

**REPORT ON THE “VLF” SURVEY CONDUCTED AT THE QUEEN’S MINE,  
KOTUHENA, DODANGASLANDA FOR MR SHEVON ANTONY PEIRIS, RS  
MINES, MADURAGODA, DODANGASLANDA, KURUNEGALA.**

**BY**

**K.M. PREMATILAKA,  
SENIOR CONSULTANT GEOLOGIST,  
176/2, BOMALUWA ROAD,  
WATAPULUWA.**

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# **REPORT ON THE “VLF” SURVEY CONDUCTED AT QUEEN’S MINE IN KOTUHENA, MADUKAGODA AREA, DODANGASLANDA FOR MR. SHEVON PEIRIS, RS MINES, MADURAGODA, DODANGASLANDA, KURUNEGALA.**

## **1.0 INTRODUCTION**

As per the request made by Mr. Shevon Peiris, Surface Operations Manager, RS mines, Maduragoda, Dodangaslanda, Kurunegala , a geophysical survey using VLF(EM-16) was carried out for prospecting graphite at given area in Maduragoda area, Dodangaslanda.

The two selected lines were given for the VLF survey and several abandoned graphite mine structures mainly shafts are located within the area. The details of abandoned mines and occurrence and nature of graphite veins are not known. The objective of the present survey is to conduct preliminary geophysical investigation to assess the potential of graphite occurrences within the given area. The details of the VLF survey carried out and results are given below for further implementation.

## **2.0 TOPOGRAPHY, GENERAL GEOLOGY AND STRUTURE OF THE AREA.**

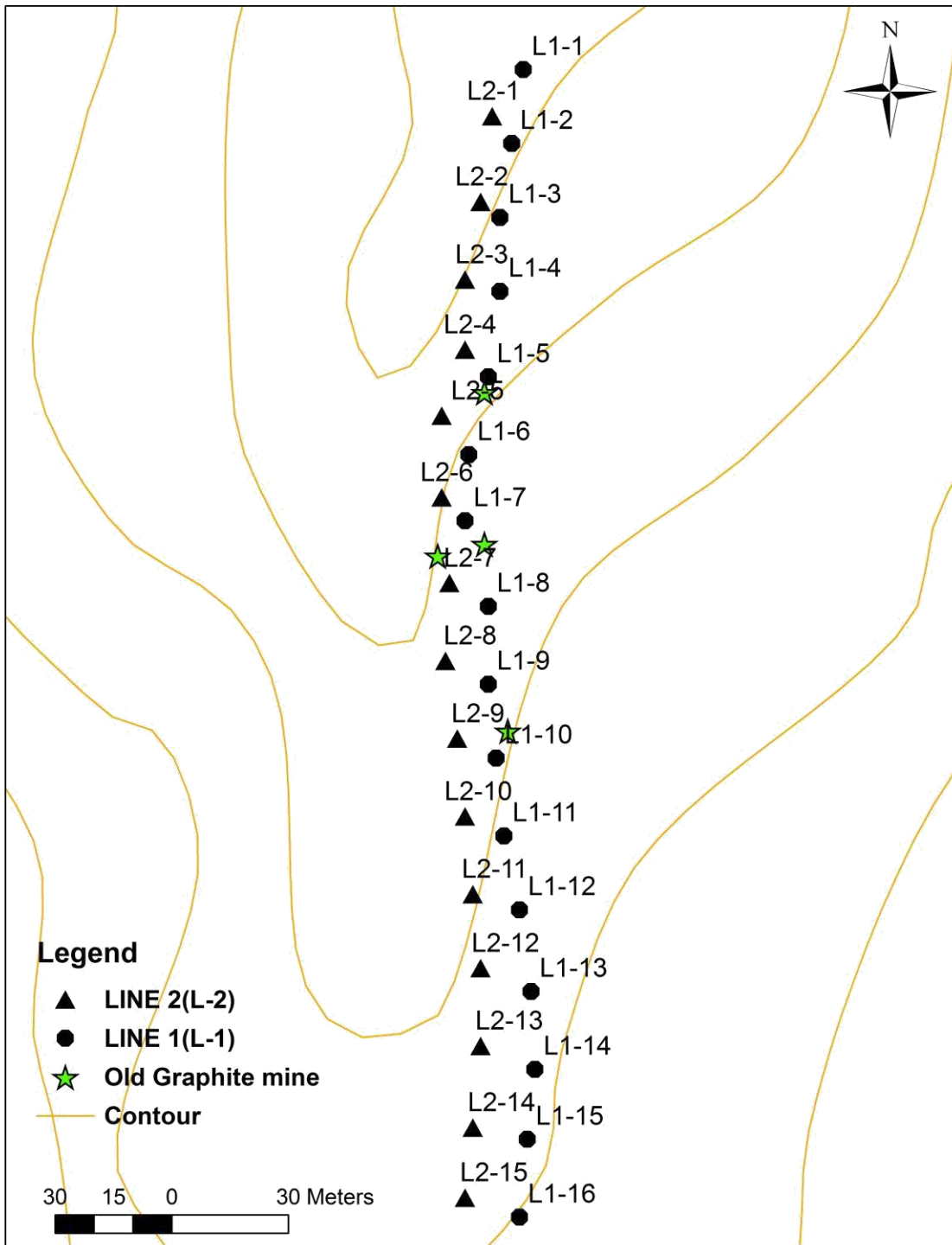
Ridge and slopes are characteristic topographic features in the investigated area and total surveyed area lies mainly on the top part of ridge structure and its slopes. The average elevation of the surveyed area is about 600 mean sea level.

The charnockitic gneisses, quartzite, garnetiferous quartzfeldpathic gneisses, and garnet sillimanite biotite gneisses are the main rock types of the surveyed area. The parent rocks can be seen mainly within abandoned mines and area close to recently developed adit structure. According to the geology map (Kurunegala: 1:100,000) published by Geological Survey and Mines Bureau (GSMB), Maduragoda anticline (N-S) and lineament (NE-SW) are running at the area close to the surveyed land. Strike direction of the rock is almost into north-south.

## **3.0 METHOD OF SURVEY.**

The VLF survey was conducted mainly along the direction of north-south. The VLF readings were taken at every 20 m intervals along the selected each line. The lines and points arrangements for two lines are given in figure (1).

During the survey, EM-16(VLF) instrument with NWC 22.3-N.W. Cape, Australia (standard plug in crystal) was used. Each and every location, inclinometer and quadrature readings were taken during the survey. Generally, signal strength within the study area is moderate to weak. Also it was noted that graphite bearing mine out rocks could be seen on the surface mainly along the slopes close to the abandoned mine structures. The field data of the VLF survey along two lines are given in annex (1).



**Figure (1): The lines and points arrangements of the surveyed area, Queen's Mine, Kotuhena, Maduragoda, Dodangaslanda.**

#### 4.0 RESULTS.

The obtained inclinometer and quadrature readings, and potential conductive bodies with orientations along the each line are given in figure (2.1 and 2.2). The recorded highest and lowest inclinometer reading is (+) 15 and (-) 8 respectively. In addition, inclinometer readings in most points along the lines are close to the zero or very little deviation from the zero.

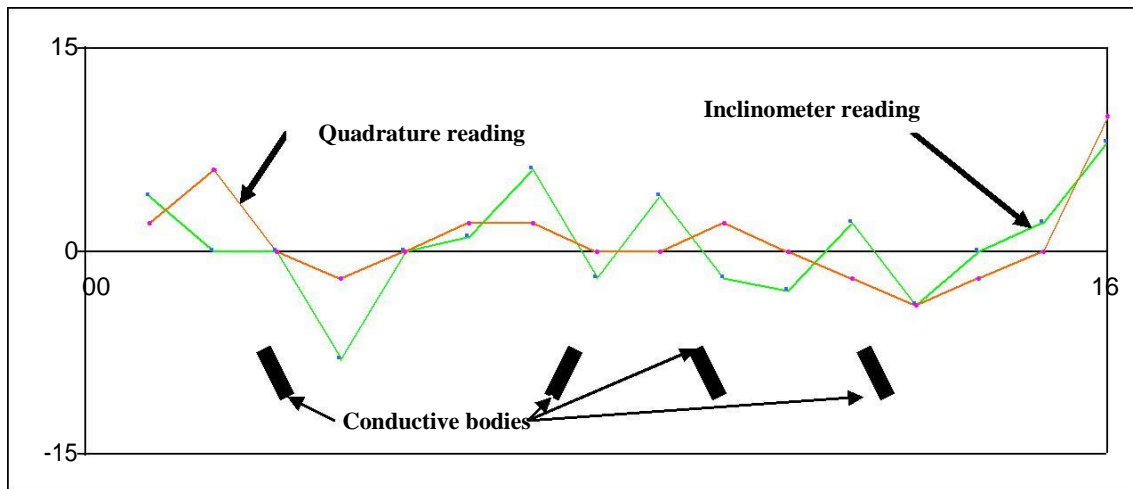


Figure (2.1): VLF readings along the line-1(L-1).

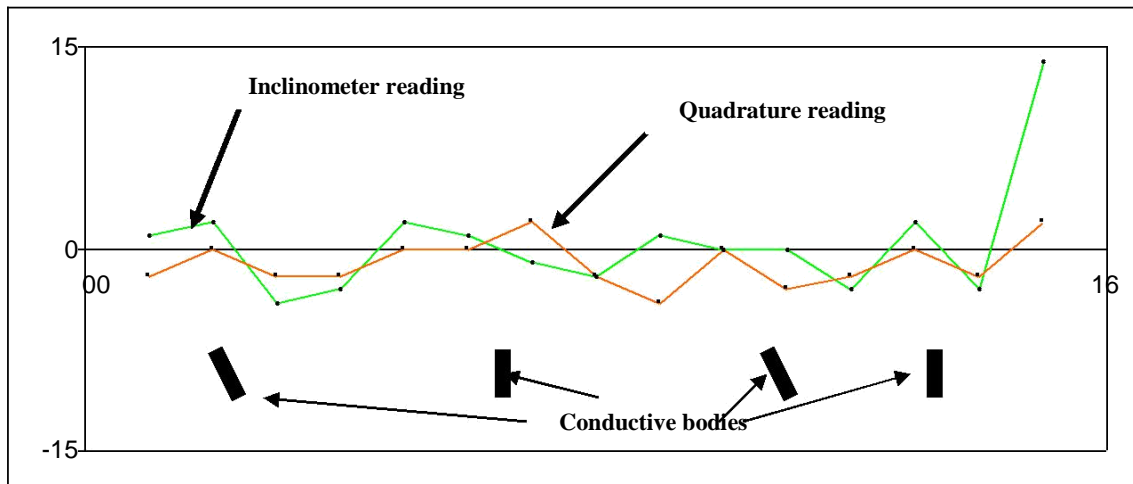


Figure (2.2): VLF readings along line-2(L-2).

#### 5.0 CONCLUSIONS AND RECOMMENDATIONS.

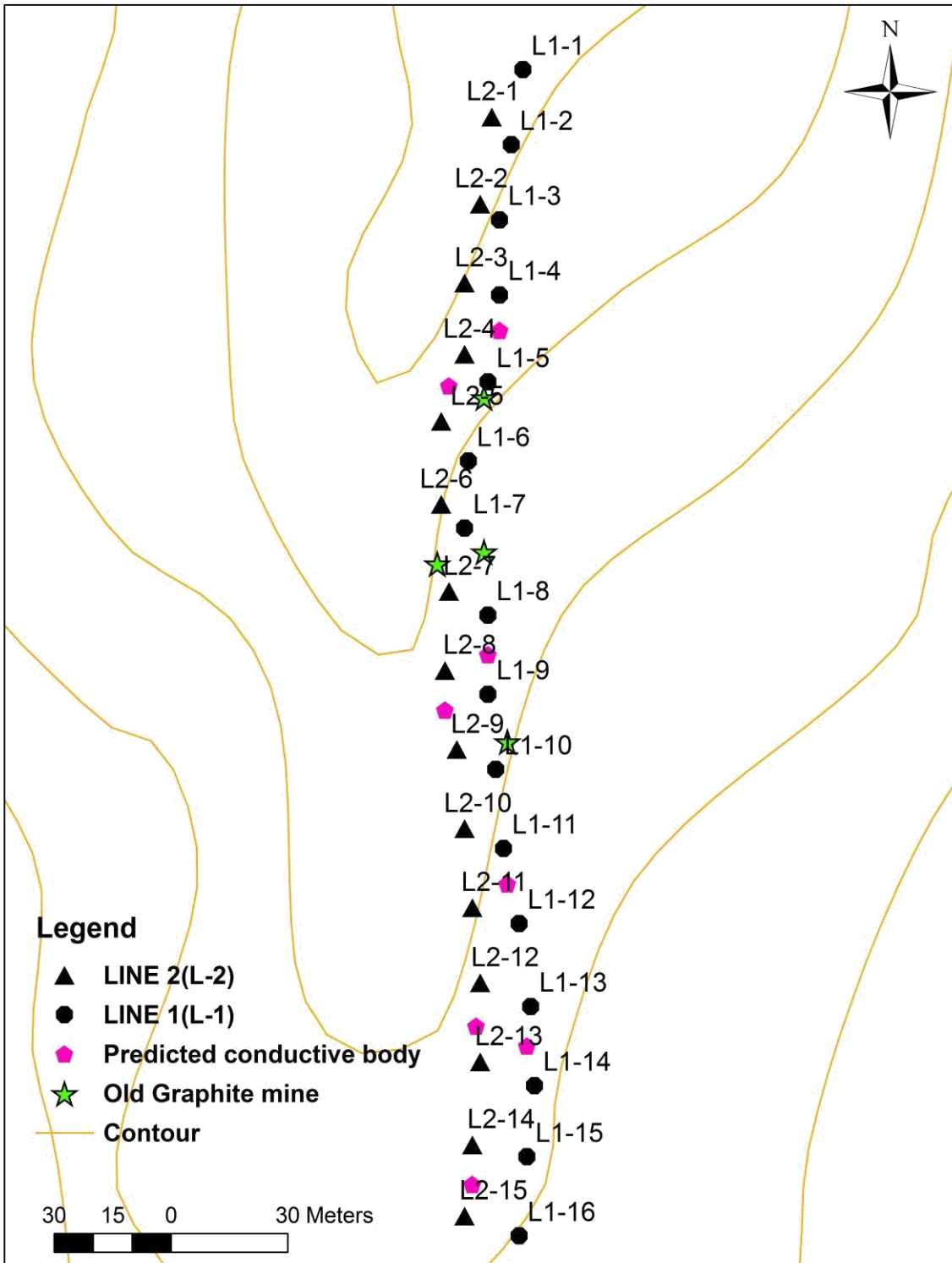
The all findings of the survey and predicted conductive bodies were plotted on the two dimensional sheet (figure 3). The trending directions of the predicted conductive bodies could not be concluded due to the insufficient data points and lines. The values inclinometer reading in all points along lines varies (+) 15 to (-) 8.

The exact depth to predicted conductive bodies and exact details of the conductive bodies could not be predicted from the VLF findings. However, according to the inclinometer readings, thickness of the ore bodies could be very low and conductive bodies could be occurred relatively at deeper level

It is recommended to conduct the further VLF survey along several additional lines parallel to the surveyed lines to predict the trending directions of ore bodies. In addition, findings of the VLF survey should be analysed with local and regional geology and structures of the area to select the suitable points and orientations for drilling activities.

Prepared By

K.M Prematilaka



**Figure (3): Distribution of potential conductive bodies, Maduragoda, Dodamgaslanda.**

**Annex-1: Field VLF measurements along the two lines.**

<b>Line</b>	<b>point</b>	<b>X-coordinate</b>	<b>Y-coordinate</b>	<b>Inclinometer reading</b>	<b>Quadrature reading</b>
L1	L1-01(54)	174473	265457	4	2
L1	L1-02	174470	265438	0	6
L1	L1-03	174467	265419	0	0
L1	L1-04	174467	265400	-8	-2
L1	L1-05	174464	265378	0	0
L1	L1-06(53)	174459	265358	1	2
L1	L1-07	174458	265341	6	2
L1	L1-08	174464	265319	-2	0
L1	L1-09	174464	265299	4	0
L1	L1-10	174466	265280	-2	2
L1	L1-11	174468	265260	-3	0
L1	L1-12(52)	174472	265241	2	-2
L1	L1-13	174475	265220	-4	-4
L1	L1-14	174476	265200	0	-2
L1	L1-15	174474	265182	2	0
L1	L1-16	174472	265162	8	10
L2	L2-01	174465	265445	1	-2
L2	L2-02	174462	265423	2	0
L2	L2-03	174458	265403	-4	-2
L2	L2-04	174458	265385	-3	-2
L2	L2-05	174452	265368	2	0
L2	L2-06	174452	265347	1	0
L2	L2-07	174454	265325	-1	2
L2	L2-08	174453	265305	-2	-2
L2	L2-09	174456	265285	1	-4
L2	L2-10	174458	265265	0	0
L2	L2-11	174460	265245	0	-3
L2	L2-12	174462	265226	-3	-2
L2	L2-13	174462	265206	2	0
L2	L2-14	174460	265185	-3	-2
L2	L2-15	174458	265167	15	2