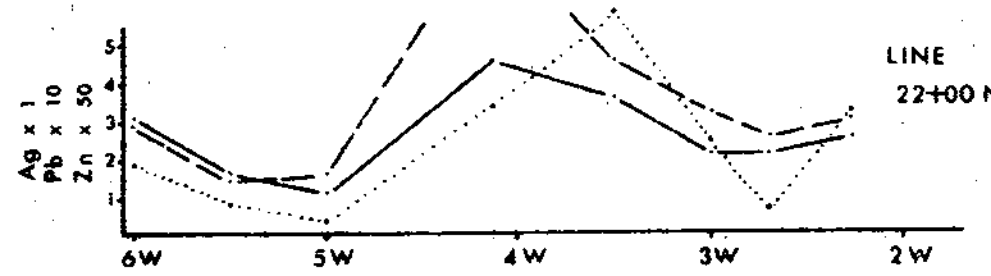
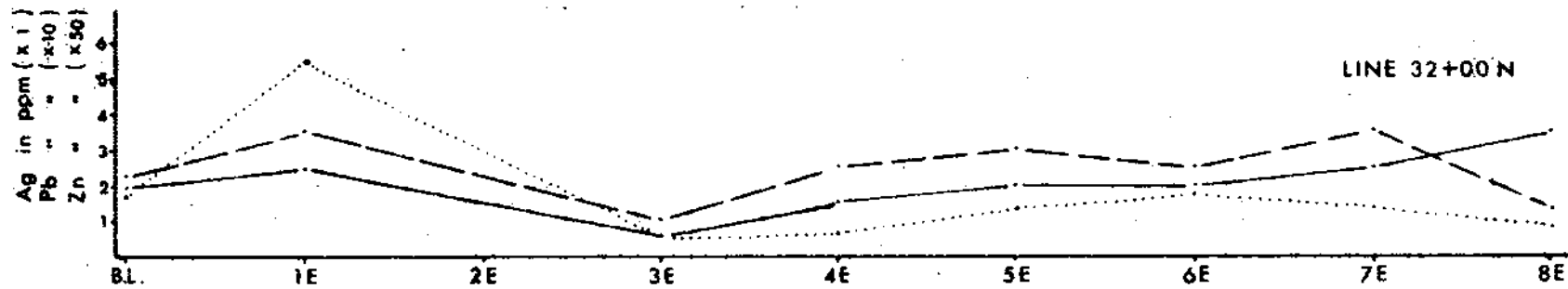
Any values in excess of these may well represent mineralization of economic significance.

Scrutiny of the profiles reveals:

1. A strong anomaly on line 4+00S at 1+00E, characterized by coinciding silver, lead and zinc highs, with a spreading of lead and zinc content towards the down slope side. In addition, the zinc values are erratic, in keeping with its usual higher mobility in soils.

Of considerable importance is the fact that this anomaly lies exactly on strike from the vein outcropping at the main workings, proving that the anomaly does indeed represent mineralized bedrock. The soils in this area appeared undisturbed and there is no reason to suspect contamination.

2. Similar, but less spectacular anomalies, are present on lines 14+00N and 22+00N. The anomaly at 14+00N, 4+50W occupies a topographic low (creek bank) and therefore possibly a drainage feature. The other anomaly is also a little suspect in that it is represented by an "A" horizon sample. (A neighbouring grid point, 3+50W, shows markedly higher values in the "A" horizon, than in the "B".) Both anomalies are, however, approximately on strike from the main workings.
  
3. A broad anomaly of undetermined origin occurs at 22+00N, 4+00W. It is, however, represented by "B" horizon soils at two sample points.



— Silver Values  
 - - - Lead Values  
 ..... Zinc Values

Note: Where choice of 'A' or 'B' horizon values was available the 'B' was used.

FIG. 3

STARBIRD MINES LTD.  
**PROFILES OF**  
**SOIL METAL VALUES**  
 STEWART, B. C.  
 June, 1971

## C O N C L U S I O N S

Soil sampling will be an effective tool for the delineation of lead-zinc-silver veins on this property.

The indications from this survey, and the locations of the old workings, suggest that the main mineralized structure through the Little Joe claim extends over a strike length of at least 2600 feet.

Further systematic soil sampling should corroborate this contention and may reveal overburden covered mineralization elsewhere on the property.

I recommend a complete soil sampling program, backed up by geological mapping. This should be carried out on a 200 foot x 25 foot grid in the vicinity of the main structure, and on a 400 foot x 50 foot grid for the remainder of the property. All samples should be analysed initially for lead, and those with marginal or high lead values re-analysed for silver. Samples should be taken from the "B" horizon wherever possible, with the "A", and intermediate grey clay as second and third choices.

The total cost of the complete soil sampling and mapping program is estimated to be approximately \$14,000.00.

Cordially submitted

*David Arscott*

David Arscott, P. Eng.

15th June 1971.

SOIL SAMPLE DESCRIPTIONS

<u>STATION</u>	<u>HORIZON</u>	<u>DEPTH</u>	<u>SLOPE</u> (with reference to grid, looking down slope)	<u>SOIL TYPE</u>	<u>REMARKS</u>
<u>Line 4+00S</u>					
B.L.	A	3"	25 deg.,N	Dark brown silt	
"	B	12"	"	Med. brown clay loam	
0+25E	B	14"	35 deg.,N	Red brown gritty loam	
0+75E	A	3"	)W. bank ) )of creek	Dark brown rooty humus)	) on W. bank ) of ) creek.
"	B	12"		Red brown clay	
1+00E	A, B, C	5"	40 deg.,N.	Humous, grey clay and brown soil	On E.bank of NS gully. On bedrock.
1+30E	A	3"	30 deg.,NE	Mixed humus & grey brown clay	
"	B	8"	"	Red brown gritty clay	
1+50E					No sample. Deep snow.



SOIL SAMPLE DESCRIPTIONS (continued)

Line 4+00S (cont'd.)

1 + 75E	A	4"	20 deg.,NE	Brown black silty humus	
"	B	12"	"	Red brown gritty clay	
2+00E	A,B,C	14"	30 deg.,W	Mostly med.brown loam	From E bank of N.draining gully
2 + 25E					no sample - deep snow
2 + 50E		9"	10 deg.,NE		True sample position was 30' SW of 4S, 2+75E
2 + 75E	B	9"	10 deg.,NE	Med.-light brown clay loam	
3 + 20E	B	6"	20 deg.,NE	Med. brown clay loam	

Line 14+00N

4 + 00W	A	18"	15 deg.,N	Dark brown humus	On E. bank of NS creek
4 + 15W	A, B	18"		Reddish gritty soil and grey clay	"

Invoice # 11  
15th May 1971

Mr. Don Wilson  
Starbird Mines Ltd.  
540 Burrard St.  
Vancouver 1, B.C.

Re: RESEARCH, PLANNING, ESTIMATES for Starbird Properties  
Period 1-15th May 1971

Fees: 1½ days at 80.00	120.00
Expenses:	8.30
Phone calls (charged to 687-7521) (approx.)	8.00
	<hr/>
	136.30
 AMOUNT DUE	 <hr/> <hr/>
	136.30

D.A.

Invoice No. 13

May 31, 1971

Starbird Mines Ltd.  
540 Burrard Street  
Vancouver 1, B. C.

Re: Period May 16 - 31  
1971

Fees: 1/2 day @ 80.00	\$40.00
Expenses:	5.10
Long distance telephone calls:	<u>12.80</u>
Total due	<u>\$57.90</u>

*D. A.*

David Arscott

INVOICE NO. 15

15th June, 1971

STARBIRD MINES LTD. (N.P.L.)  
305 - 540 Burrard Street  
Vancouver 1, B.C.

Re: RECONNAISSANCE SURVEY - STEWART, B.C.

Fees:	(P.F.)	1/2 day @ \$40.00	\$ 20.00
Fees:	(D.A.)	5-1/2 days @ 80.00	440.00
Expenses:		(list attached)	70.05
Soil sample analyses			99.00
<u>TOTAL:</u>			<u>\$629.05</u>

(Helicopter and J.R. Woodcock  
invoices are not received yet.  
Total job cost will be  
approximately \$1,201.00)

*D. A.*

David Arscott, P.Eng.

Invoice # 19  
30 June 1971

Starbird Mines Ltd.  
540 Burrard St.  
Vancouver 1, B.C.

Re: COSTS, STEWART PROJECT, 16-30 June 1971

Fees:	D.A.	$1\frac{1}{4}$ days @ 80.00	100.00
	J.C.	$\frac{1}{4}$ day @ 55.00	13.75
Expenses:	D.A.		<u>72.68</u>
		AMOUNT DUE	<u>186.43</u>

O. A.

(Note: Expenses to follow are from  
J.R. Woodcock for shipping of food  
and camp supplies, and expediting  
time, and 1 or 2 telephone calls)

SOIL SAMPLE DESCRIPTIONS (continued)

Line 14+00N (cont'd.)

4 + 50W	A,B,C	18"		Humus, grey clay, rock chips	On W. bank of creek.
4 + 75W	A	6"	25 deg.,N	Dark brown humus	
5 + 25W	B,C		30 deg.,NE	Red brown loam and argillite chips	
5 + 75W	B	18"	35 deg.,NE	Reddish brown silt	
3 + 75W	A	3"	15 deg.,N	Humus	
"	B	14"	"	Mixed brown & grey loam	
3 + 50W	A	3"	30 deg.,N	Black silt humus	
"	B	6"	"	Brown grey gritty clay	
3 + 25W	A	8"	30 deg.,N	Black humus	
3 + 00W	B	5"	25 deg.,N	Light brown silty soil	

SOIL SAMPLE DESCRIPTIONS (continued)

Line 22+00N

4 + 00W.						No sample. Station is at centre of creek.
4 + 15W	B	1"	30 deg.,E	Red brown soil		From W. bank of N S Creek
4 + 50W	A,B ?	8"	45 deg.,N	Humus and grey clay		
5 + 00W	A,B ?	8"	30 deg.,N	Humus and grey clay		
5 + 50W	B,(A)	8"	15 deg.,N	Grey brown soil and some humus		
6 + 00W	A	2"	15 deg.,N	Humus		
"	B ?	6"	"	Grey clay		This layer is about 1/2" thick.
"	B	8"	"	Red brown soil.		
3 + 50W	B	8"	20 deg.,N	Red brown soil		
2 + 90W	B	10"		Red brown gritty soil		From E.bank of small creek
2 + 67W	B	1"	30 deg.,N	Red brown soil		From under over-turned tree stump
2 + 25W	B	8"	30 deg.,N	Red brown soil		

SOIL SAMPLE DESCRIPTIONS (continued)

Line 32+00N

B.L.	B,C ?	1"	25 deg.,N	Dark brown, gritty pebbly soil	From E.bank of major creek.
1 + 00E	B	10"	30 deg.,N	Med.-dark brown gritty clay	
2 + 00E					No sample. Deep snow.
3 + 00E	A, B	18"	20 deg.,N	Mixed grey clay, brown silt, and humus.	
4 + 00E	A, B	12"	20 deg.,N	Med.-grey-brown soil at A,B horizon boundary	
5 + 00E	B	10"	20 deg.,N	Mottled dark red-brown soil	
6 + 00E	A,B ?	10"	10 deg.,N	Mixed humus and grey clay	
7 + 00E	B	8"	25 deg.,N	Red brown soil	
8 + 00E	A, B	12"	30 deg.,N	Brownish-grey clay	



# Vancouver Geochemical Laboratories Ltd.

1521 PEMBERTON AVENUE NORTH VANCOUVER, B.C., CANADA TELEPHONE 604-988-2172

## GEOCHEMICAL ANALYTICAL REPORT

REPORT No. 71-13-001 DATE June 9, 1971  
SAMPLES SUBMITTED BY Dave Arscott COMPANY Dave Arscott  
SHIPPED VIA FROM  
REPORT ON 45 samples for Zn, Ag & Pb DATE SAMPLES ARRIVED June 4, 1971  
\* \* \*

### COPIES OF THIS REPORT SENT TO:

- Mr. Dave Arscott
- (1) Bond Street International
- 540 Burrard Street
- (2) Vancouver, B. C.
- (3)

### TRANSMITTED BY:

Mail

SAMPLES SIFTED OR GROUND TO -80 MESH WEIGHT USED 0.50 g  
FINAL VOLUME 10 ml ALIQUOT USED n/a  
\* \* \*

METHOD OF ANALYSIS: ~~XXXXXX~~ Instrumental - AAS

EXTRACTION: HClO<sub>4</sub> - HNO<sub>3</sub>

DETECTION: Techtron AA4 and AA5

SAMPLES ASSIGNMENT: (a) PREPARED SAMPLES: filed  
(b) REJECTS: discarded  
\* \* \*

ANALYST(S) G.A., W.L. TYPIST hi

SUPERVISING CHEMIST L. Nicol CHECKED BY *L. Nicol*

### COSTS:

SHIPPING CHARGE	\$ -----
SAMPLE PREPARATION	\$ 9.00
ANALYSIS	\$ 90.00
OTHER	\$ -----
TOTAL	\$ 99.00

SPECIALIZING IN TRACE ELEMENT ANALYSIS

# Vancouver Geochemical Laboratories Ltd.

1521 PEMBERTON AVENUE

NORTH VANCOUVER, B.C. CANADA

TELEPHONE 604-988-2172

70-13-001

COMPANY Dave Ascott

REPORT No.

PAGE 1 OF 2

MARKING	Zn	Ag	Pb		MARKING	Zn	Ag	Pb	
ST-14N - 3+00W	20	2.0	29	✓					
25W	310	4.5	197	✓	ST-22N - 6+00W "A2"	29	3.5	11	
50W "A"	280	5.0	247		ST-22N - 6+00W "B"	80	3.0	29	✓
50W "B"	68	1.5	35	✓	ST-32N - 1+00E	265	2.5	35	✓
75W "A"	95	1.5	27		3	30	0.5	10	
2+25W "B"	47	1.0	10		4	35	1.5	26	✓
4+00W	48	1.0	18		5	70	2.0	30	✓
15W	74	3.5	20		6	93	2.0	26	✓
50W	100	4.0	64		7	67	2.5	36	
4+75W	78	1.5	25		ST-32N - 8+00E	45	3.5	13	
5+25W	80	3.0	48		ST- 4S - 0+25E	100	2.0	64	
ST-14N - 5+75W	90	2.0	30	✓	0+75E "A"	35	9.5	11	
ST-22N - 2+25W	150	2.5	29	✓	0+75E "B"	90	3.0	122	
2+67W	30	2.0	25	✓	1+00E	245	7.5	390	
3+00W	117	2.0	31	✓	1+30E "A"	123	3.0	43	
3+50W	292	3.5	45	✓	1+30E "B"	93	3.5	135	
4+15W	155	4.5	82	✓	1+75E "A"	60	4.0	40	
5+00W	17	1.0	15	✓	ST- 4S - 1+75E "B"	270	3.0	141	
5+50W	30	1.5	15	✓	ST-4S+00S - 2+00E	60	4.5	54	
ST-22N - 6+00W "A"	20	1.5	13		ST- 4S - 2+50E	30	2.0	20	

## REMARKS

All values are reported in parts per million unless specified otherwise. All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

# Vancouver Geochemical Laboratories Ltd.

1521 PEMBERTON AVENUE NORTH VANCOUVER, B.C. CANADA TELEPHONE 604-988-2172  
71-13-001

COMPANY Dave Arccott REPORT No. PAGE 2 OF 2

MARKING	Zn	Ag	Pb	Remarks					
ST-4S - 2+75E	13	1.5	9						
ST-4S - 3E	70	3.0	39						
ST 32+00N BL	80	2.0	23						
ST - BL - 4S "A"	320	3.0	58						
ST - BL - 4S "B"	271	2.0	99						
" X "	20	1.0	24	marked in lab. (no number)					

REMARKS

All values are reported in parts per million unless specified otherwise. All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

## FIELD and LABORATORY PROCEDURES

The base line and cross-lines were established by chain and compass, with slope corrections to give consistent horizontal measurement.

The lines were blazed, and marked with blue flagging tape.

The soil samples were taken from depths of 3 to 24 inches by shovel, transferred to paper bags, and shipped to Vancouver Geochemical Laboratories Ltd. for analysis. Soil horizon, sample depth, soil ;type, and terrain slope were recorded while sampling.

The samples were oven dried, and the - 80 mesh fraction analysed by the Atomic Absorption Method for silver, lead and zinc.

\*\*\*

DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA:

In the Matter of Reconnaissance.

To Wit: Geochemical Survey for Starbird Mines Ltd, in the Stewart area of British Columbia

I, David Philip Arscott

of 301-540 Burrard Street, Vancouver 1, B.C.

in the Province of British Columbia, do solemnly declare that the following list represents the number of days worked, the rates charged, and the total fees for the above mentioned project

<u>Name</u>	<u>No days worked</u>	<u>Rate</u>	<u>Total fee</u>
D. Arscott	5 1/2	80.00/day	440.00
T. Wilkinson	3	75.00/day	225.00
Total labour cost			<u>665.00</u>

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City of Vancouver in the Province of British Columbia, this 24<sup>th</sup> day of Sept 1971, A.D.

David Arscott

*[Signature]*  
A Commissioner for taking Affidavits within British Columbia or  
A Notary Public in and for the Province of British Columbia.

SUB-MINING RECORDER

C E R T I F I C A T E

I, DAVID PHILIP ARSCOTT, am a Professional Engineer, registered in British Columbia, with an office at 301 - 540 Burrard Street, Vancouver 1, British Columbia.

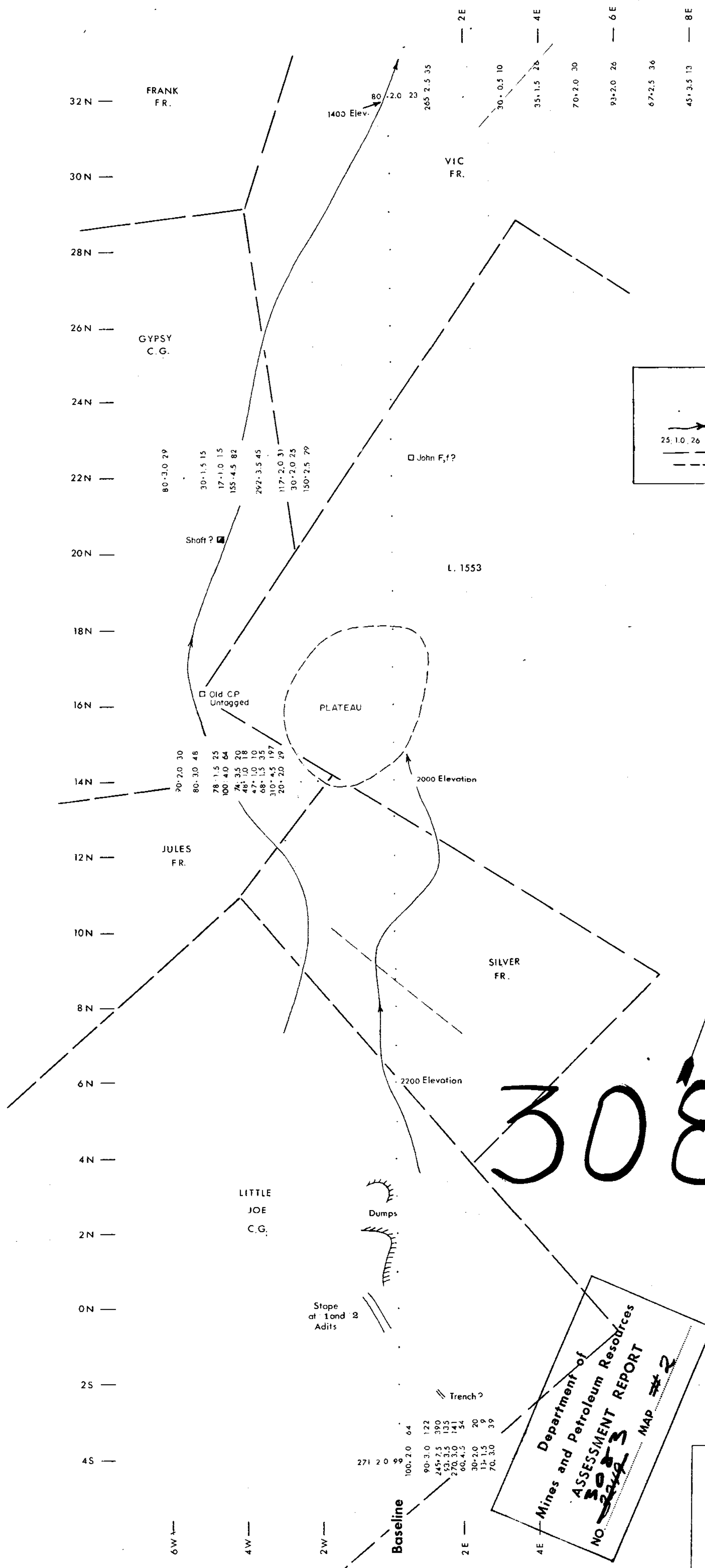
I have degrees of B. Eng. and MSc. granted at McGill University in 1963 and 1966, and 5 years experience in mineral exploration, mainly in Canada.

I personally carried out the survey described in this Report.

*David Arscott*

David Arscott, P. Eng.

15th June, 1971



**LEGEND**

- Grid station or sample
- Creek or Gully, approximate
- 25.1.0.26 Soil Metal Values—Zinc, Silver, Lead
- Claim Boundaries
- - - Blazed Lines

3083 M-2

To accompany report,  
 "Geochemical Reconnaissance  
 Survey", by D. Arscott,  
 15th June 1971

David Arscott

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 3083  
 MAP #2

FIG 2

STARBIRD MINES LTD.

**RECONNAISSANCE  
 GEOCHEMICAL  
 SURVEY**

1"=200'

Stewart B.C. June 2, 1971 D.A.