

GEOPHYSICAL AND GEOCHEMICAL REPORT

ON THE LORI 1-4 MINERAL CLAIMS,

Similkameen Mining Division,

British Columbia

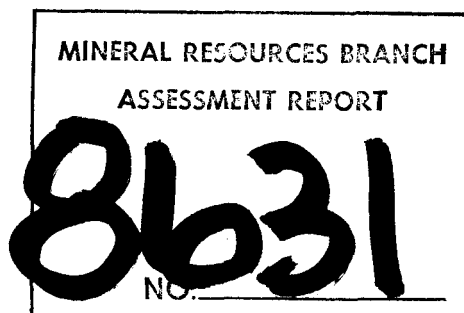
NTS 92H/16

Latitude  $49^{\circ}45'N$  approx.

Longitude  $120^{\circ}16'W$  approx.

Owner and Operator: ARK ENERGY LTD.

Prepared by J.B.P. Sawyer, P.Eng.



August 25th, 1980

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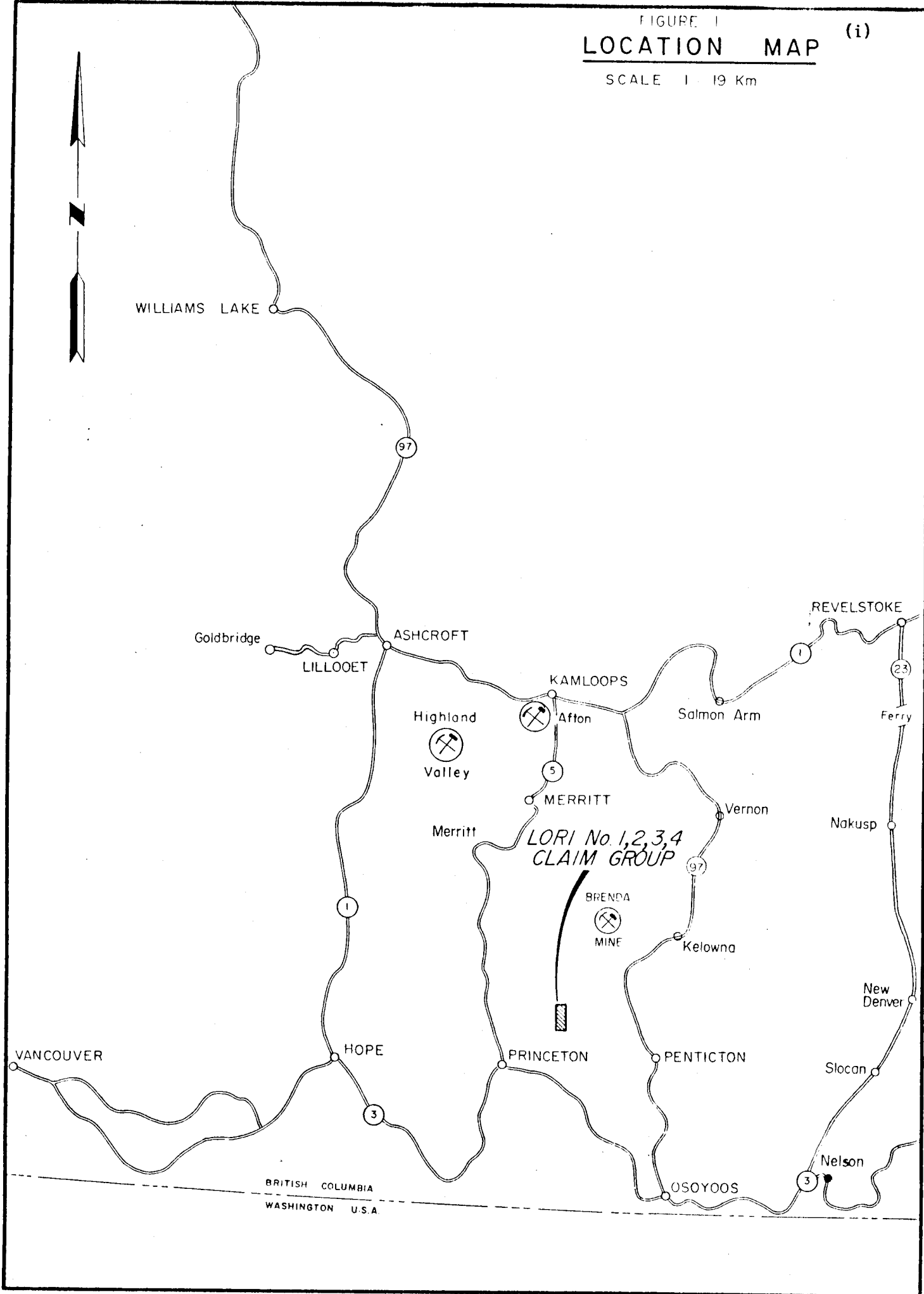
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FIGURE 1  
**LOCATION MAP**

(i)

SCALE 1 : 19 Km



## INTRODUCTION

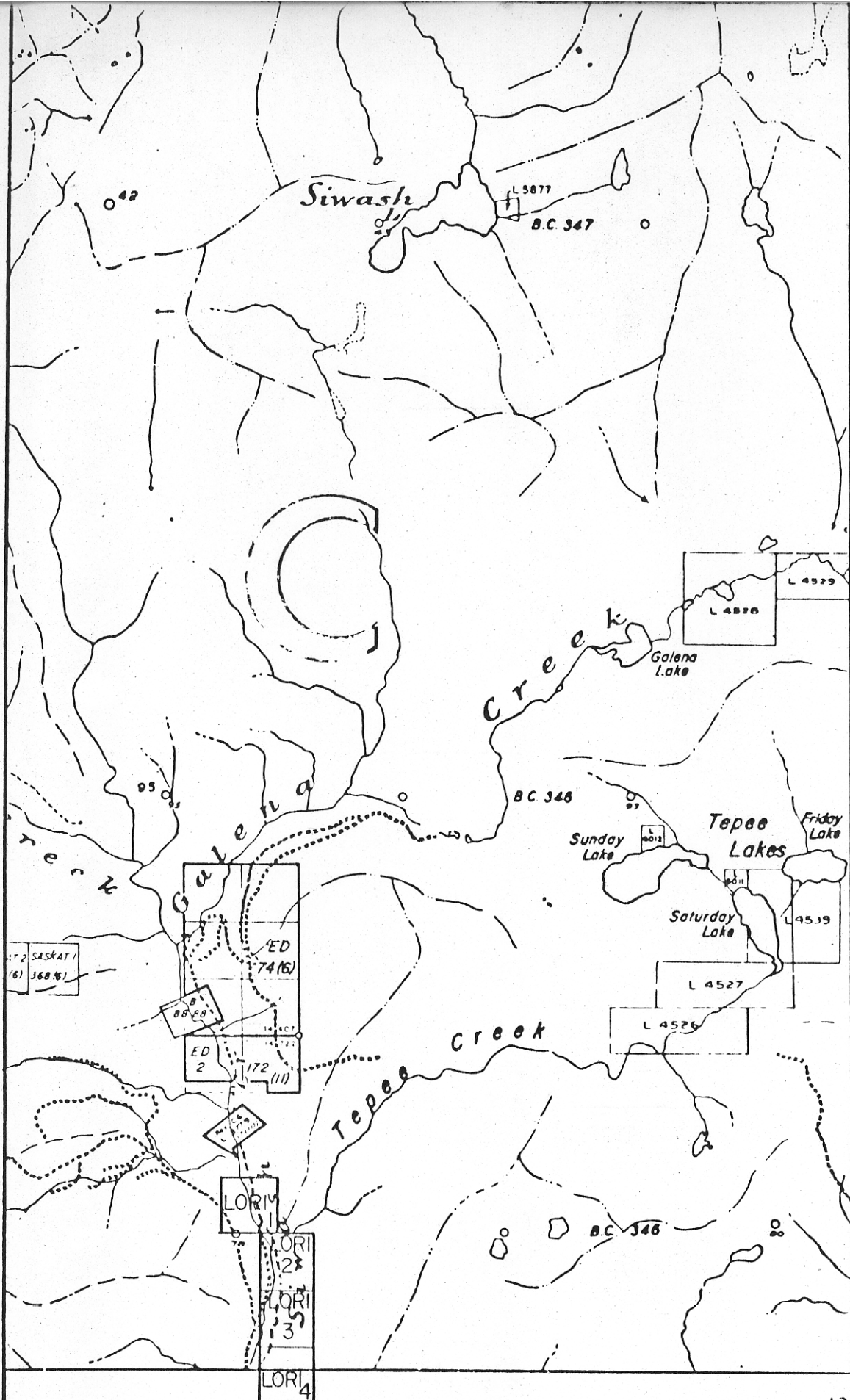
The area now covered by the Lori 1-4 claims is part of a larger area which has been held more or less continuously for the past twelve years by principals of the current owner Company, Ark Energy Ltd., through this and predecessor companies. While an employee of Cyprus Exploration Corporation Ltd. in the late 1960's and 1970's, the writer was involved in geological, geochemical, geophysical, and diamond drilling work programs carried out on the original property. The areas investigated at that time were adjacent to the current Lori claims but essentially within the same geological environment. The writer has not been involved in any of the more recent work on the property which has been carried out by or under the direction of D.W. Tully, P.Eng. and others. The most recent field work was carried out by Strato Geological Ltd. following general recommendations prepared by D.W. Tully, P.Eng. For reasons unknown to the writer these people have become unavailable to compile the data collected. Our commission was simply to compile the data into a form acceptable for assessment credit. It is apparent that the work completed is of a very preliminary nature and not really of sufficient depth or detail to provide any definitive answers. The information supplied here therefore is simply factual information gained from data provided either by Strato Geological Ltd. or the principals of Ark Energy Ltd. We are satisfied that the work represented here has in fact been carried out, that the data presented, though inadequate in quantity, is real, and that assessment credit therefore should be available to the Company in recognition of the expenditures made in connection with the work.

## PROPERTY, LOCATION AND ACCESS

The property consists of four claims staked under the two-post system provided for in the Regulations of the B.C. Department of Mines. Details of the claims are listed below.

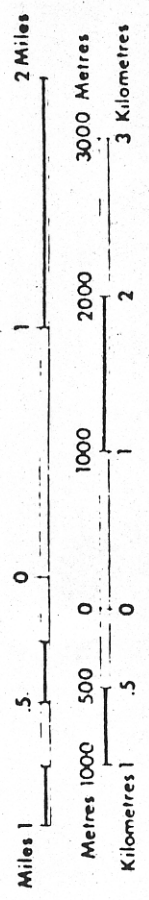
<u>Claim Name</u>	<u>Record No.</u>	<u>Expiry Date</u>	<u>Remarks</u>
Lori #1	416	August 29, 1980	[ Recorded under B.C.
Lori #2	417	August 29, 1980	[ Mining Receipts
Lori #3	418	August 29, 1980	[ No. 12378E and No.
Lori #4	419	August 29, 1980	[ 12379E at Princeton,
			[ B.C., dated August
			[ 29, 1978.

The property is located approximately 35 miles by road north of the town of Princeton, B.C. within the drainage area of Siwash Creek. Access to the property is easily had from Bankier on the Kettle Valley Railroad line along logging roads to the property. The distance from Bankier is approximately 6 miles and the use of four-wheel drive is necessary for part of the way. The area is well forested with the usual mixed cover



Ministry of  
Mines and  
Petroleum Resources

Province of  
British Columbia



LEGEND

CROWN-GRANTED MINERAL CLAIM CG

REVERTED C.G. MINERAL CLAIM Rev. CG

FORFEITED MINERAL CLAIM

VERIFIED LEGAL CORNER POST

LEGAL SURVEY

LEGAL CORNER POST & TAG NUMBER C-2325



49°45'

120°15'

FIGURE 2  
SEPTEMBER 12, 1978  
CLAIM MAP 92 H/16 W

of spruce, pine, and some deciduous trees. Elevations on the property range between 3800 and 4500 feet above sea level. The valley of Siwash Creek and the greater part of the property is overburden covered so that rock outcrops are relatively sparse. The depth of overburden is however quite shallow and in the past trenching has proved an effective technique to investigate bedrock conditions.

### HISTORY AND PREVIOUS WORK

The following summary of previous work on the property is taken from D.W. Tully's report dated September 12th, 1978.

"Silver was mined in small quantities from local high-grade vein deposits in this general area during the period 1917-1929.

In 1966-1967 a program of bulldozer trenching, sampling and limited geochemical work was performed in the area of an old adit on Rosso claim No. 1 known as the Mabel zone. In 1967 Spa Mines drilled five diamond drill holes totalling 2,429 feet on this zone. Assay results were of low tenor but the mineralization persisted to depth.

Cyprus Mines Corporation through a wholly owned subsidiary, Quality Exploration Corporation, optioned the Spa Mines property in 1968. The Company performed geochemical, geophysical and geological surveys and diamond drilling. Results of this work showed a significant relationship between mineralization and magnetic anomalies in the Mabel zone."

### 1980 WORK PROGRAM

Work recommended by D.W. Tully in his September 12th, 1978 report included:

- (1) A detailed magnetometer survey over the entire claim group.
- (2) Trenching with a bulldozer or backhoe to test and investigate bedrock conditions in any target areas defined.
- (3) Rock sampling of mineralized zones which may be encountered through the trenching program.

Later stage programs including more extensive bedrock trenching and sampling, and diamond drilling were to be contingent upon favourable results from the initial work programs.

The actual work carried out by Ark Energy Ltd. in the period May 18th to May 30th, 1980 included line cutting and establishment of control grid, a magnetometer survey over the grid thus established, and a very limited amount of soil sampling over the same grid. The work was carried out by Strato Geological Ltd. who have supplied a list of uncorrected magnetometer readings apparently taken on a 30 x 30 metre grid. The grid covered the Lori #2, Lori #3, and parts of Lori #1 and #4 claims. Ark Energy Ltd. has supplied a list of geochemical results from samples which were collected by Strato Geological Ltd. field crew and analysed for silver and zinc by General Testing Laboratories of Vancouver. A rough plot of the uncorrected magnetometer results and of the geochemical soil sampling results has been prepared, in accordance with our instructions from Ark Energy Ltd. These are presented as Maps 1 and 2 herewith.

### Control Grid

The control grid was established by chain and compass methods the lines being marked by blazing and flagging. Lines were spaced 30 metres apart and the stations along the lines were flagged at 30 metre intervals. A total of 7,660 line metres of grid were established.

### Magnetometer Survey

The survey was read using a Sabre Fluxgate type magnetometer which is capable of detecting variations in the vertical component of the earth's magnetic field with a sensitivity of plus or minus 10 gammas. The readings presented are uncorrected and for the convenience of plotting, a plotting base of 54,000 gammas has been used. This means that 54,000 gammas should be added to the figures plotted on Map 1 to give the actual value of the magnetic field in gammas at any particular station. The readings have been contoured at 200 gamma intervals.

### Results

Reference to the magnetometer survey plot (Map 1) shows a range of readings from a low of around 54,100 gammas to a high in excess of 55,200 gammas, however the greater part of the area is characterized by values in the range 54,700-55,900 gammas. Significant areas of higher readings occur in the eastern part of the grid from about 3+60N to around 6+90N and again at the extreme northern end of the grid just west of the base line at around 13+00N. Work in earlier years on other parts of the same property have shown there to be a correlation between higher magnetic readings and sulphide and sulpho-salt mineralization carrying significant silver values so that obvious follow-up work would be to carry out some further investigations in these areas of higher magnetic intensity. A number of lows some of them forming marked linear trends may be reflecting either faults or areas of much greater local thickness of overburden, perhaps in old, now buried river channels. Before any further or more intensive work is carried out on the basis of these magnetometer results they should be rechecked and corrected, and it would probably also be appropriate to extend the area of coverage beyond that now completed.

## Geochemical Sampling

A very limited amount of geochemical soil sampling was carried out by the Strato Geological field crews in conjunction with the magnetometer survey work. Apparently samples were collected only in the areas of obviously higher magnetometer readings. A total of 44 samples was collected and these were submitted to General Testing Laboratories where they were analysed for total zinc and silver content.

The samples were collected using a mattock, from "B" horizon material where possible, at a depth of from twelve to fourteen inches. The analytical technique employed by General Testing Laboratories geochemical laboratory on these soil samples was as follows:

A 1 gram sample of -80 mesh material was digested with nitric acid and evaporated almost to dryness. This was then re-dissolved with 20 mls. of 10% nitric acid. The solution was submitted to an atomic absorption instrument to determine the concentrations of silver and zinc in parts per million.

The values are plotted on Map 2 accompanying this report.

### Results

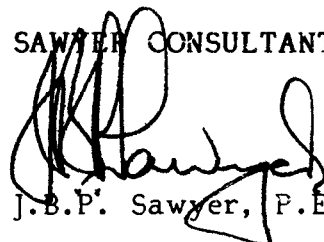
The limited amount of sampling completed does not give sufficient coverage to provide a proper contrast so that the values obtained from analyses for silver and zinc have little or no meaning in the present context. Because of the limited number of samples no attempt has been made to calculate threshold or other statistically based values.

## SUMMARY

It is difficult to draw any firm conclusions from the very limited amount of work completed. The magnetometer survey does appear to be indicating some areas of higher magnetic intensity and as described above such higher intensity magnetic zones have in previous work on other parts of this property been correlated with higher values in silver. The obvious follow-up would be to verify the current magnetometer work and then to carry out some physical work to investigate bedrock conditions in the areas of these highs. As indicated above the amount of geochemical soil sampling carried out was not great enough to permit of any interpretation of the results.

Respectfully submitted,

SAWYER CONSULTANTS INC.



J.B.P. Sawyer, P. Eng.



LIST OF PERSONNEL AND DATES WORKED

James Parker -  
Linecutter, field assistant                      May 18th to May 29th, 1980 incl.

Terry Higginson -  
Linecutter, field assistant                      May 18th to May 29th, 1980 incl.

Geoffrey Smith -  
Instrument operator, and  
field supervisor                                      May 18th to May 29th, 1980 incl.

The above listed men are employees of Strato Geological Ltd.  
of 800 - 543 Granville St., Vancouver, B.C.

H. Leis, geologist, also spent a total of four days on the property in the  
period May 18th to May 29th, 1980.

H. Leis is the President of Strato Geological Ltd.

STATEMENT OF COSTS

The following costs were incurred in connection with the work carried out on the Lori 1-4 mineral claims in the Similkameen Mining Division, B.C. described in the attached report.

Strato Geological Ltd.

Line cutting, magnetometer survey, and soil sampling	Contract price	\$4,480.00
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General Testing Laboratories

Geochemical analyses		160.00
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Sawyer Consultants Inc.

Compilation of data and preparation of report and documents for assessment filing		<u>744.85</u>
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\$5,384.85

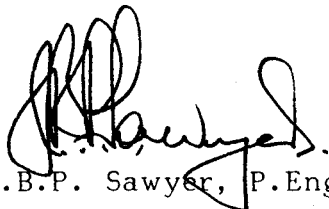


H.L. Williams  
President, Ark Energy Ltd.

CERTIFICATE

I, J.B.P. Sawyer, DO HEREBY CERTIFY:

- (1) That I am a consulting geologist with business office as 1201 - 675 West Hastings St., Vancouver, B.C. V6B 1N2, and President of Sawyer Consultants Inc.
- (2) That I am a graduate in geology of Manchester University (B.Sc. - 1953) and of the University of Western Ontario (M.Sc. - 1957).
- (3) That I am a Registered Professional Engineer (geological) in the Association of Professional Engineers of the Province of British Columbia, and a Registered Chartered Engineer with the Council of Engineering Professions, London.
- (4) That I am a Fellow of the Geological Association of Canada, a Member of the Canadian Institute of Mining & Metallurgy, a Fellow of the Geological Society of London, and Fellow of the Institution of Mining & Metallurgy, London.
- (5) That I have practised my profession as a geologist for the past twenty-six years.
- (6) That the information here presented is based totally on field data supplied by Strato Geological Ltd. and Mr. H.L. Willaims of Ark Energy Ltd., and our study of reports by D.W. Tully, P.Eng. We were not involved in any of the above work and our commission from Ark Energy Ltd. was solely to compile the data from Strato Geological Ltd. and D.W. Tully in a form acceptable for assessment filing.
- (7) That I own no interest in the shares or securities of Ark Energy Ltd. nor in the Lori claims.

  
J.B.P. Sawyer, P.Eng.

Dated at Vancouver, British Columbia this 25th day of August, 1980.

APPENDIX A

Copies of Geochemical Analysis Sheets



# General Testing Laboratories

A Division of SGS Supervision Services Inc.

1001 EAST PENDER ST., VANCOUVER, B.C., CANADA, V6A 1W2  
 PHONE (604) 254-1647 TELEX 04-507514 CABLE: SUPERVISE

TO:  
 ARK ENERGY LTD.  
 14 - 425 Howe Street  
 Vancouver, B.C.  
 V6C 2A9

## CERTIFICATE OF ASSAY

No.: 0006-0456 DATE: June 19, 1980

We hereby certify that the following are the results of assays on:

Geochem

MARKED	XOXOX	SILVER	Zinc	XXX	XXX	XXX	XXX	XXX
LORI A2 90E		.4	123					
" B 2 300E		.5	175					
B1 60E		.8	440					
B2 30E		.5	182					
B2 120E		.5	109					
B3 90E		.6	326					
C1 90E		1.0	454					
C1 150E		.9	341					
C2 180E		.5	176					
D1 120E		.9	359					
D2 150E		.9	88					
D3 90E		.5	305					
E1 210E		.6	218					
E2 210E		1.3	211					
E2 330E		.9	320					
F1 60W		.5	179					
F1 120E		.4	185					
G1 120W		.6	203					
G2 240		.9	282					
G2 300E		1.5	235					
I1 210E		.6	200					
I2 330E		.6	188					
J3 60E		.5	212					
K2 180E		.5	260					
K2 210E		.5	320					
K3 150W		.4	126					
L2 30W		.5	165					
L2 150E		.4	170					
L3 30W		.4	175					
L3 60W		.5	273					
M2 60E		.6	189					
M2 270E		.5	195					
N2		1.6	134 - Not PLOTTED.					

NOTE: REJECTS RETAINED ONE MONTH. PULPS RETAINED THREE MONTHS. ON REQUEST PULPS AND REJECTS WILL BE STORE FOR A MAXIMUM OF ONE YEAR.

ALL REPORTS ARE THE CONFIDENTIAL PROPERTY OF CLIENTS. PUBLICATION OF STATEMENTS, CONCLUSION OR EXTRACTS FROM OR REGARDING OUR REPORTS IS NOT PERMITTED WITHOUT OUR WRITTEN APPROVAL. ANY LIABILITY ATTACHED THERETO IS LIMITED TO THE FEE CHARGED.

*[Signature]*  
 PROVINCIAL ASSAYER

R. ADEAU, Chemist

Analytical and Consulting Chemists, Bulk Cargo Specialists, Surveyors, Inspectors, Samplers, Weighers

MEMBER: American Society For Testing Materials • The American Oil Chemists Society • Canadian Testing Association  
 REFEREE AND OR OFFICIAL CHEMISTS FOR: National Institute of Oilseed Products • The American Oil Chemists' Society  
 OFFICIAL WEIGHMASTERS FOR: Vancouver Board Of Trade



TO:  
 ARK ENERGY LTD.  
 14 - 125 Howe Street  
 Vancouver, B.C.  
 V6C 2A9

# General Testing Laboratories

A Division of SGS Supervision Services Inc.

1001 EAST PENDER ST., VANCOUVER, B.C., CANADA, V6A 1W2  
 PHONE (604) 254-1647. TELEX 04-507514. CABLE: SUPERVISE

## CERTIFICATE OF ASSAY

No.: 8006-0156      DATE: June 19, 1980

We hereby certify that the following are the results of assays on:

Gaochem

MARKED	GOLD	SILVER	Zinc	XXXX	XXXX	XXXX	XXXX	XXXX
	XXXXXX							
		Ag (ppm)	Zn (ppm)					
cont'd								
LORI N2 60W		1.1	149					
N2 180E		.8	267					
N2 240E		.6	194					
N2 300E		.6	212					
01 60W		.5	53					
01 120E		.8	191					
01 240E		1.0	270					
01 270E		1.0	280					
02 300E		1.0	187					
02 330E		.5	150					
P1 90W		.6	99					
P1 270E		1.3	191					

NOTE: REJECTS RETAINED ONE MONTH. PULPS RETAINED THREE MONTHS. ON REQUEST PULPS AND REJECTS WILL BE STORE FOR A MAXIMUM OF ONE YEAR.

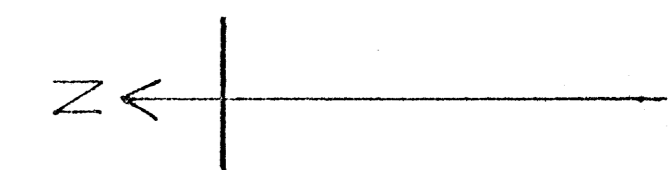
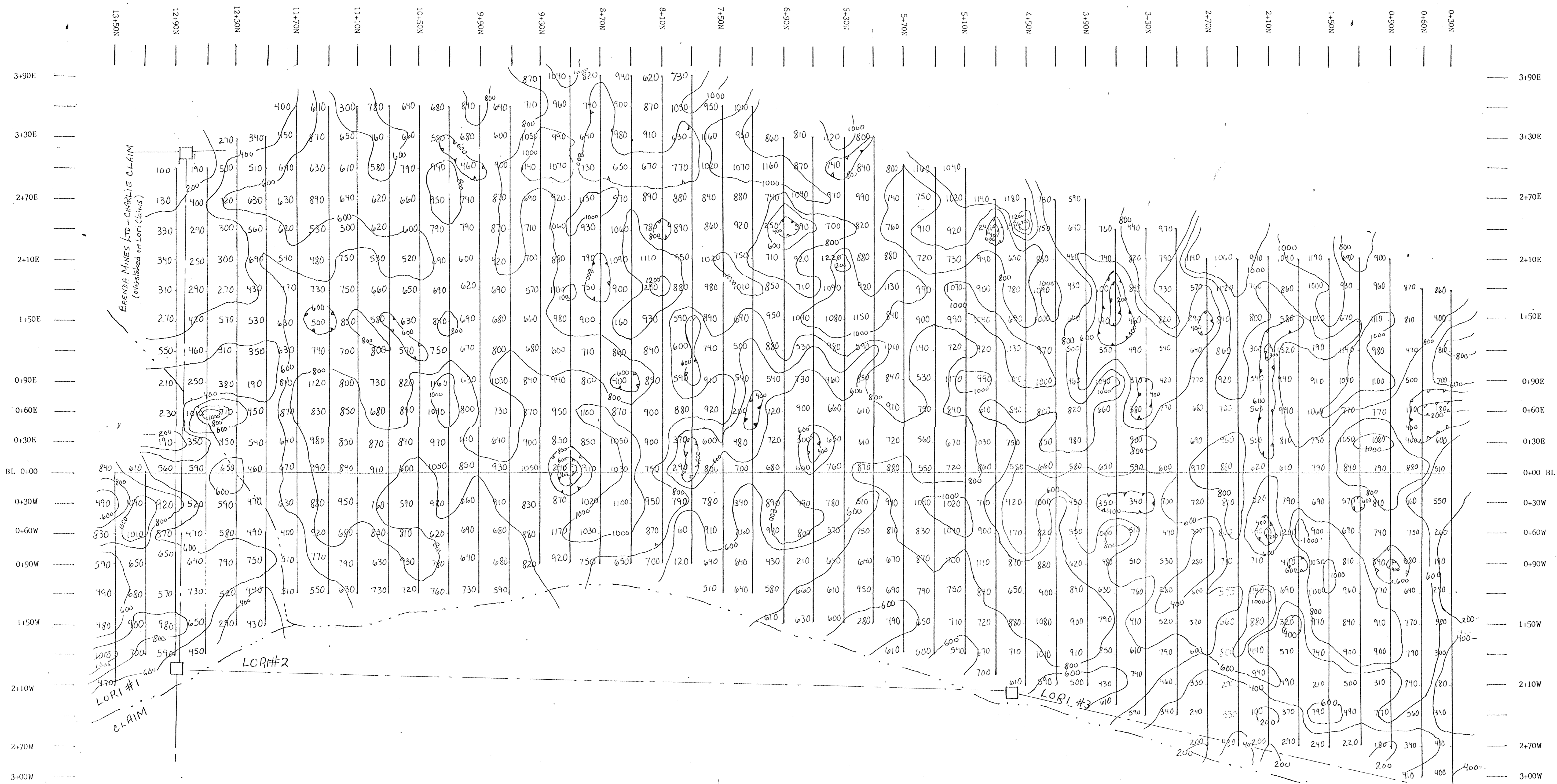
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*R. Madrau*

R. MADEAU, Chemist      PROVINCIAL ASSAYER

Analytical and Consulting Chemists, Bulk Cargo Specialists, Surveyors, Inspectors, Samplers, Weighers

MEMBER: American Society For Testing Materials • The American Oil Chemists Society • Canadian Testing Association  
 REFEREE AND OR OFFICIAL CHEMISTS FOR: National Institute of Oilseed Products • The American Oil Chemists' Society  
 OFFICIAL WEIGHMASTERS FOR: Vancouver Board Of Trade



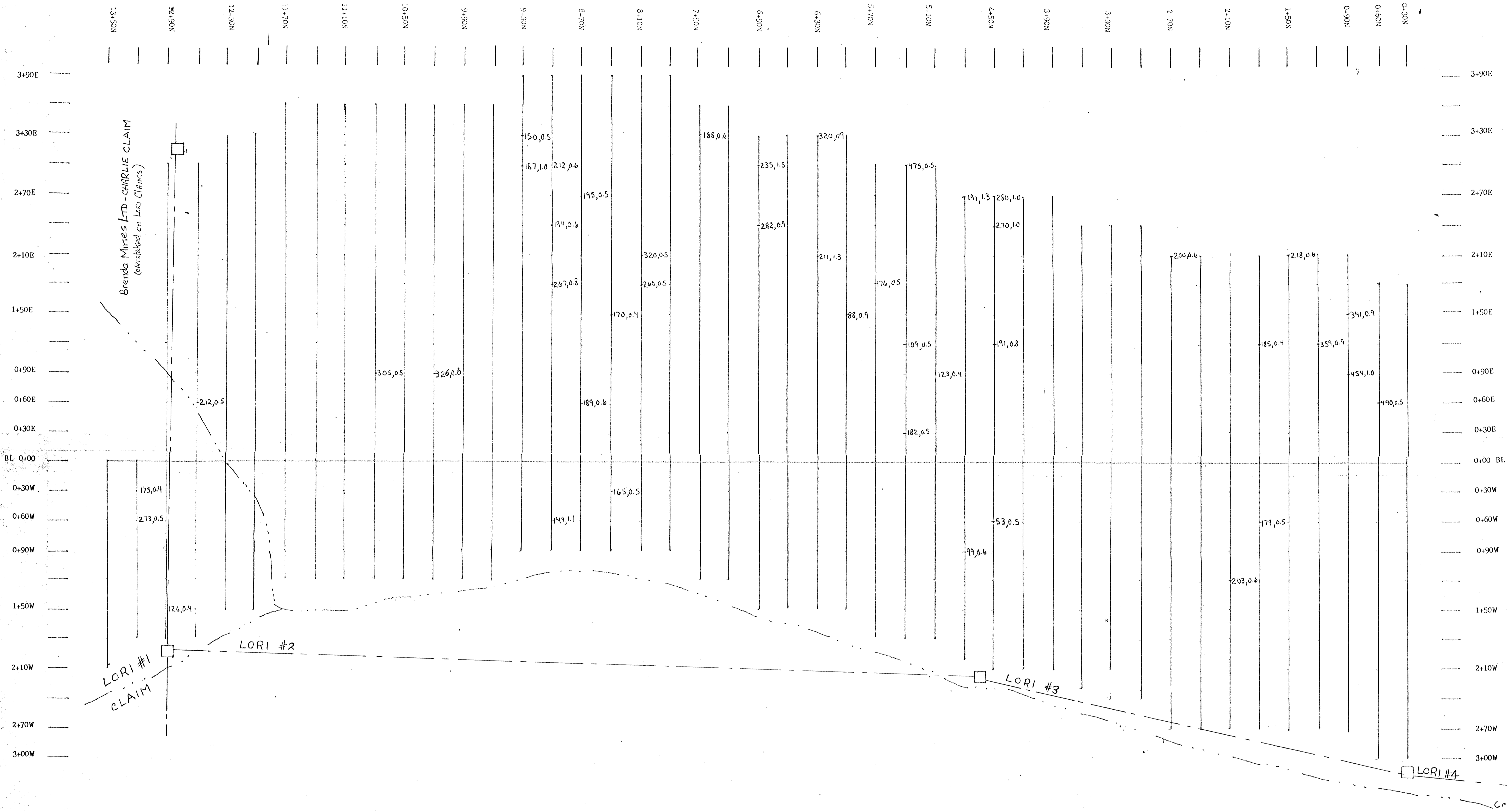
Note: Add 54,000 gammas to numbers plotted to get actual gamma values of magnetic field.

910 = 54,910 gammas.

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**8631**

ARK ENERGY LTD.  
LORI CLAIMS  
Siwash Creek Area  
Similkameen Mining Division, B.C.  
MAGNETOMETER SURVEY

Scale - 1:2000



123,0.4 = Zn, Ag ppm in soils.

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**8631**  
NO.

ARK ENERGY LTD.  
LORI CLAIMS  
Siwash Creek Area  
Similkameen Mining Division, B.C.  
PLAN OF GEOCHEMICAL SOIL SAMPLING RESULTS

Scale - 1:2000