

**REPORT ON THE "VLF" SURVEY CONDUCTED IN MADUKAGODA AREA,
DODAMGASLANDA FOR MR. RANJITH WIJEKOON, RS MINES PVT LTD,
"WIJEKOON HOUSE", MADIPOLA, MATALE**

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**REPORT ON THE “VLF” SURVEY CONDUCTED IN MADUKAGODA AREA,
DODAMGASLANDA FOR MR. SHEVON PEIRIS, RS MINES, MADURAGODA,
DODAMGASLANDA, KURUNAGALA.**

1.0 INTRODUCTION

As per the request made by Mr. Shevon Peiris, RS mines, Maduragoda, Dodamgaslanda, Kurunagala , a geophysical survey using VLF(EM-16) was carried out for prospecting graphite at given area in Maduragoda area, Dodamgaslanda. According to the information collected from the proprietor of RS mine, mine development activities at one place along the vein were started several years before and still mine development activities are in progress(Plate:1.1).



Plate (1.1): Main entrance of the mine, RS mines, Maduragoda, Dodamgaslanda.

The six lines were selected for the VLF survey and several abandoned graphite mine structures mainly shafts and adits are located within the study area. The details of abandoned mine structures are not available and most of the abandoned mine structures are partly or fully collapsed at present (plate: 1.2). In addition, it was noted that mined out rocks have been dumped on the surface mainly along the slopes close to the abandoned mine structures (plate:1.3).



Plate (1.2): Abandoned mine structures within the study area, Maduragoda, Dodamgaslanda.



Plate (1.3): Mined out rock on the surface mainly along the slopes close to the abandoned mine structures, Maduragoda, Dodamgaslanda.

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 STRUCTURE 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 the ridge structure and its slopes. The elevation of the area varies from 250 m to 600 m with respect to mean sea level.

The charnockitic gneisses, charnockite, biotite hornblende gneisses, and garnet 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 mine structure. Structurally, area is in the western limb of Maduragoda antiform which is running North-South.

According to the geology map (Kurunagala: 1:100,000) published by Geological Survey and Mines Bureau (GSMB), NE-SW trending two lineaments 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 South to North. The lines and points arrangements for six lines are given in figure (1) and reading was taken in every 20 m interval along the lines.

During the survey, EM-16(VLF) instrument with NWC 22.3-N.W. Cape, Australia (standard plug in crystal) was used (plate: 3.1). Each and every location, inclinometer and quadrature readings were taken during the survey. Generally, signal strength within the study area is moderate to weak.

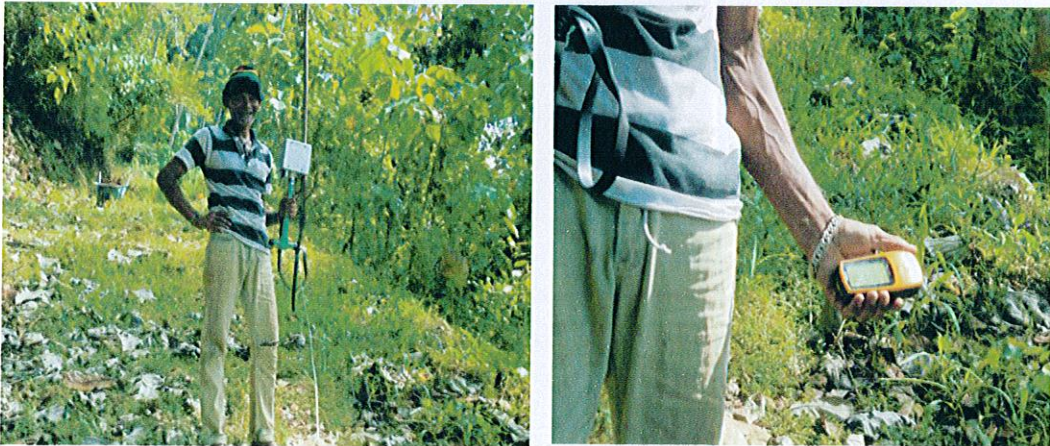


Plate (3.1):Field measurement of EM-16(VLF) instrument during the field.

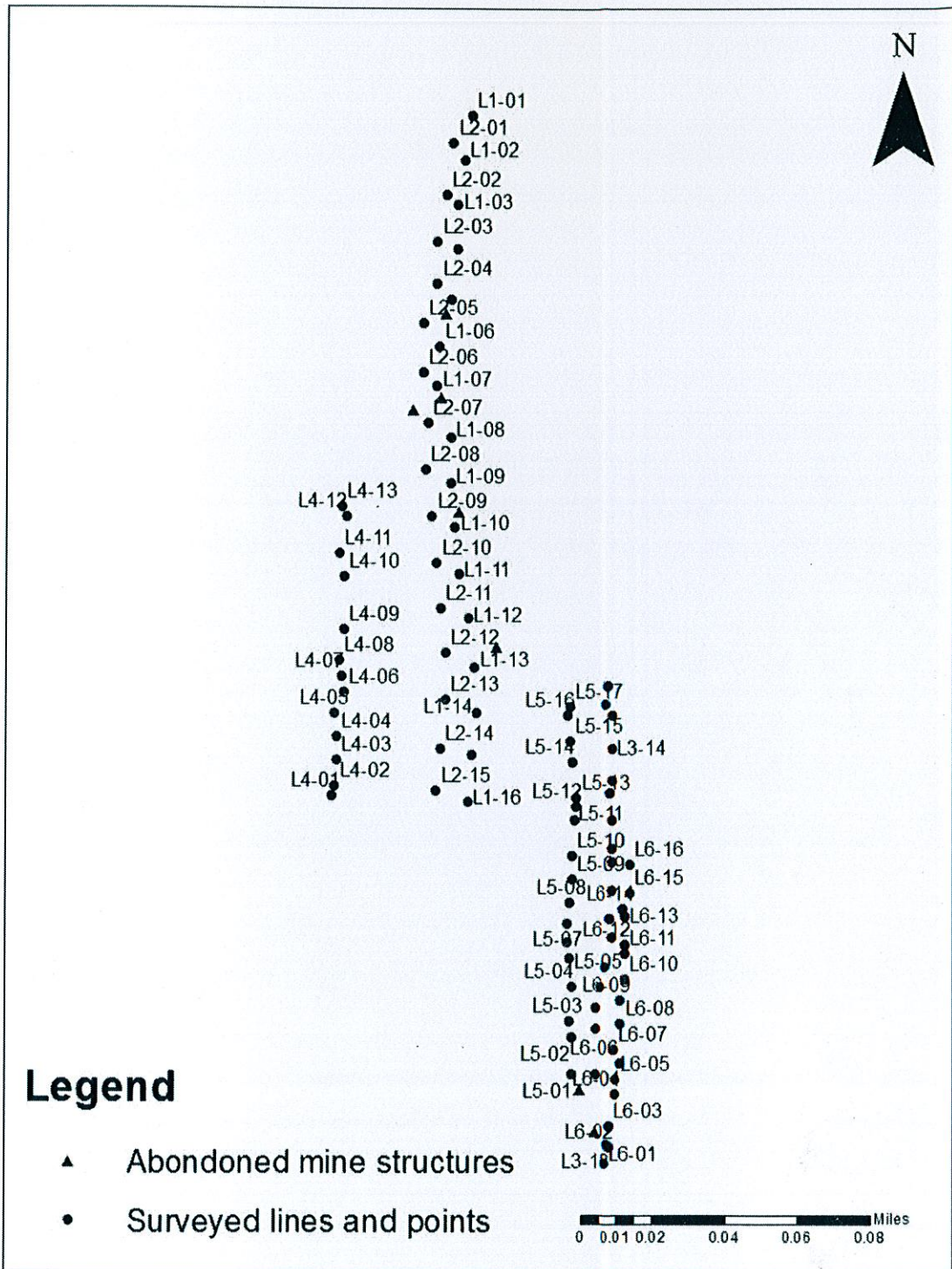


Figure (1): The lines and points arrangements of the surveyed area, Maduragoda, Dodamgaslanda.

4.0 RESULTS.

The obtained inclinometer and quadrature readings, and predicted conductive bodies with orientations along the each line are given in figure (4.1, 4.2, 4.3, 4.4, 4.5, and 4.6). The recorded highest and the lowest inclinometer readings are (+) 22 and (-) 22 respectively. In addition, inclinometer readings in most points along the line 1 and line 2 are close to the zero or very little deviation from the zero with compared to the other lines.

The indication of conductive bodies along the surveyed lines could be due to presence of graphite bodies in the subsurface formation or presence of mined out rocks scatted in the study area.

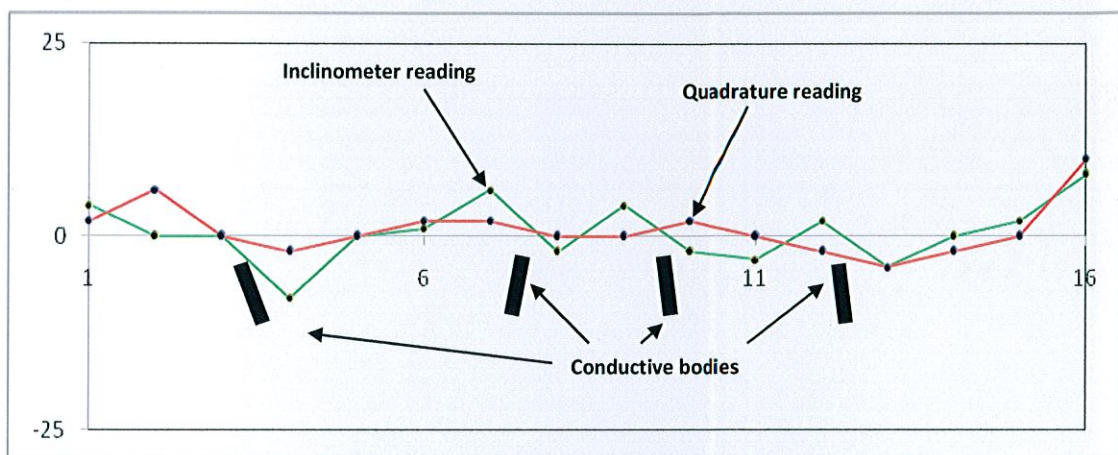


Figure (4.1): VLF readings in line-1(L-1) along South to north direction

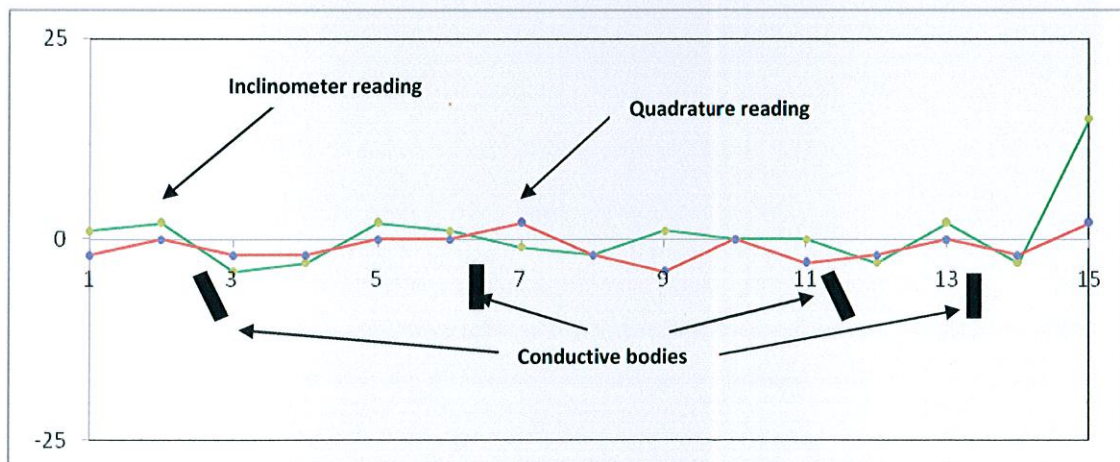


Figure (4.2): VLF readings in line-2(L-2) along South to north direction.

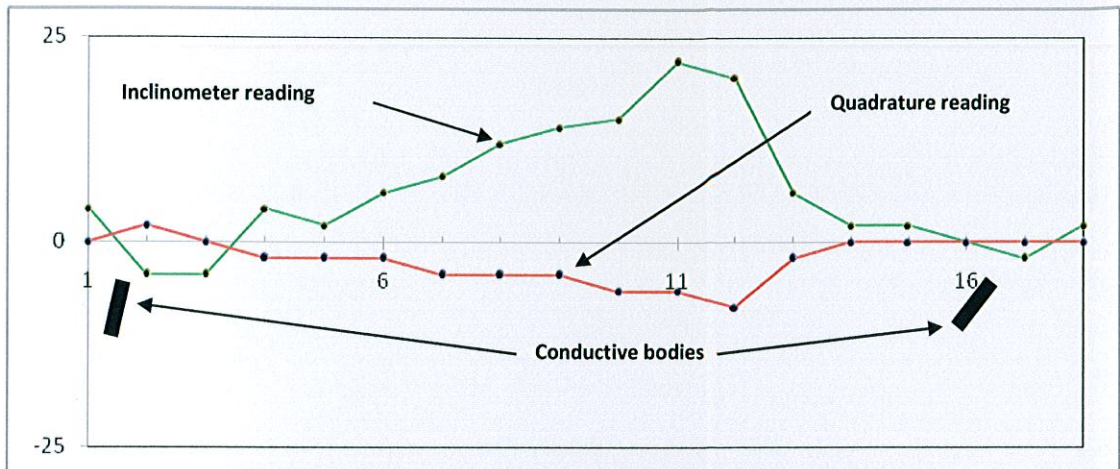


Figure (4.3): VLF readings in line-3(L-3) along South to north direction

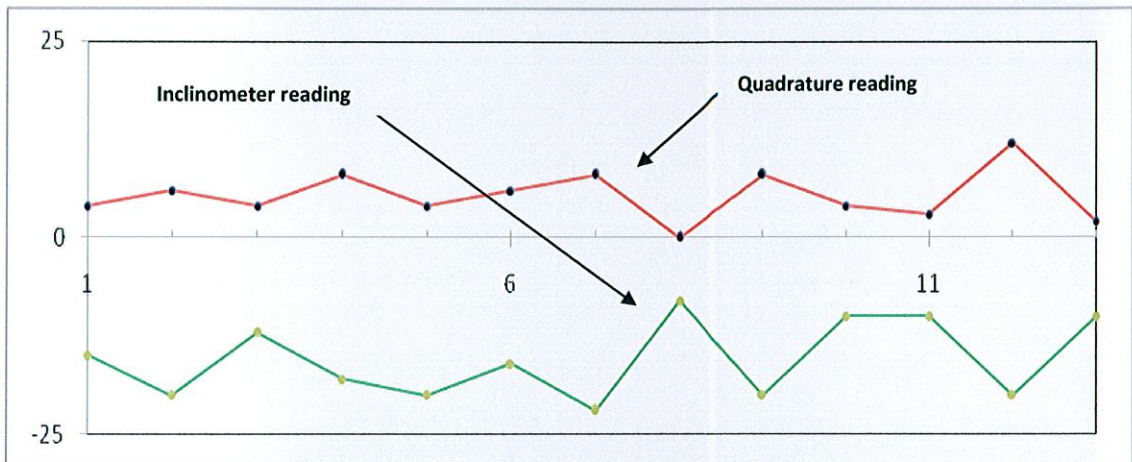


Figure (4.4): VLF readings in line-4(L-4) along South to north direction

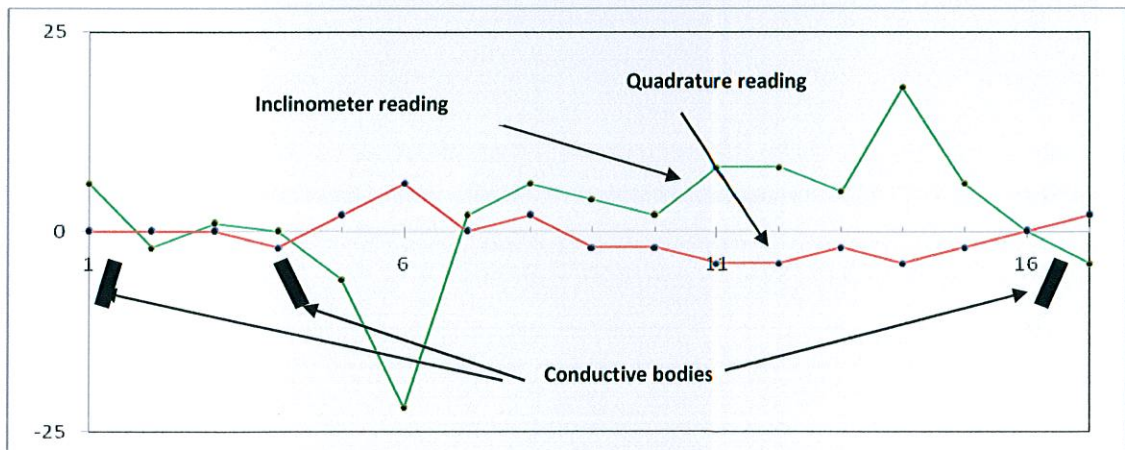


Figure (4.5): VLF readings in line-5(L-5) along South to north direction

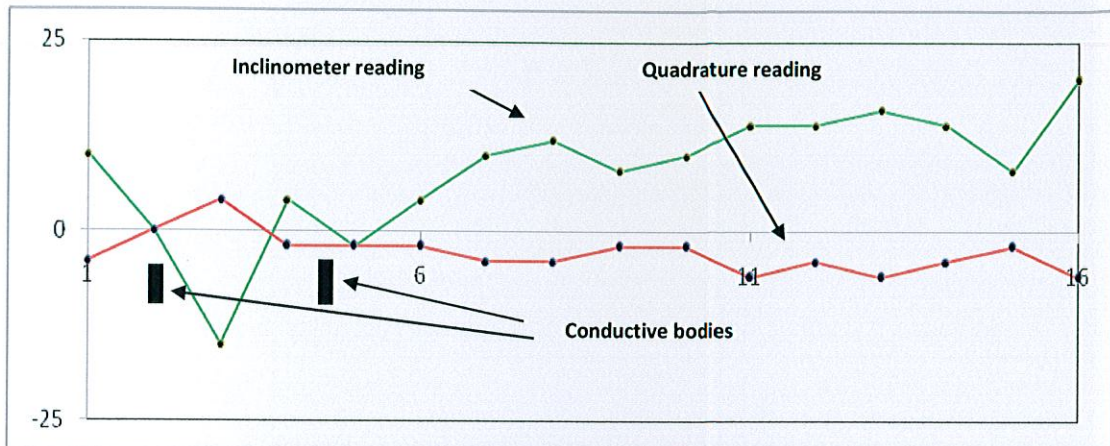


Figure (4.6): VLF readings in line-6(L-6) along South to north direction.

5.0 CONCLUSIONS AND RECOMMENDATIONS.

The all findings of the survey were plotted on the two dimensional sheet (figure: 5.1) and many of the predicted bodies are located at the area closer to the abandoned mine structures. The indication of conductive bodies along the surveyed lines could be due to presence of graphite bodies in the subsurface formation or presence of mined out rocks scattered at the surface in the study area.

According to the results predicted, conductive bodies are situated within four areas. The area -1 and area -2 shows more promising conditions for occurrence of graphite within the subsurface formation with compared to the area-3 and area-4. The area-1 is located at the area close to the recently developed mine structure. The predicted conductive bodies could be trending mainly along the direction of east-west.

The depth to conductive bodies and details of the conductive bodies could not be predicted from the VLF findings. According to the inclinometer readings, thickness of the ore bodies could be very low and conductive bodies could be occurred relatively at deeper level. However, exploratory drilling is needed to conclude the thickness of the conductive bodies and their details.

Finally, it is recommended to study the findings of the VLF survey 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

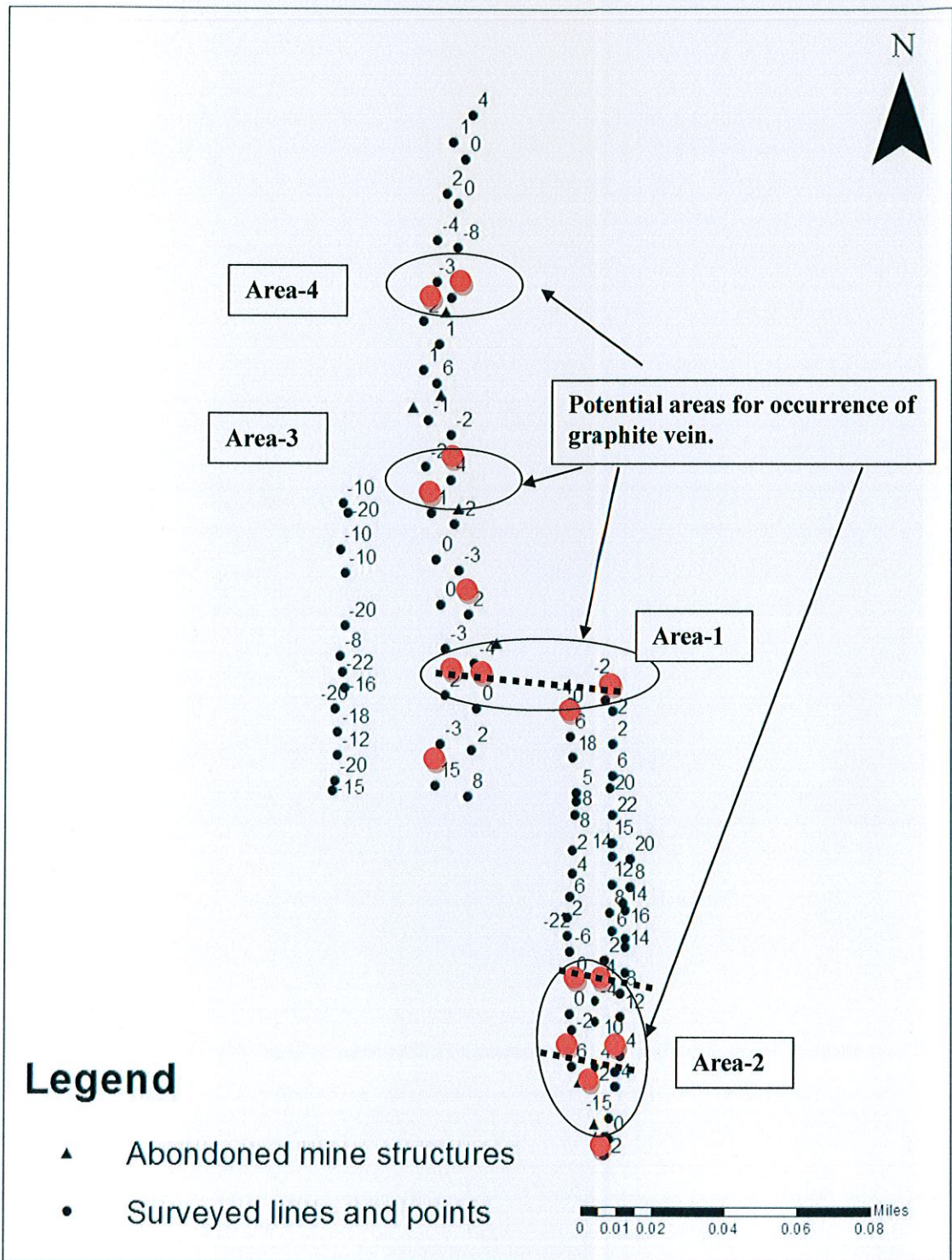


Figure (5.1): Distribution of potential conductive bodies, Maduragoda, Dodamgaslanda.

Annex-1: Field VLF measurements along the south-north direction

Line	point	X-coordinate	Y-coordinate	Inclinometer reading	Quadrature reading
L1	L1-01	174473	265457	4	2
	L1-02	174470	265438	0	6
	L1-03	174467	265419	0	0
	L1-04	174467	265400	-8	-2
	L1-05	174464	265378	0	0
	L1-06	174459	265358	1	2
	L1-07	174458	265341	6	2
	L1-08	174464	265319	-2	0
	L1-09	174464	265299	4	0
	L1-10	174466	265280	-2	2
	L1-11	174468	265260	-3	0
	L1-12	174472	265241	2	-2
	L1-13	174475	265220	-4	-4
	L1-14	174476	265200	0	-2
	L1-15	174474	265182	2	0
	L1-16	174472	265162	8	10
L2	L2-01	174465	265445	1	-2
	L2-02	174462	265423	2	0
	L2-03	174458	265403	-4	-2
	L2-04	174458	265385	-3	-2
	L2-05	174452	265368	2	0
	L2-06	174452	265347	1	0
	L2-07	174454	265325	-1	2
	L2-08	174453	265305	-2	-2
	L2-09	174456	265285	1	-4
	L2-10	174458	265265	0	0
	L2-11	174460	265245	0	-3
	L2-12	174462	265226	-3	-2
	L2-13	174462	265206	2	0
	L2-14	174460	265185	-3	-2
	L2-15	174458	265167	15	2
L3	L3-01	174529	265045	4	0
	L3-02	174529	265065	-4	2
	L3-03	174529	265074	-4	0
	L3-04	174531	265083	4	-2
	L3-05	174533	265091	2	-2
	L3-06	174536	265104	6	-2
	L3-07	174535	265112	8	-4
	L3-08	174536	265124	12	-4
	L3-09	174536	265136	14	-4
	L3-10	174536	265142	15	-6
	L3-11	174536	265154	22	-6

	L3-12	174535	265166	20	-8
	L3-13	174536	265171	6	-2
	L3-14	174536	265185	2	0
	L3-15	174536	265199	2	0
	L3-16	174533	265204	0	0
	L3-17	174534	265212	-2	0
	L3-18	174534	265015	2	0
L4	L4-01	174413	265165	-15	4
	L4-02	174414	265169	-20	6
	L4-03	174415	265180	-12	4
	L4-04	174415	265190	-18	8
	L4-05	174414	265200	-20	4
	L4-06	174418	265209	-16	6
	L4-07	174417	265216	-22	8
	L4-08	174416	265223	-8	0
	L4-09	174418	265236	-20	8
	L4-10	174418	265259	-10	4
	L4-11	174416	265269	-10	3
	L4-12	174419	265285	-20	12
	L4-13	174417	265289	-10	2
L5	L5-01	174518	265045	6	0
	L5-02	174518	265061	-2	0
	L5-03	174517	265068	0	0
	L5-04	174518	265083	0	-2
	L5-05	174517	265095	-6	2
	L5-06	174516	265102	-22	6
	L5-07	174516	265110	2	0
	L5-08	174517	265119	6	2
	L5-09	174518	265129	4	-2
	L5-10	174518	265139	2	-2
	L5-11	174519	265154	8	-4
	L5-12	174520	265160	8	-4
	L5-13	174520	265164	5	-2
	L5-14	174518	265179	18	-4
	L5-15	174517	265188	6	-2
	L5-16	174516	265199	0	0
	L5-17	174517	265203	-4	2
L6	L6-01	174533	265007	10	-4
	L6-02	174535	265014	0	0
	L6-03	174535	265023	-15	4
	L6-04	174538	265037	4	-2
	L6-05	174538	265043	-2	-2
	L6-06	174540	265050	4	-2
	L6-07	174537	265056	10	-4
	L6-08	174540	265067	12	-4
	L6-09	174540	265077	8	-2

	L6-10	174542	265086	10	-2
	L6-11	174542	265097	14	-6
	L6-12	174542	265101	14	-4
	L6-13	174542	265113	16	-6
	L6-14	174541	265116	14	-4
	L6-15	174544	265123	8	-2
	L6-16	174544	265135	20	-6