

GEOCHEMICAL SURVEYS, SODA MINERAL CLAIM GROUP  
KATHLEEN LAKE AREA

TABLE OF CONTENTS

	page
Frontspiece	
Key Map	
List of Claims	
Introduction	1
Previous Work	1
Present Work	1
Method of Survey	1
Results	2
Conclusions	2
Recommendations	2
APPENDICES	
Cost Summary	1
Affidavit Supporting Summary of Costs	2
Personnel	3
Geochemical Maps, Soda Grid	4
Geochemical Map, Soda Regional	5

GEOLOGICAL SURVEY.

y

MAY 12 1967

Resident Geologist  
Whitehorse, Y. T.

This report has been examined by  
the Geological Evaluation Unit.  
Approved as to technical worth by:

*D. J. Kelly*  
RESIDENT GEOLOGIST

Approved as to cost in the amount  
of \$ 2431.10

*A. S. Redman*  
for DEPT. MINING & TECHNICAL SERVICES

Approved as representation work  
Section 53(4) Yukon Quartz  
Mining Act.

*[Signature]*  
COMMISSIONER OF YUKON



KATHLEEN LAKE



64°-15'

134°-12'

KEY MAP KATHLEEN LAKE AREA

Grid Location:

SODA Mineral Claims

ATLAS EXPLORATIONS LTD.



SODA MINERAL CLAIM GROUP

Claim	Grant Number
Soda 1 to	84822 to
Soda 30 inclusive	84851 inclusive

Located: Claim Sheet 106 D 8  
Mayo Mining District  
Yukon Territory

GEOCHEMICAL SURVEY  
KATHLEEN LAKE AREA, SODA  
MINERAL CLAIM GROUP

MAYO MINING DISTRICT  
YUKON TERRITORY

LATITUDE 64° 20'  
LONGITUDE 134° 10'

August 20th to Sept. 3, 1966  
Atlas Explorations Limited

by

John S. Brock

## INTRODUCTION

The Soda Mineral Claim Group was staked in the Kathleen Lake area during March of 1966. Thirty claims were located over an area of gossan and mineralized float some three and one half miles north of Kathleen Lake in the Mayo Mining District of the Yukon Territory. Kathleen Lake is situated forty one miles northeast of Keno City.

The immediate area is characterized by gently rolling hills which are covered by heavy vegetation consisting of spruce, poplar and a few birch below timberline, dwarf birch (buckbrush) persists above tree line. The gossan area is on the crest of an east-west trending ridge at about 4500 feet elevation above sea level. It consists of several thousand feet by two hundred feet of siderite and very leached galena and shalerite.

## PREVIOUS WORK

The property was originally staked by Gordon Dickson, prospector, of Whitehorse, who still holds two mineral claims Dago 1 and 2, within the area. Prospector's Airways geologically mapped and hand trenched the claims in 1957. A total of thirty nine hand trenches were completed with approximately ninety samples being taken for assay. Although few of the samples were of economic grade at that time, it was felt that the hand trenches from which they were taken, never really penetrated the leached and oxidized surface.

## PRESENT WORK

From the period, August 20th to September 3rd, 1966, Atlas Explorations conducted a regional geochemical survey over the area of interest and a detailed grid geochemical survey over an area of known mineralization. The geochemical survey was undertaken to determine the possibility of other mineralized zones in the area and to delineate the extent of the present showing. A party of two men were sent to the Soda Group to complete the project.

## METHOD OF SURVEY

Soil samples were collected at two hundred foot intervals along the claim lines and samples were collected from local drainage where sediments were analyzed for trace element content.

### Method (con't)

Over the grid survey, samples were collected at one hundred foot intervals. The grid consisted of 10,500 feet of flagged line, with the base line being 2800 feet in length. The base line was laid out bearing north 70 degrees east, with all cross lines at right angles to the base line. A total of 254 samples were collected from the grid.

All soil samples were taken from the 'B' horizon where possible, over areas of gossan and leached zones, samples were derived from depths of approximately two feet. Samples were taken with a prospector's grub hoe, about 10 grams of soil from each station was placed in a Kraft paper bag which was then labelled according to its location. The samples were then returned to the Atlas Explorations soil testing laboratory where they were dried and screened to 80 mesh. Each sample was then weighed out to 0.5 grams and digested in aqua regia solution (hot) after which their copper, lead and zinc content was determined by Atomic Absorption Spectrophotometer analysis. Results were returned to the party chief for plotting.

### RESULTS

The values obtained from the samples collected indicate a strong anomalous lead-zinc zone surrounding the known showing and extending laterally for a considerable distance in all directions. The area as a whole has a very high background level in both lead and zinc, while the copper values are all very low. Anomalous stream sediment samples indicate a number of scattered geochemical 'highs'.

### CONCLUSIONS

The results of the survey would appear to be encouraging, as it would appear that they indicate possible sulphide mineralization extending for some distance beneath the leached and oxidized showing. Stream sediments tested for copper, lead and zinc indicate the possibility of mineralization along strike of the presently outlined zone.

### RECOMMENDATIONS

It is recommended that the geochemical results warrant further development of the property. Extensions of the grid should be planned and more geochemical surveys done in conjunction with ground electromagnetic and magnetic surveys. If and when these results were compiled and assessed then a drill

program should be considered to determine the actual extent and grade of possible mineralization. Considering the remoteness of the area and the nature of the localized target area, it is suggested that bulldozer trenching would not be feasible.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "J S Brock". The signature is written in a cursive, somewhat stylized font.

John S. Brock,

Geophysicist and Assistant Explorations  
Manager,

Atlas Explorations Limited.

**APPENDICES**

APPENDIX L.

COST SUMMARY

Geochemical Survey,  
Soda Mineral Claims

Period: August 20th to September 3, 1966

<u>Wages</u>	J.W. Staniford, Party Chief \$20/day for 14 days.....	\$ 280.00 ✓
	P. Dean, Soil Sampler \$18/day for 14 days.....	252.00 ✓
	<u>28</u>	336.00
<u>Subsistence</u>	@ \$12/man per day for 28 man days.....	<del>726.00</del>
<u>Transportation</u>	2 return trips from Ross River, Y.T. to property via Beaver aircraft.....	460.00
<u>Supervision</u>	pro rated at \$ 10/man day.....	280.00
<u>Presentation of Data</u>	maps, report, etc.....	150.00
<u>Geochemical Analysis</u>	254 soil and silt samples soil prep @ 15¢/sample analysis for Cu, Pb, Zn @ \$2.50 per Total cost / sample = \$2.65 Total cost for 254 samples....	693.10 <u>695.10</u>
	TOTAL COST GEOCHEMICAL SURVEY	\$2843.00

2431.10

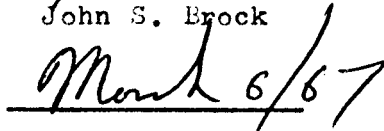
Appendix 2.

AFFIDAVIT SUPPORTING SUMMARY OF COSTS

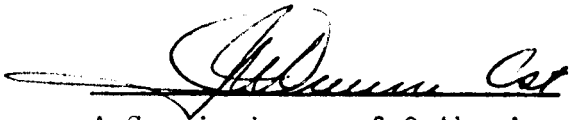
I, John S. Brock, Assistant Exploration Manager and Geophysicist for Atlas Explorations Limited, of Ross River, Y.T. Do hereby swear that I believe the SUMMARY OF COSTS as presented in this report, ' Geochemical Survey, Soda Group, Kathleen Lake Area, is both true and correct to the best of my knowledge and belief.



John S. Brock



Date



A Commissioner of Oaths in  
and for the Yukon Territory

RCMP



Delivered at Ross River, Y.T.

## PERSONNEL

Joseph W. Staniford, Geologist and Party Chief  
Duration of employ with Atlas Explorations,  
6 months,  
Residence, Whitehorse, Y.T.

Peter Dean, Soil Sampler and Field Assistant,  
Student seasonal employee  
Residence, Vancouver, B.C.

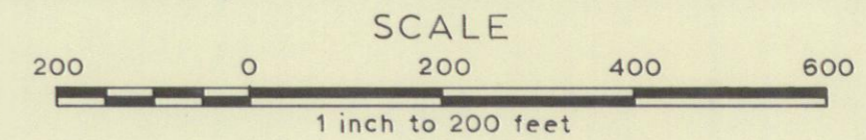
John S. Brock, Assistant Exploration Manager,  
Atlas Explorations Limited,  
Duration of employ, 12 months  
Residence, Ross River, Y.T.

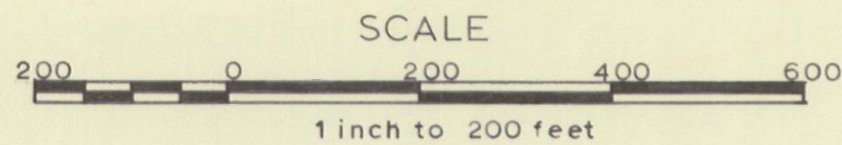
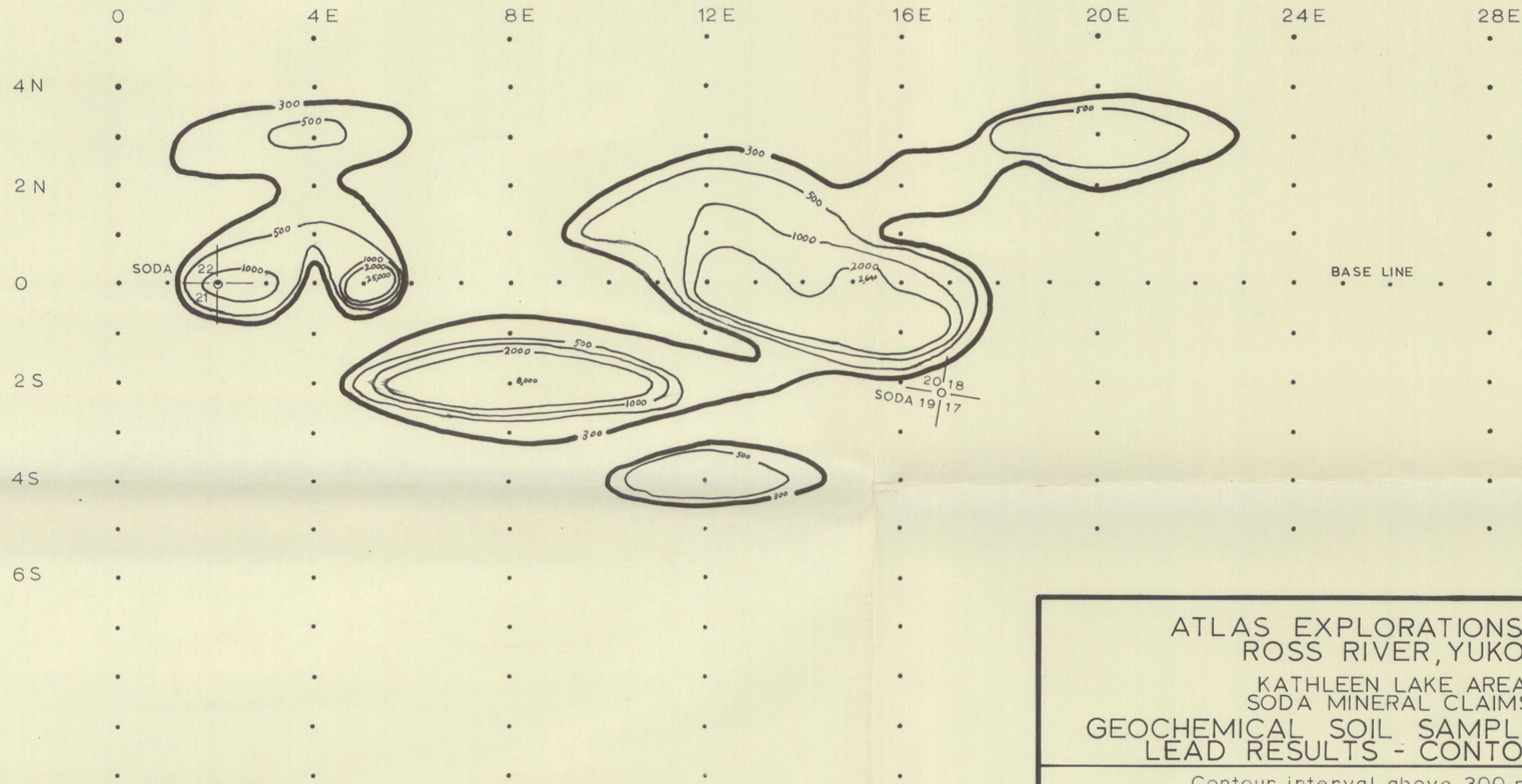


ATLAS EXPLORATIONS LTD.  
 ROSS RIVER, YUKON  
 KATHLEEN LAKE AREA  
 SODA MINERAL CLAIMS  
 GEOCHEMICAL SOIL SAMPLING SURVEY  
 ZINC RESULTS - CONTOUR MAP

---

Contour interval above 1,000 p.p.m.  
 Soil sampler: P. Dean  
 Party chief: J. Staniford  
 Date: Aug., 1966  
 Drawn by: *Al Withers*



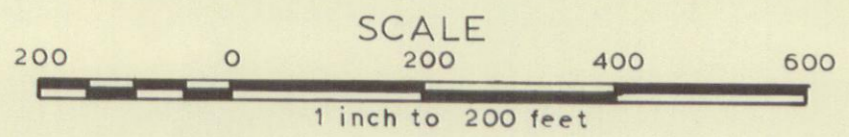
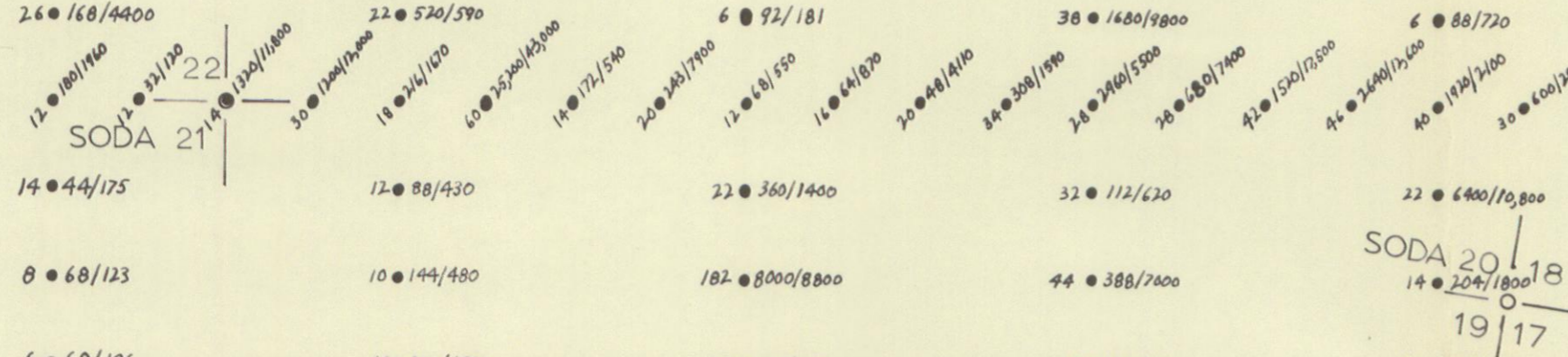


ATLAS EXPLORATIONS LTD  
ROSS RIVER, YUKON  
KATHLEEN LAKE AREA  
SODA MINERAL CLAIMS  
GEOCHEMICAL SOIL SAMPLING SURVEY  
LEAD RESULTS - CONTOUR MAP

---

Contour interval above 300 p.p.m.  
Soil sampler: P. Dean  
Party chief: J. Staniford  
Date: Aug, 1966  
Drawn by: *Al Githen*

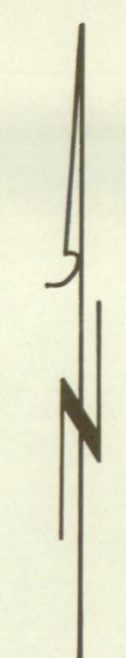
	0	4E	8E	12E	16E	20E	24E	28E
	42 ● 48/360	20 ● 60/189	26 ● 128/1280	12 ● 52/143	14 ● 76/380	32 ● 128/880	●	44 ● 52/340
4 N	24 ● 64/350	20 ● 116/500	20 ● 68/167	22 ● 124/1300	12 ● 44/290	12 ● 156/400	26 ● 172/700	38 ● 72/200
	16 ● 220/1160	18 ● 600/590	18 ● 88/200	14 ● 168/1890	18 ● 72/600	20 ● 880/5900	28 ● 108/1180	18 ● 84/240
2 N	18 ● 248/5500	20 ● 282/1200	10 ● 80/171	20 ● 600/2800	18 ● 288/1460	30 ● 304/5800	22 ● 228/1500	14 ● 92/380
	26 ● 168/4400	22 ● 520/590	6 ● 92/181	38 ● 1680/9800	6 ● 88/720	28 ● 180/3200	6 ● 148/880	22 ● 28/179
0	12 ● 180/1920	12 ● 22/120	22 ● 1320/11800	30 ● 1700/14000	14 ● 172/540	20 ● 248/7900	12 ● 68/550	16 ● 64/820
	14 ● 44/175	12 ● 88/430	22 ● 360/1400	32 ● 112/620	22 ● 6400/10,800	22 ● 52/400	18 ● 20/83	22 ● 80/196
2 S	8 ● 68/123	10 ● 144/480	182 ● 8000/8800	44 ● 388/2000	14 ● 204/1800	16 ● 60/380	16 ● 24/182	22 ● 104/186
	6 ● 60/196	16 ● 200/1980	20 ● 380/1390	16 ● 180/980	44 ● 108/880	14 ● 52/175	16 ● 140/620	16 ● 148/550
4 S	24 ● 40/193	14 ● 60/1120	8 ● 44/149	30 ● 800/600	36 ● 46/167	26 ● 40/136	10 ● 64/380	14 ● 240/730
	24 ● 64/430	20 ● 128/880	18 ● 264/156	12 ● 88/156	22 ● 156/620	14 ● 28/104	16 ● 12/175	6 ● 124/400
6 S	20 ● 72/500	6 ● 76/480	14 ● 198/870	38 ● 208/590	20 ● 64/180			
	18 ● 48/380	14 ● 152/770	14 ● 220/530	18 ● 60/440	14 ● 36/124			
8 S	22 ● 44/520	14 ● 84/690	6 ● 84/200	20 ● 44/196	20 ● 22/520			
	16 ● 36/490	12 ● 148/600	14 ● 128/680	26 ● 148/500	12 ● 20/58			
10 S	22 ● 64/530	18 ● 60/193	16 ● 180/720	22 ● 136/175	8 ● 32/83			



ATLAS EXPLORATIONS LTD.  
 ROSS RIVER, YUKON  
 KATHLEEN LAKE AREA  
 SODA MINERAL CLAIMS  
 GEOCHEMICAL SOIL SAMPLING SURVEY  
 Cu, Pb & Zn RESULTS BY ATOMIC ABSORPTION  
 SPECTROPHOTOMETER ANALYSIS

---

Results in p.p.m. - Cu, Pb & Zn - 12, 34/123  
 Soil sampler: P. Dean  
 Party chief: J. Staniford  
 Drawn by: *Al. H. H.*  
 Date: Aug., 1966



ATLAS EXPLORATIONS LTD.  
ROSS RIVER, YUKON  
KATHLEEN LAKE AREA  
SODA MINERAL CLAIMS  
Geochemical Survey

Scale: 1" = 500'  
Date: August, 1966  
Party Chief: J. Staniford  
Soil Sampler: P. Dean  
Drawn by: *[Signature]*  
Values listed: Cu, Pb, Zn

KATHLEEN LAKE