

**Report on a Magnetometer and VLF Geophysical Survey**

**DEK PROPERTY**

DEK 1 - 29 CLAIMS

FORT STEELE MINING DIVISION

CRANBROOK AREA

N.T.S. 82G/5W

LAT: 49°15'N

LONG: 115°45'W

OWNER

L.G. STEPHENSON

1419 133A St  
Surrey, British Columbia  
V4A 6A2

Work Performed from May 15, 1998 through June 30, 1999

Report By: L. Stephenson  
Submitted: September, 1999

**GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT**

**26,018**

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# Report on a VLF and Magnetometer Geophysical Survey

DEK 1 - 29 CLAIMS

FORT STEELE MINING DIVISION

L. Stephenson

September, 1999

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## 1.00 Introduction

Mr. L. Stephenson staked the 29 DEK Claims in 1997 and undertook to evaluate and locate the "Pipeline Showing" on the northern claims and the "Jake Showing" on the southern claims. As well, the St. Eugene Mine structure trend is projected to cross through the central portion of the property linking the two showings.

The region has been an active area for base metals mineral development for over 100 years mainly due to the discovery of the St. Eugene Mine located six miles west of the property in the late 1890's. Exploration work was sporadic until the 1970's discovery of the "Pipeline Showing" and intensified in the early 1990's leading to the discovery of the "Jake Showing."

A Magnetometer and VLF geophysical survey was undertaken to establish and evaluate the trend of the "Pipeline Showing" as it relates to the remainder of the claim group and especially to the "Jake Showing." A total of 34 kilometres of VLF and Magnetometer surveying were completed along a 3.5 kilometre base line.

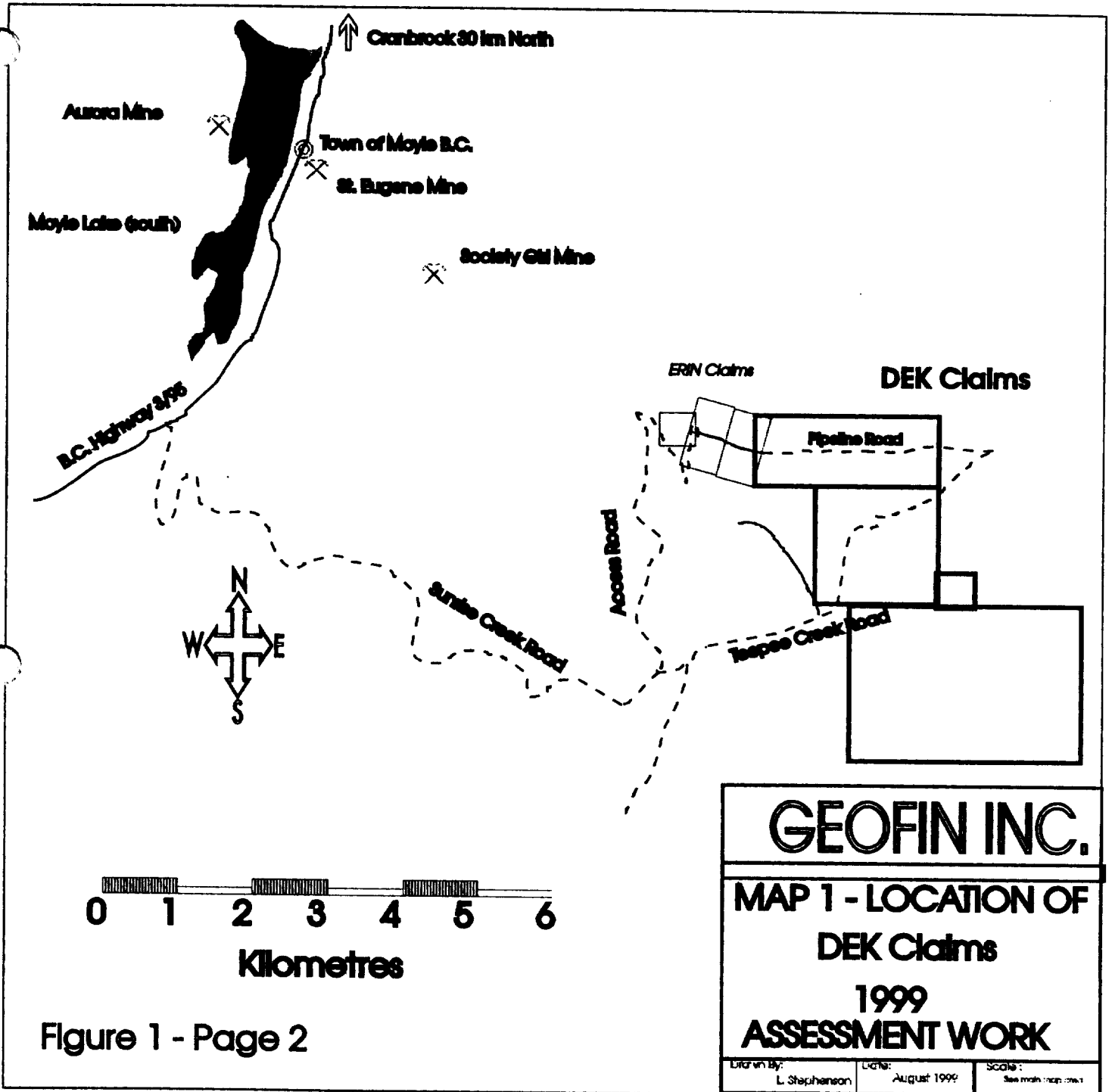
## 2.00 Location, Access and Description

The DEK Claims are located east-southeast of the town of Moyie, British Columbia. Access is provided to the claims via the natural gas pipeline/B.C. Tel maintenance road to the northern part of the claims and the main Teepee Creek Road, the Teepee Creek South Road and numerous subsidiary logging roads (Figure 1 - Page 2).

The property consists of 29 claims staked by Mr. L. Stephenson, in 1997. They are listed in Table 1 (page 7). The topography is fairly rugged extending from 5900 feet to over 6500 feet in elevation. The lower elevations consist of forested slopes (many areas are clear-cut) giving way at higher elevations to typical high alpine meadows and sparse or dwarfed timber.

## 3.0 History

The region has been an active area for base metals mineral development for over 100 years mainly due to the discovery of the St. Eugene Mine located six miles west of the property in the late 1890's. This mine produced over \$20 million of lead, zinc and silver. The Pipeline showing located on the northern portion of the claims was discovered in the 1970's. Exploration



work including two early 1980's drill holes traced the showing for approximately 400 metres along the pipeline. In the late 1980's Kokanee Explorations staked claims that covered the area of the northern portion of the Claims. They conducted reconnaissance geochemical and geological mapping.

In the early 1990's prospecting in the area located the Jake showing. Exploration work by Auckland Resources was conducted including drilling 7 diamond drill holes, which intersected low-grade silver base metal mineralization associated with gabbro dikes. This type of mineralization was similar to that found by Kokanee Explorations on its Vine Vein property 15 kilometres to the north (along the northern projection of the St. Eugene structure) and is related to that found at the St Eugene Mine.

Previous exploration by the current owner has been conducted to establish the orientation of the geology and mineralization on the claim group as it is related to the showings.

#### 4.00 Geophysical Surveying

A total of 34 kilometres of pace and compass lines of geophysical stations were established across the claims using a 3.5 kilometre Base line oriented at N55°W (Figure 2 - Page 6). A total of 1133 magnetometer and VLF station readings were taken using a GEM-19 total field proton precession Magnetometer and a Geonic VLF unit and are plotted on Figures 3 (Mag plotted with 58,000 nanoTeslas base) and Figure 4 (VLF Field Strength) and profiles of each line are plotted on Figure 5a-i.

#### 4.1 VLF Survey

In the VLF surveying the Seattle Station (Jim Creek) was utilized as the strongest and most consistent station to the survey grid. Although the orientation of the station to the grid strike was less than desirable check readings on Cutler, Maine were made which supported the reliability of the data in as much as confirming the anomalies to the east of the base line.

The data on the northern portion of the grid is felt to be unreliable due to the presence of the pipeline. An electric current in the pipeline to reduce static charges and the metallic near surface make up of the pipeline overshadows any response from the "Pipeline Showing" and the continuation of the zone to the south on the DEK Claims.

The orientation of the VLF transmitting station and the topography is probably responsible for the volatile nature of the dip angle (in phase) readings and presents a less than definitive anomaly outline. However there does appear to be interpretable anomalies as described below.

#### 4.11 Anomaly 1

This anomaly is located west of the base line on lines 10600 N to 10330 N with some unreliable interpretation extending the anomaly another 210 metres grid south. The best profile is on line 10330 north which corresponds to the ridge top. The parallel nature of this anomaly and the road side showing of the Jake Showing warrants further investigation. The anomaly's discreet extent could represent a favourable target.

#### 4.12 Anomaly 2

This anomaly is located east of the baseline on lines 10330N to 10180 N with a possible extension to line 10480 N and to 10060 N. The best profile on line 10330 N occurs north of the main Jake showing but is along the projected trend of the showing. The anomaly's discreet extent and association with the Jake showing warrants further investigation.

#### 4.13 Anomaly 3

This anomaly is located east of the baseline and east of and parallel to Anomaly 2 on lines 9610 N to 10120 N with a unreliable interpretation of a possible extension to line 10600 N. In general the anomaly has a poor profile but is characterised by a deep negative response. The position of the anomaly down slope from the showing suggests an interpretation of that response and although it's length suggests a formational characteristic warrants further investigation.

#### 4.14 Anomaly 4

This anomaly is located east of the base line on lines 9910 N to line 9820 N. It is related to the southern showings on this part of the property and could be an extension of Anomaly 2. It is a weak anomaly but its relationship to the showings makes it worthy of investigation.

#### 4.15 Anomaly 5

This anomaly is located near the baseline and extends over much of the grid's length (12190 N to 9340 N). It is characterised as weak and of questionable interpretation but its presence over most of the grid suggests a formational or structural source if it is valid. Geological understanding of it might assist in the property evaluation.

#### 4.16 Anomaly 6

This anomaly is located west of the baseline on lines 12190 N and 11830 N. Its profile is weak and suggests a formational or structural cause. Investigation of it in relation to Anomaly 7 is warranted because of it's proximity.

#### 4.17 Anomaly 7

This anomaly is located west of the baseline on lines 11410 N to 12190 N. The best profiles are along line 11410 N and 11620 N. Located on the steep south slope of the highest area of the property and near the pipeline showing, this discreet anomaly requires further investigation.

#### 4.18 Field Strength (Quadrature)

The area of higher field strength is associated with most anomalies outlined above offset to the east as expected. A general north south trend in Field strength contours is apparent in two (north) expanding to three (south) zones. Field strength in the extreme northern part of the grid shows the effect of the pipeline.

A broad zone of higher field strength is associated with Anomaly 3 and a continuous zone of higher field strength ties together Anomaly 5.

The field strength associated with Anomaly 2, although mostly part of the broad Anomaly 3 zone has some unique strengths that suggest a discreet anomaly. The lack of continuation to Anomaly 4 reinforces the independent designation for that anomaly.

Anomaly 1 and 7 are linked with the westernmost field strength anomalism and Anomaly 6 has a weak but discreet field strength anomaly associated with it.

#### 4.2 Magnetometer Survey

The magnetic relief over the property shows a north south trend that conforms to the bedding and geological strike of the property. Although no significant magnetic anomalies were observed with respects to the survey, a discreet zone of magnetics was observed around the area of the showings.

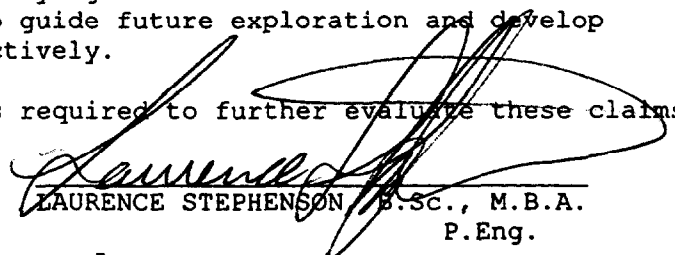
This zone from line 10180 N to 9730 N has an low magnetic response between two parallel highs and disrupting low response associated with the gabbroic portion of the showing (line 10060 N 210 E). This association although subtle suggests that other breaks like this should be investigated.

#### 5.00 Conclusions

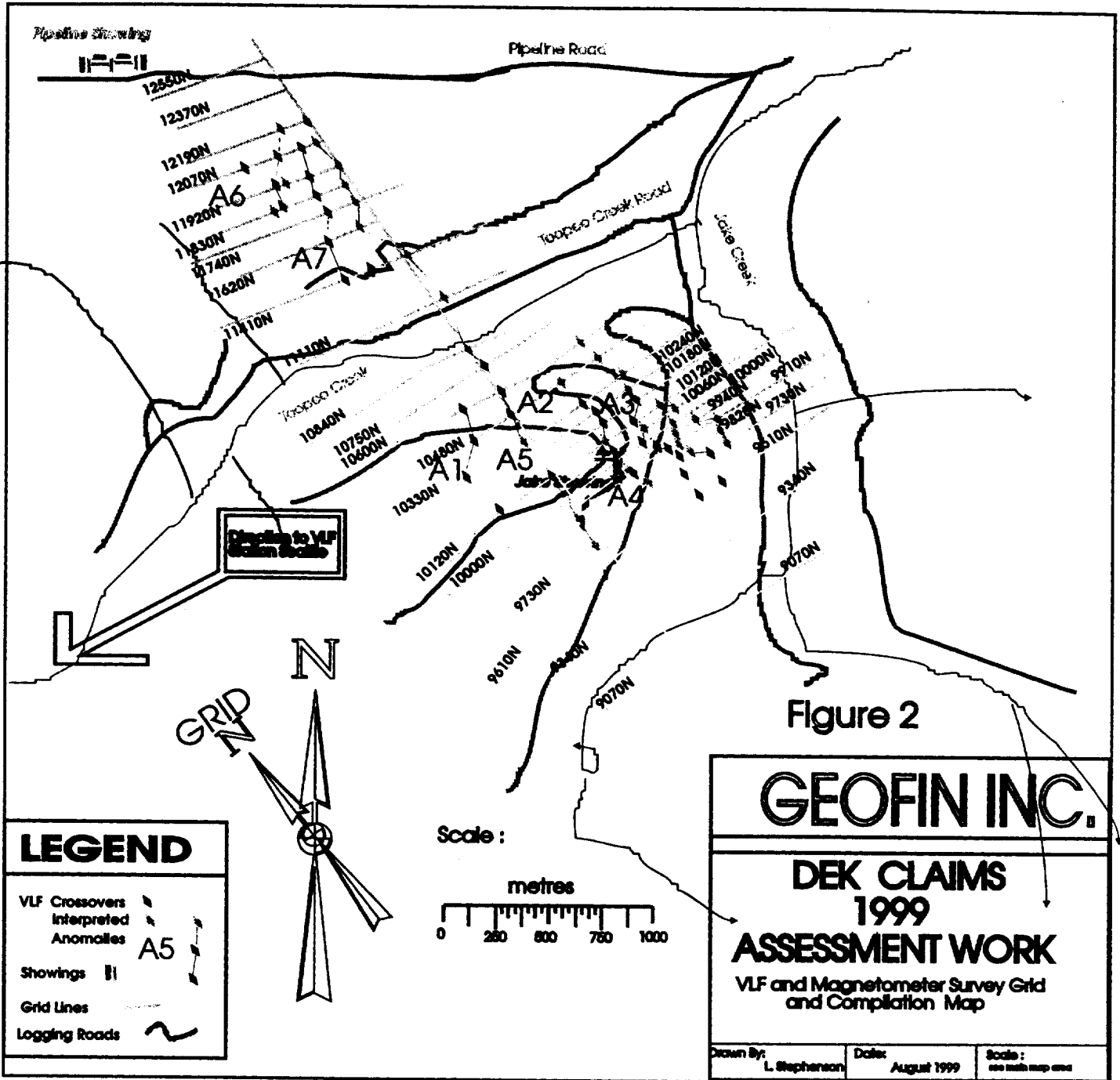
The DEK Claims have the "Pipeline Showing" and "Jake Showing" located within its boundaries. These showings are part of the projected trend associated with the St. Eugene Mine where it cuts the Creston rocks. A geophysical signature has been established by utilising VLF and Magnetometer surveying methods, associated with known mineralization.

More sophisticated surveying methods to better delineate the anomalous zones are recommended to guide future exploration and develop exploration drilling targets effectively.

Further exploration is required to further evaluate these claims.



LAURENCE STEPHENSON, B.Sc., M.B.A.  
P.Eng.





**TABLE 1**

Claim Name	Tag Number	Mineral Tenure #	Date Staked
DEK 1	675226M	357839	July 9, 1997
DEK 2	675227M	357840	July 9, 1997
DEK 3	675228M	357841	July 9, 1997
DEK 4	675229M	357842	July 9, 1997
DEK 5	675230M	357860	July 9, 1997
DEK 6	675231M	357843	July 9, 1997
DEK 7	675232M	357844	July 9, 1997
DEK 8	675233M	358869	August 16, 1997
DEK 9	675234M	358870	August 16, 1997
DEK 10	675235M	358871	August 16, 1997
DEK 11	675236M	358872	August 16, 1997
DEK 12	675237M	358873	August 16, 1997
DEK 13	675238M	357845	July 11, 1997
DEK 14	675239M	357846	July 8, 1997
DEK 15	675240M	357847	July 8, 1997
DEK 16	675241M	357848	July 8, 1997
DEK 17	675242M	357849	July 8, 1997
DEK 18	675243M	357850	July 8, 1997
DEK 19	675244M	357851	July 8, 1997
DEK 20	675245M	357852	July 9, 1997
DEK 21	675246M	357853	July 9, 1997
DEK 22	675247M	358874	August 17, 1997
DEK 23	675248M	358875	August 17, 1997
DEK 24	675249M	358876	August 17, 1997
DEK 25	675250M	358877	August 17, 1997
DEK 26	675251M	358878	August 17, 1997
DEK 27	675252M	358879	August 17, 1997
DEK 28	675253M	358880	August 17, 1997
DEK 29	675254M	358881	August 17, 1997

**EXHIBIT "A"**

**STATEMENT OF EXPENDITURES**

**MAGNETOMETER AND VLF GEOPHYSICAL SURVEYING**

**ON DEK 1 - 29 CLAIMS  
FORT STEELE M.D.**

Covering the period of May 15th 1998 to August 26th, 1999

**SALARIES:**

L. Stephenson - Geologist, P. Eng. Surveying	-	16 days	
Report writing, Compilation of data & Map Preparation	-	7 days	
Travelling	-	8 days	
31 days @ \$600/ day			\$ 18,600
<b>TRANSPORTATION:</b>			
1 - 4x4 Pickup; 24 days @ \$85/day *			\$ 2,040
<b>EQUIPMENT RENTAL:</b> Exchanged for services (Value = 3 days)			\$ 1,200

TOTAL = \$ 21,840

  
LAURENCE STEPHENSON, B.Sc., M.B.A.  
P.Eng.

Note: Only \$10,294.65 was filed reflecting the cost of using a technician.

IN THE MATTER OF THE  
B.C. MINERAL ACT  
AND  
IN THE MATTER OF A MAGNETOMETER  
AND VLF GEOPHYSICAL SURVEYING PROGRAM

CARRIED OUT ON THE DEK GROUP CLAIMS PROPERTY  
MOYIE AREA  
in the Fort Steele Mining Division  
of the province of British Columbia  
More Particularly N.T.S. 82G/5W, 4W & 4E

**A F F I D A V I T**

I, L. Stephenson, of the City of Surrey, in the Province of British Columbia, make an oath and say:

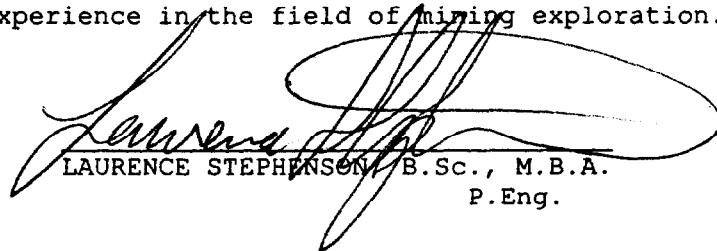
1. That I am employed as a geologist by GeoFin Inc. and as such have a personal knowledge of the facts to which I hereinafter depose:
2. That annexed hereto and marked as Exhibit "A" to this my Affidavit is a true copy of expenditures incurred on a GEOPHYSICAL program, on the DEK mineral claims;
3. That the said expenditures were incurred between the 15th day of May 1998 and the 8th day of July 1999 for the purpose of mineral exploration. Report writing continued into August, 1999.

  
LAURENCE STEPHENSON, B.Sc., M.B.A.  
P.Eng.

AUTHOR'S QUALIFICATIONS

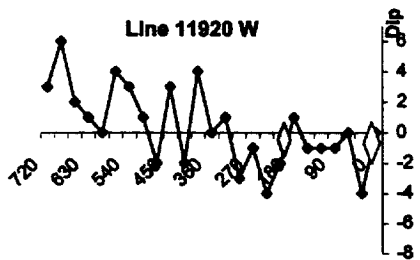
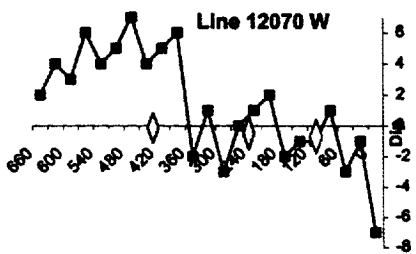
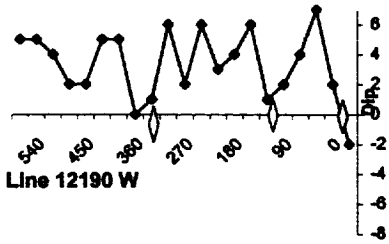
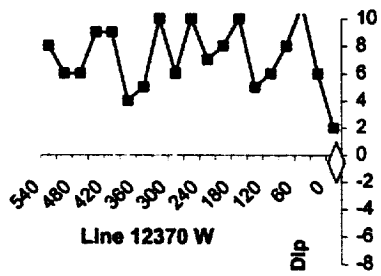
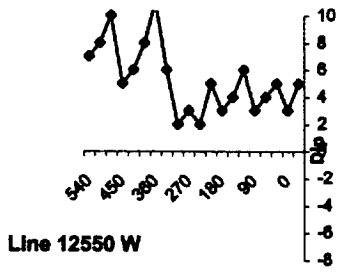
I, Laurence Stephenson, of the City of Surrey, in the Province of British Columbia, do hereby certify that:

1. I graduated from Carleton University in 1975 with a Bachelor of Science degree in Geology then, in 1985, graduated from York University with a Masters of Business Administration;
2. I am registered as a Professional Engineer for the Province of Ontario (1981);
3. I have had over 30 years experience in the field of mining exploration.



LAURENCE STEPHENSON, B.Sc., M.B.A.  
P.Eng.

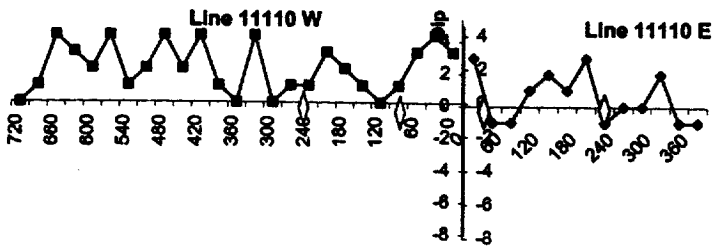
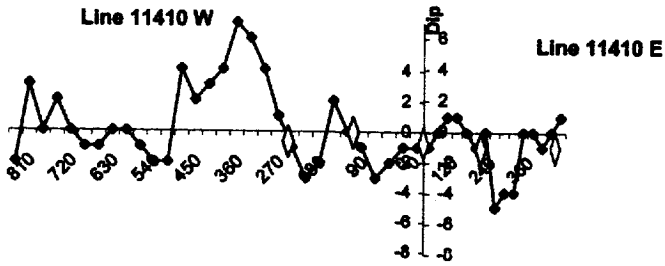
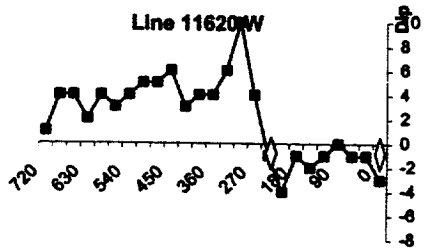
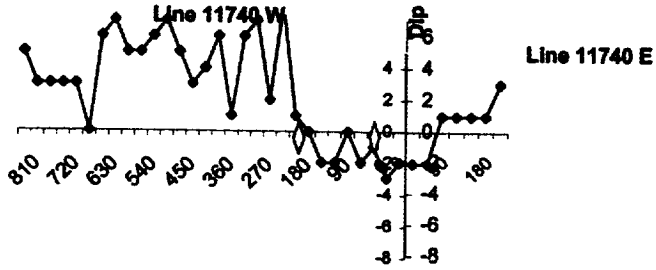
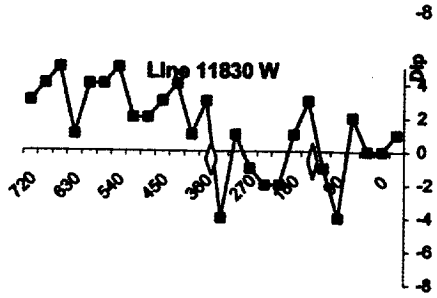
**Appendix I**



Scale: E-W see Profiles  
N-S compressed See Fig 2 Page Oriented Grid North  
Dip : Dip Angle Readings

Figure 5

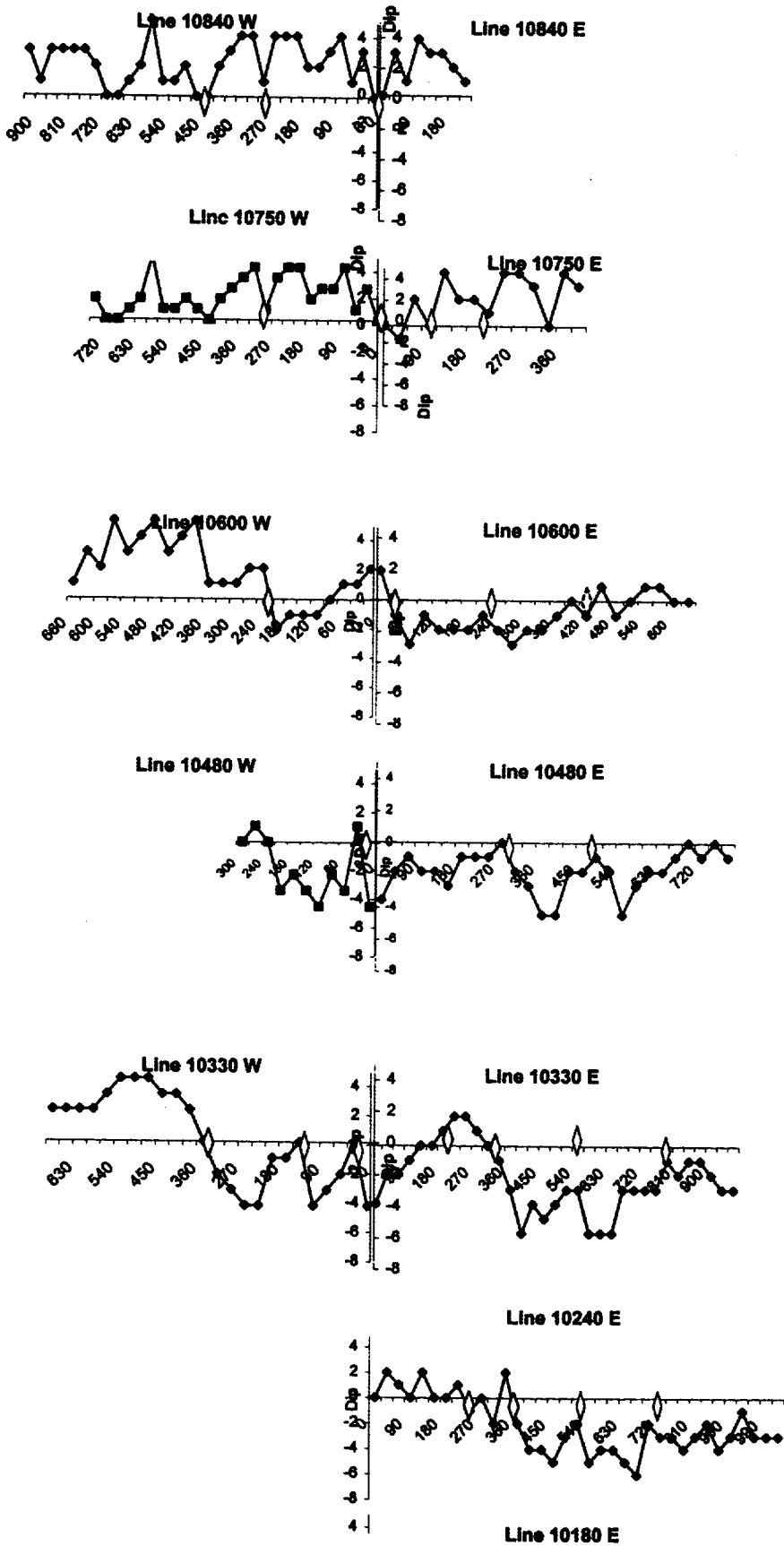
VLF Profiles - DEK Property  
 1999 Assessment Work  
 September 1999



Scale: E-W see Profiles  
 N-S compressed See Fig 2 Page Oriented Grid North  
 Dip : Dip Angle Readings

Figure 6

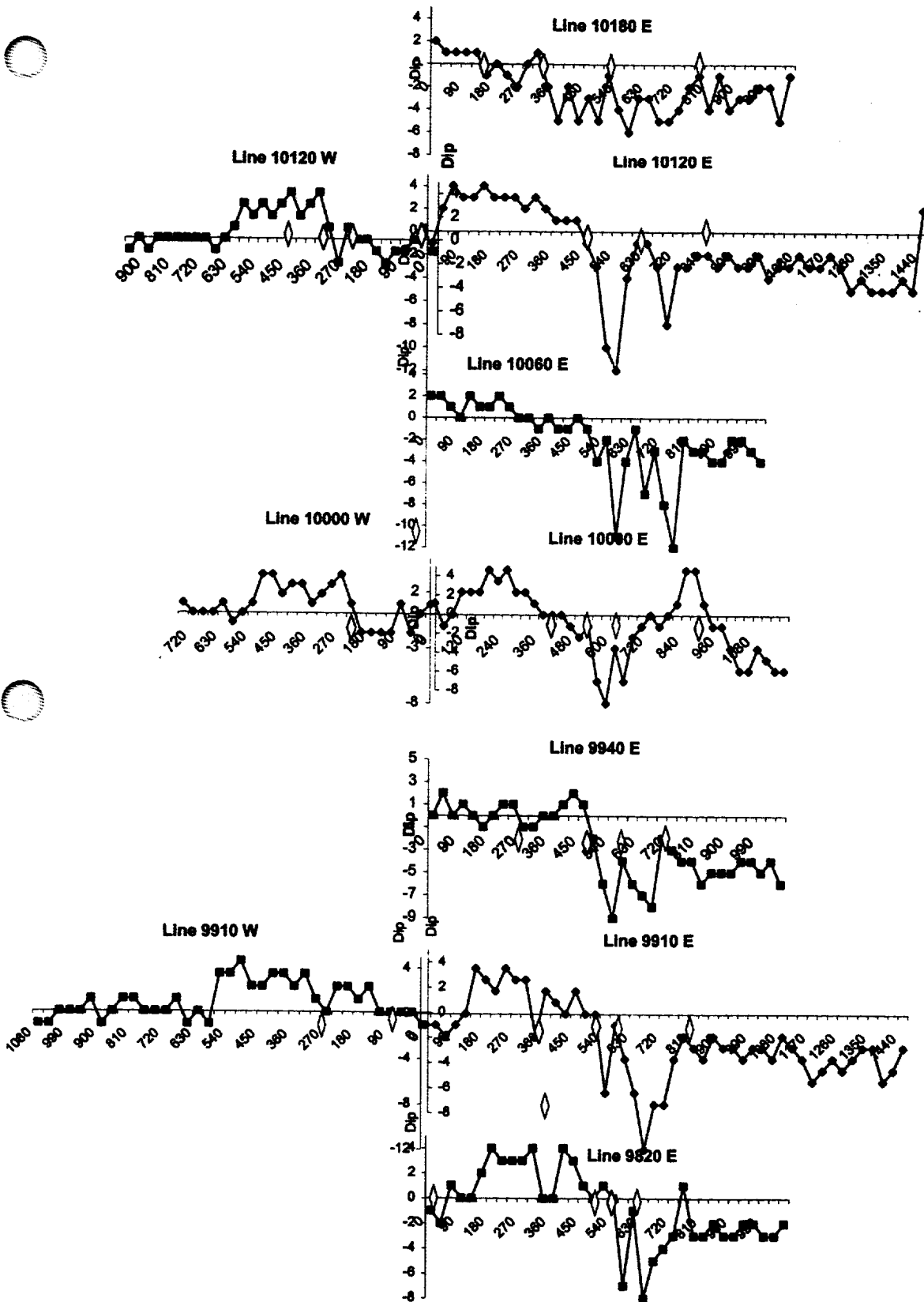
VLF Profiles - DEK Property  
 1999 Assessment Work  
 September 1999



Scale: E-W see Profiles  
 N-S compressed See Fig 2 Page Oriented Grid North  
 Dip : Dip Angle Readings

Figure 7



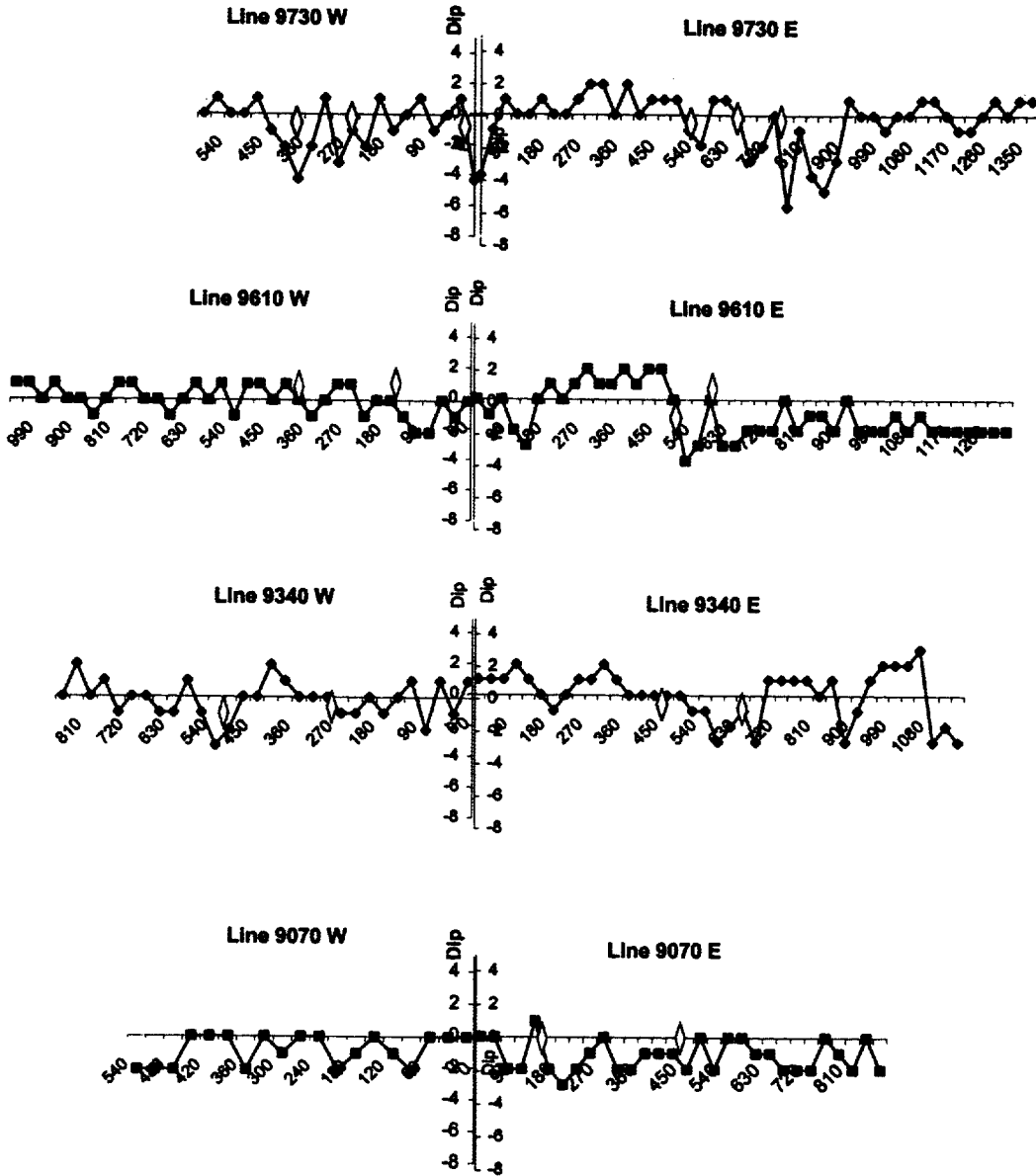


Scale: E-W see Profiles  
 N-S compressed See Fig 2 Page Oriented Grid North  
 Dip : Dip Angle Readings

Figure 8

VLF Profiles - DEK Property  
 1999 Assessment Work  
 September 1999

-8



Scale: E-W see Profiles  
 N-S compressed See Fig 2 Page Oriented Grid North  
 Dip : Dip Angle Readings

Figure 9

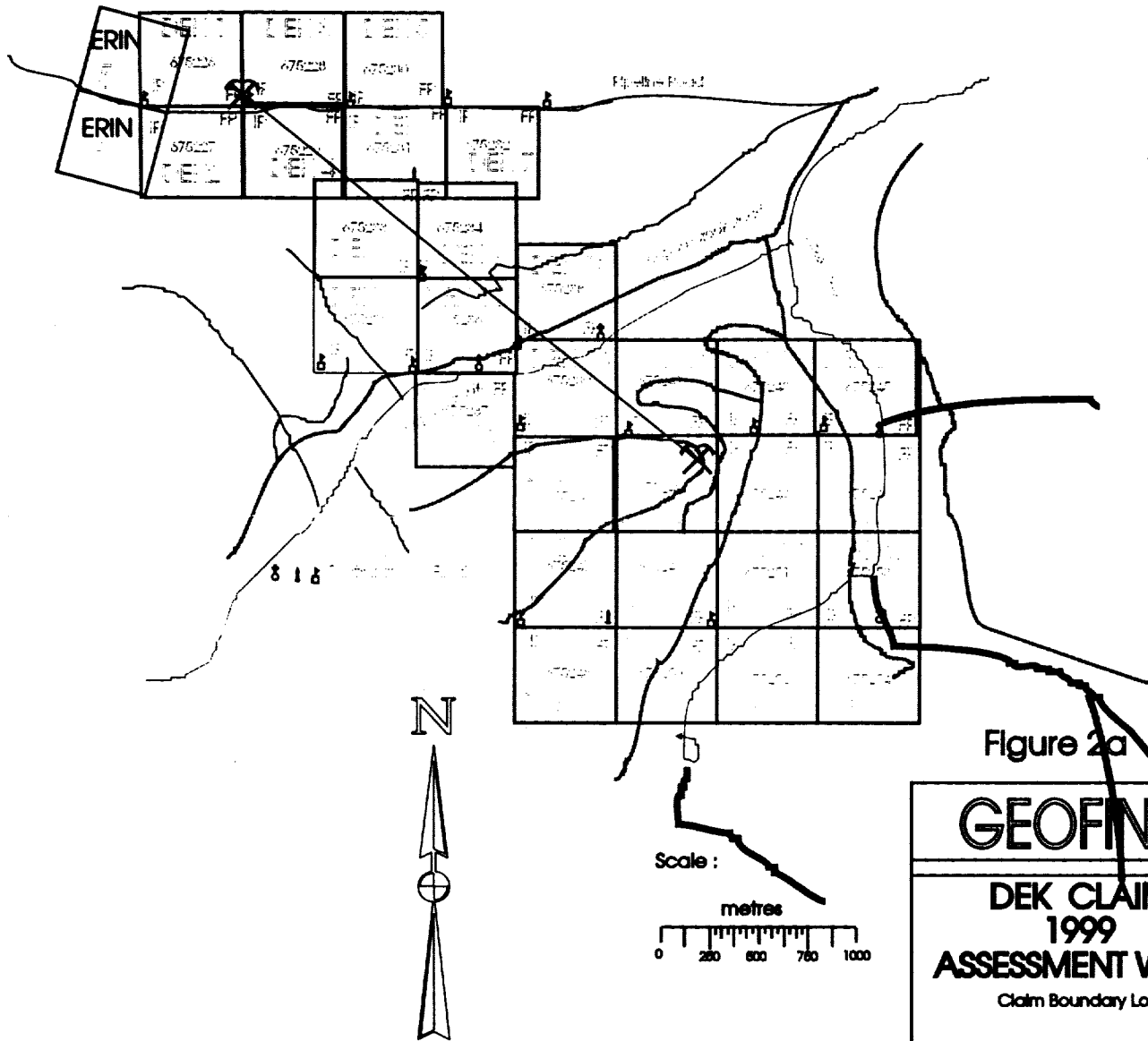


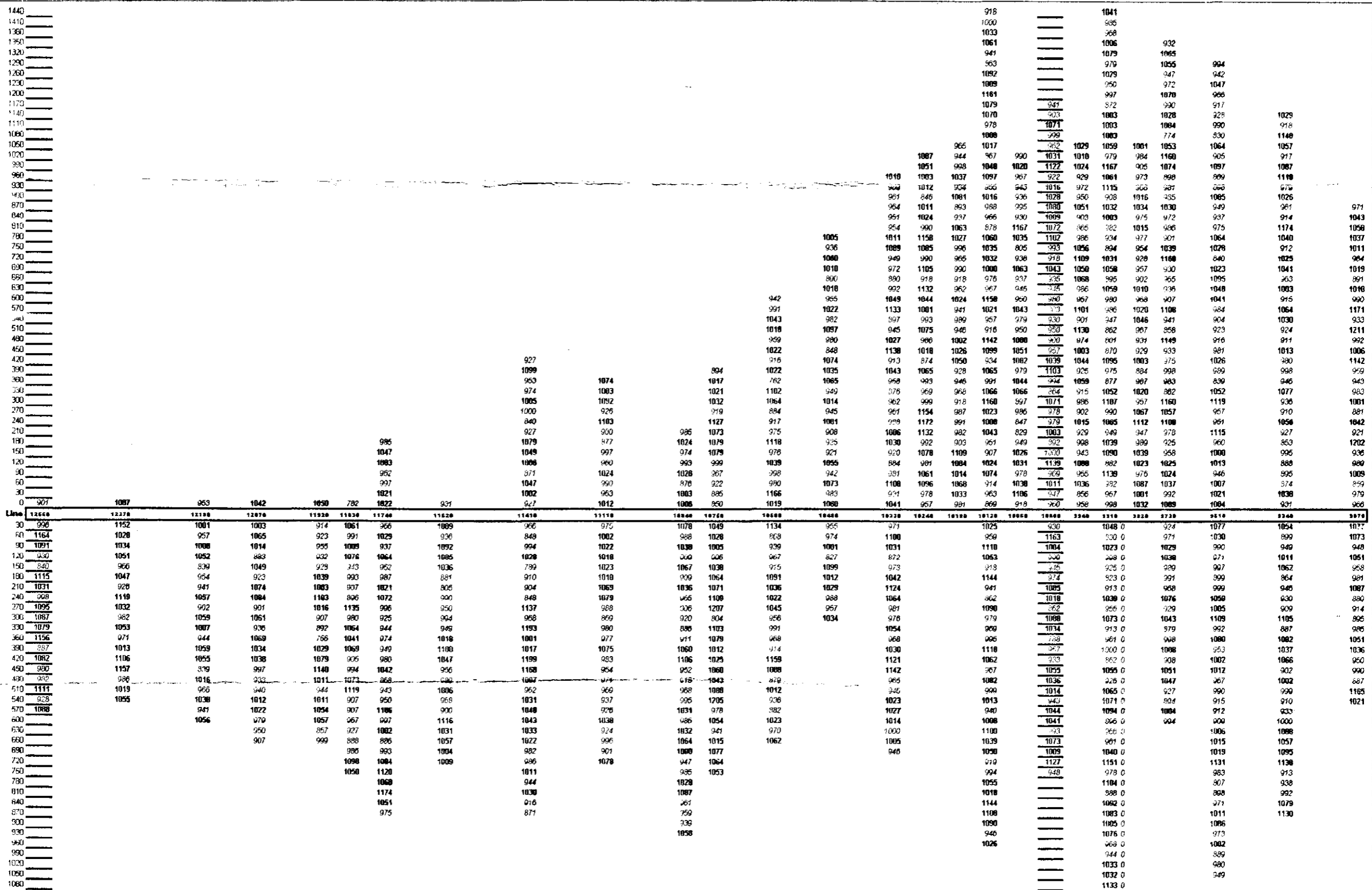
Figure 2a

<b>GEOFIN INC.</b>		
<b>DEK CLAIMS 1999 ASSESSMENT WORK</b>		
Claim Boundary Location		
Drawn By: L. Stephenson	Date: August 1999	Scale: see north map area

**GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT**

26,018





Magnetic Field Data Standardized by using a base of 58,000 nanoTeslas

Scale: as per grid North south merged with respect to east west perspective

Assessment Work on the DEK Claims  
Figure 4  
Magnetometer Survey  
August 1998  
L. Stephenson

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ASSESSMENT REPORT

26.018