

**GEOLOGICAL REPORT ON PRELIMINARY
EXPLORATION
(G3 STAGE) FOR COPPER AND ASSOCIATED
MINERALISATION IN GOVINDPUR BLOCK,
CHANDRAPUR DISTRICT, MAHARASHTRA**

ANNEXURES



KARTIKAY EXPLORATION AND MINING SERVICES PRIVATE LIMITED

101,102, BHASKAR TOWER, TEMPLE ROAD, CIVIL LINES, NAGPUR-440001

MAHARASHTRA

ANNEXURE-IA

Statement showing the Co-ordinates of cardinal points of the block boundary of Govindpur block (G3 stage) for Copper and associated mineralisation, District-Chandrapur, Maharashtra

Name	Easting(m)	Northing(m)	Latitude	Longitude	RL (m)
A	355589.94	2265129.30	20°28'45.36"N	79°36'55.19"E	233.2754
B	356829.37	2265107.49	20°28'44.98"N	79°37'37.99"E	247.8622
C	356826.45	2264448.86	20°28'23.55"N	79°37'38.07"E	242.5238
D	355577.75	2264441.54	20°28'22.98"N	79°36'54.97"E	231.3931



ANNEXURE-IB

Statement showing the Co-ordinates of Borehole of Govindpur block (G3 stage) for Copper and associated mineralisation, District-Chandrapur, Maharashtra

BH no	Easting(m)	Northing(m)	Latitude	Longitude	RL (m)
KNGC-01	355853.00	2265037.00	20°28'42.44"N	79°37'4.33"E	234.93



ANNEXURE-IIA**Statement showing the Primary analysis of Trench samples of Govindpur block (G3 stage) for Copper and associated mineralisation, District-Chandrapur, Maharashtra**

S No.	Customer Code	Sample Description	Lab ID	SOP/OM/058 ppm (mg/kg)	SOP/OM/059 ppm (mg/kg)	SOP/OM/059 ppm (mg/kg)	SOP/OM/051 ppm (mg/kg)	SOP/OM/051 ppm (mg/kg)	SOP/OM/051 ppm (mg/kg)	SOP/OM/051 ppm (mg/kg)	SOP/OM/051 ppm (mg/kg)
			LOQ	0.01	1	5	5	5	5	5	5
			Lab ID	Au	Ag	As	Co	Cu	Ni	Pb	Zn
1	T1-S1	Soil and Quartz boulders	G390-1	<0.01	<1	<5	19	194	43	10	24
2	T1-S2	Soil and Quartz boulders	G390-2	<0.01	<1	<5	20	167	47	6	22
3	T1-S3	Soil and Quartz boulders	G390-3	<0.01	<1	<5	20	178	44	7	24
4	T1-S4	Soil and Quartz boulders	G390-4	<0.01	<1	<5	18	103	36	<5	20
5	T1-S5	Soil and Quartz boulders	G390-5	<0.01	<1	<5	25	126	47	<5	22
6	T1-S6	Soil and Quartz boulders	G390-6	<0.01	<1	<5	20	135	41	<5	24
7	T1-S7	Soil and Quartz boulders	G390-7	<0.01	<1	<5	23	205	49	7	22
8	T1-S8	Soil and Quartz boulders	G390-8	<0.01	<1	<5	24	179	46	9	23
9	T2-S1	Soil	G390-9	<0.01	<1	<5	18	34	50	5	80
10	T2-S2	Soil	G390-10	<0.01	<1	<5	16	36	46	<5	70
11	T2-S2	Soil	G390-10	<0.01	<1	<5	17	36	49	<5	71

12	T2-S3	Soil	G390-11	0.02	<1	<5	16	38	53	6	71
13	T2-S4	Soil	G390-12	<0.01	<1	<5	15	27	38	5	47
14	T2-S5	Soil	G390-13	<0.01	<1	<5	20	22	44	5	65
15	T2-S6	Soil	G390-14	<0.01	<1	<5	16	47	51	10	73
16	T2-S7	Soil	G390-15	<0.01	<1	<5	17	63	52	<5	66
17	T2-S8	Soil	G390-16	<0.01	<1	<5	19	40	58	<5	68
18	T3-S1	Soil	G390-17	<0.01	<1	<5	23	38	47	8	32
19	T3-S2	Soil	G390-18	<0.01	<1	<5	24	55	41	13	33
20	T3-S3	Soil	G390-19	<0.01	<1	<5	25	53	43	18	32
21	T3-S4	Soil	G390-20	<0.01	<1	<5	18	37	38	11	32
22	T3-S5	Soil	G390-21	<0.01	<1	<5	18	49	36	14	35
23	T3-S6	Soil	G390-22	<0.01	<1	<5	23	57	47	19	36
24	T3-S7	Soil	G390-23	<0.01	<1	<5	22	45	42	13	33
25	T3-S8	Soil	G390-24	<0.01	<1	<5	26	61	43	16	30
26	T4-S1	Soil	G415-1	<0.01	<1	6	23	57	42	13	80
27	T4-S2	Soil	G415-2	<0.01	<1	5	30	42	46	<5	13
28	T4-S3	Soil	G415-3	<0.01	<1	<5	25	36	42	<5	34
29	T4-S4	Soil	G415-4	<0.01	<1	5	30	43	52	<5	16
30	T4-S5	Soil	G415-5	<0.01	<1	5	34	37	50	<5	13
31	T4-S6	Soil	G415-6	<0.01	<1	6	26	43	53	<5	15
32	T4-S7	Soil	G415-7	<0.01	<1	<5	13	38	35	<5	12
33	T4-S8	Soil	G415-8	<0.01	<1	<5	25	43	47	<5	17
34	T5-S1	Soil	G415-9	<0.01	<1	<5	35	46	23	<5	69
35	T5-S2	Soil	G415-10	<0.01	<1	<5	74	48	24	<5	74
36	T5-S2	Soil	G415-10	<0.01	<1	<5	73	48	26	<5	77
37	T5-S3	Soil	G415-11	<0.01	<1	6	51	118	30	20	143
38	T5-S4	Soil	G415-12	<0.01	<1	<5	64	168	33	26	107
39	T5-S5	Soil	G415-13	<0.01	<1	<5	39	129	21	16	80

40	T5-S6	Soil	G415-14	0.1	<1	<5	45	62	23	5	63
41	T5-S7	Soil	G415-15	<0.01	<1	<5	43	77	28	15	79
42	T5-S8	Soil	G415-16	<0.01	<1	7	36	101	31	20	74



ANNEXURE-II-B

Statement showing the Primary analysis of Borehole core samples of Govindpur block (G3 stage) for Copper and associated mineralisation, District-Chandrapur, Maharashtra

Method	SOP/OM/058	SOP/OM/059	SOP/OM/059	SOP/OM/051	SOP/OM/051	SOP/OM/051	SOP/OM/051	SOP/OM/051
Units	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)
LOQ	0.01	1	5	5	5	5	5	5
Lab ID	Au	Ag	As	Co	Cu	Ni	Pb	Zn
G2339-1	<0.01	<1	<5	10	11	13	25	20
G2339-2	0.09	<1	<5	25	24	57	32	176
G2339-3	<0.01	<1	<5	20	86	31	33	95
G2339-4	<0.01	<1	<5	5	37	8	12	31
G2339-5	<0.01	<1	<5	14	5	20	14	42
G2339-6	<0.01	<1	<5	7	8	14	<5	84
G2339-7	<0.01	<1	<5	48	15	126	12	77

ANNEXURE-IIC

Statement showing the Whole rock sample analysis of Govindpur block (G3 stage) for Copper and associated mineralisation, District-Chandrapur, Maharashtra

SI No.				1	2
Customer Code				KNGC-01/04	KNGC-01/07
Sample Description				Quartz reef	Quartz chlorite schist
Lab Code				G2339-4	G2339-7
Characteristics	Units	LOQ	Method	Test Results	
Alumina as Al ₂ O ₃	%	0.05	SOP/OM/105	15.40	14.75
Barium as BaO	%	0.05	SOP/OM/105	<0.05	<0.05
Calcium as CaO	%	0.05	SOP/OM/105	0.86	8.09
Chromium as Cr ₂ O ₃	%	0.05	SOP/OM/105	0.06	0.09
Iron as Fe ₂ O ₃	%	0.05	SOP/OM/105	1.62	9.95
Potassium as K ₂ O	%	0.05	SOP/OM/105	1.31	2.78
Magnesium as MgO	%	0.05	SOP/OM/105	0.73	8.21
Manganese as MnO	%	0.05	SOP/OM/105	<0.05	0.17
Sodium as Na ₂ O	%	0.08	SOP/OM/105	6.66	1.95
Phosphorus as P ₂ O ₅	%	0.05	SOP/OM/105	0.05	0.06
Silica as SiO ₂	%	0.05	SOP/OM/105	71.48	49.93
Sulphur as SO ₃	%	0.05	SOP/OM/105	<0.05	<0.05
Titanium as TiO ₂	%	0.05	SOP/OM/105	0.11	0.76
Vanadium as V ₂ O ₅	%	0.05	SOP/OM/105	<0.05	<0.05
Loss on Ignition (LOI)	%	0.10	SOP/OM/103	1.64	3.12

ANNEXURE-IID**Statement showing the External Check Sample analysis of
Govindpur block (G3 stage) for Copper and associated
mineralisation, District-Chandrapur, Maharashtra**

S.No	Test Parameter s	Sample ID				
		JNA/25- 26/SEPT/1 962 (Copper Ore}	JNA/25- 26/SEPT/ 1963 (Copper Ore}	JNA/25- 26/SEPT /1964 (Copper Ore)	JNA/25- 26/SEPT/ 1965 (Copper Ore)	JNA/25- 26/SEPT /1966 (Quartz}
Test Method		JNARDDC/QTP/ICP-MS				
1	Au(mg/kg)	0.011	0.007	0,003	0.007	0.004
2	Ag(mg/kg)	0.092	0.076	0.043	0.042	0.076
3	Cu(mg/kg)	23.50	28.00	137.0	35.50	10.50
4	Co(mgflkg)	14.00	23.00	59.50	71.00	167.0
5	Ni(mg/kg)	41.70	50.85	40.48	35.16	41.66
6	Zn(mg/kg)	20.50	19.00	103.0	72.00	36.00
7	As (mg/kg)	26.84	32.36	24.90	27.20	6.53
8	Pb(mg/kg)	21.50	15.50	41.50	21.50	8.00

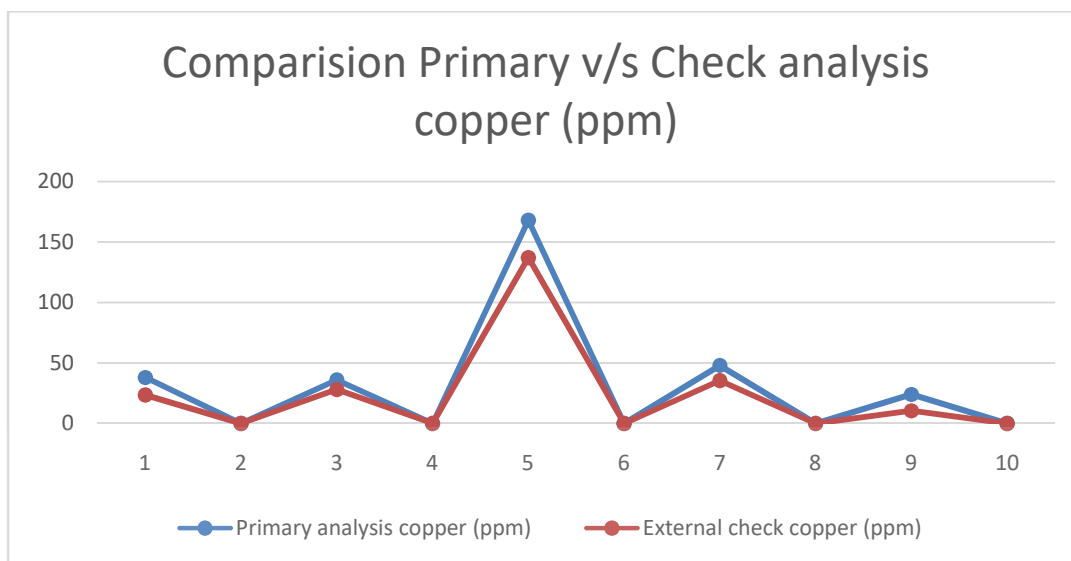
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ANNEXURE-IIIE

Statement showing comparison of primary and external check sample result of Govindpur block (G3 stage) for copper and associated mineralisation, District Chandrapur, Maharashtra

	G415-7(T4-S7)	JNA/25-26/SEP T-1962	G415-3(T4-S3))	JNA/25-26/SEP T-1963	G415-12(T5-S4)	JNA/25-26/SEP T-1964	G415-10 (T5-S2)	JNA/25-26/SEP T-1965	2-QV	JNA/25-26/SEP T-1966
Lab ID	G415-3	T4-S7	G415-7	T4-S3	G415-9	T5-S4	G415-10	T5-S2	G415-10	2-QV
Au	<0.01	0.011	<0.01	0.007	<0.01	0.003	<0.01	0.007	0.09	0.004
Ag	<1	0.092	<1	0.076	<1	0.043	<1	0.042	<1	0.076
As	<5	23.50	<5	28	<5	137	<5	35.5	<5	10.50
Co	13	14.00	25	23	64	59.5	74	71	25	167.00
Cu	38	41.70	36	50.85	168	40.48	48	35.16	24	41.66
Ni	35	20.50	42	19	33	103	24	72	57	36.00
Pb	<5	26.84	<5	32.36	26	24.9	<5	27.2	32	6.53
Zn	12	21.50	34	15.5	107	41.5	74	21.5	176	8.00

Sr. No.	Primary sample no	External check sample no	Primary copper (ppm)	External check copper (ppm)
1	G415-7(T4-S7)	JNA/25-26/SEPT/1962	38	23.50
2	G415-3(T4-S3))	JNA/25-26/SEPT/1963	36	28.00
3	G415-12(T5-S4)	JNA/25-26/SEPT/1964	168	137.0
4	G415-10 (T5-S2)	JNA/25-26/SEPT/1965	48	35.50
5	2-QV	JNA/25-26/SEPT/1966	24	10.50



ANNEXURE-IIIA**Statement showing detailed borehole log of Govindpur block
(G3 stage) for Copper and associated mineralisation,****District-Chandrapur, Maharashtra****Date of commencement: 22.07.2025 Date of closure:14.08.2025.****B.H.No. KNGC-01**

Run				Lithology	Remark
From(m)	To (m)	Thick (m)	Rec (m)		
0.00	1.00	1.00	0.50	Soil, Black/Brown	
			0.50	Soil, Variegated, fragments of quartz and granitic rock	
1.00	2.00	1.00	1.00	Soil variegated, fragments of quartz and granitic rock	
2.00	3.00	1.00	1.00	Soil variegated, fragments of quartz and granitic rock	
3.00	4.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Kaolinite
4.00	5.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Kaolinite
5.00	6.00	1.00	0.40	Chlorite mica schist, highly weathered, grey	Kaolinite
			0.60	Chlorite mica schist, highly weathered, grey	Kaolinite
6.00	7.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Kaolinite
7.00	8.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Kaolinite
8.00	9.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Kaolinite
9.00	10.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Kaolinite
10.00	11.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Kaolinite
11.00	12.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Sludge
12.00	13.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Sludge
13.00	14.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Sludge

14.00	15.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Sludge
15.00	16.00	1.00	0.45	Chlorite mica schist, highly weathered, grey	Sludge
			0.55	Chlorite mica schist, highly weathered, grey	Fragments of Qtz
16.00	17.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Fragments of Qtz
17.00	18.00	1.00	0.95	Chlorite mica schist, highly weathered, grey	Fragments of Qtz
18.00	19.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Sludge
19.00	20.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Sludge
20.00	21.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Sludge
21.00	22.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Sludge
22.00	23.00	1.00	1.00	Chlorite mica schist, highly weathered, grey	Sludge
23.00	24.00	1.00	0.84	Chlorite mica schist, highly weathered, grey	Sludge
			0.15	Chlorite mica schist, highly weathered, grey	
24.00	25.00	1.00	0.42	chlorite mica schist, highly weathered, grey	Oxydised zone
			0.58	Sheared quartz vein, dissamination of pyrite with specs of chalcopyrite	Mica Secondary filling
25.00	26.00	1.00	0.48	Quartz chlorite schist, grey	
26.00	27.00	1.00	0.47	Quartz chlorite schist, grey	Limonitic Strains
27.00	28.00	1.00	0.35	Quartz chlorite schist, grey	
28.00	29.00	1.00	0.20	Sheared quartz vein, fractured, secondary filling of biotite, limonitic strain	
			0.48	Quartz chlorite schist, grey	
29.00	30.00	1.00	0.65	Quartz chlorite schist with the veins of qtz, grey in colour	
30.00	31.00	1.00	0.38	Quartz chlorite schist, grey	
31.00	32.00	1.00	0.28	Quartz chlorite schist with qtz boulder	
32.00	33.00	1.00	0.32	Quartz chlorite schist, grey	
33.00	34.00	1.00	0.52	Quartz chlorite schist, grey	
34.00	35.00	1.00	0.82	Quartz chlorite schist, grey	
35.00	36.00	1.00	0.62	Quartz chlorite schist, grey	

36.00	37.00	1.00	1.00	Quartz chlorite schist, grey	
37.00	38.00	1.00	0.90	Quartz chlorite schist, grey	
38.00	39.00	1.00	0.96	Quartz chlorite schist, grey	
39.00	40.00	1.00	1.00	Quartz chlorite schist inclined fracture , grey	
40.00	41.00	1.00	1.00	Quartz chlorite schist hard and compact, grey	
41.00	42.00	1.00	1.00	Quartz chlorite schist broken, vertical fractured , grey	
42.00	43.00	1.00	1.00	Quartz chlorite schist hard, vertical fractured, grey	
43.00	44.00	1.00	1.00	Quartz chlorite schist broken, vertical fractured, grey	
44.00	45.00	1.00	0.80	Quartz chlorite schist broken, fractured, grey	
			0.20	Sheared quartz vein	
45.00	46.00	1.00	0.25	Sheared quartz vein	
			0.75	Quartz chlorite schist, grey	
46.00	47.00	1.00	1.00	Quartz chlorite schist, grey	
47.00	48.00	1.00	0.85	Quartz chlorite schist, grey	
			0.15	Sheared quartz vein	
48.00	49.00	1.00	1.00	Sheared quartz vein	
49.00	50.00	1.00	0.85	Sheared quartz vein	
			0.15	Quartz chlorite schist, grey	
50.00	51.00	1.00	1.00	Quartz chlorite schist, grey	
51.00	52.00	1.00	1.00	Quartz chlorite schist, grey	
52.00	53.00	1.00	1.00	Quartz chlorite schist, grey	
53.00	54.00	1.00	1.00	Quartz chlorite schist, grey	
54.00	55.00	1.00	1.00	Quartz chlorite schist, grey	
55.00	56.00	1.00	1.00	Quartz chlorite schist, grey	
56.00	57.00	1.00	1.00	Quartz chlorite schist, grey	
57.00	58.00	1.00	1.00	Quartz chlorite schist, grey	
58.00	59.00	1.00	1.00	Quartz chlorite schist, grey	
59.00	60.00	1.00	1.00	Quartz chlorite schist, grey	
60.00	61.00	1.00	1.00	Quartz chlorite schist, grey	

Borehole closed at a depth of 61.00m

ANNEXURE-IIIB**Statement showing Summarized borehole log of Govindpur block****(G3 stage) for Copper and associated mineralisation, District-
Chandrapur, Maharashtra****B.H.No. KNGC-01**

RUN				
From(m)	To(m)	Thickness(m)	Lithology	Remark
0.00	3.00	3.00	Soil	
3.00	24.42	21.42	Chlorite mica schist	
24.42	25.00	0.58	Sheared Quartz vein	
25.00	28.00	3.00	Quartz Chlorite Schist	
28.00	28.20	0.20	Sheared Quartz vein	
28.20	44.80	16.60	Quartz Chlorite Schist	
44.80	45.25	0.45	Sheared Quartz vein	
45.25	47.85	2.60	Quartz Chlorite Schist	
47.85	49.85	2.00	Sheared Quartz vein	
49.85	61.00	11.15	Quartz Chlorite Schist	

Borehole closed at a depth of 61.00m



PETROGRAPHIC TEST REPORT

S. No.	Parameter	Sample No.- KNGC/01/P-01
1.	Location	Govindpur, Maharastra
2.	Physical Properties	1. Colour : Light grey 2. Grain size : Medium to coarse grained 3. Form : Foliated 4. Texture / Structure : Schistose 5. Hardness : 6 – 7 (As per Moh's Hardness Scale)
3.	Mineral Composition	1. Quartz : 25 – 30% 2. Feldspar : 30 – 35% 3. Chlorite : 12 – 15% 4. Biotite : 10 – 12% 5. Garnet : < 2% 6. Opaque : < 2%
4.	Type of Rock	Metamorphic rock, sheared, at places feldspar altered to clay.
5.	Name of the Rock	Quartz chlorite mica schist
6.	Photographs	 Hand Specimen  Thin Section (Cross Nicol)

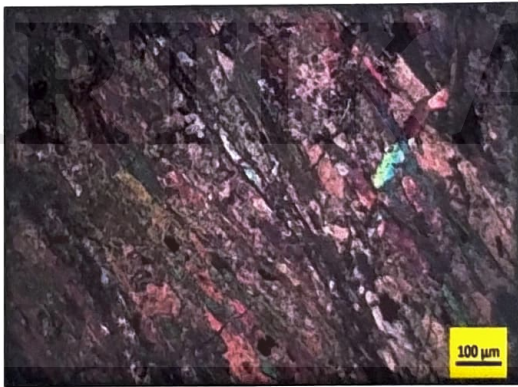


PETROGRAPHIC TEST REPORT

S. No.	Parameter	Sample No.- KNGC/01/P-02
1.	Location	Govindpur, Maharastra
2.	Physical Properties	1. Colour : Off-white 2. Grain size : Coarse grained 3. Form : Weakly foliated 4. Texture / Structutre : Schistose 5. Hardness : 6 – 7 (As per Moh's Hardness Scale)
3.	Mineral Composition	1. Quartz : 80 – 85% 2. Chlorite : 12 – 15% 3. Opaque : < 2%
4.	Type of Rock	Intrusive rock
5.	Name of the Rock	Quartz vein
6.	Photographs	 Hand SpecimenThin Section (Cross Nicol)

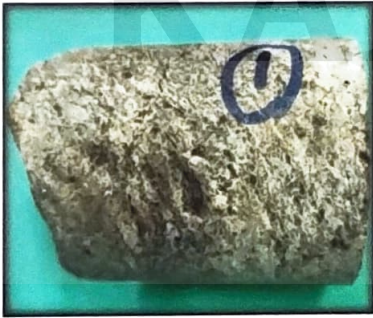
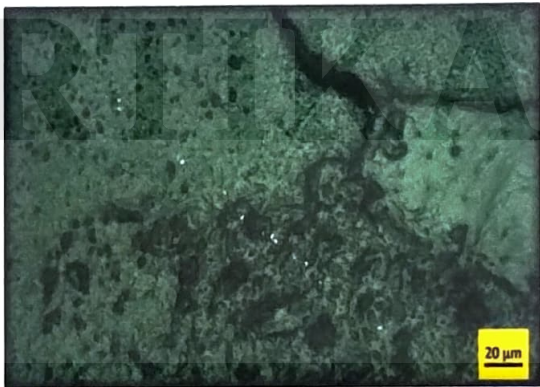


PETROGRAPHIC TEST REPORT

S. No.	Parameter	Sample No.- KNGC/01/P-03
1.	Location	Govindpur, Maharastra
2.	Physical Properties	1. Colour : Dark greenish grey 2. Grain size : Fine to medium grained 3. Form : Foliated 4. Texture / Structutre : Schistose 5. Hardness : 5 – 6 (As per Moh's Hardness Scale)
3.	Mineral Composition	1. Quartz : 30 – 35% 2. Chlorite : 40 – 45% 3. Feldspar : 10 – 15% 4. Opaque : < 5%
4.	Type of Rock	Metamorphic rock, sheared, at places feldspar altered to clay.
5.	Name of the Rock	Quartz chlorite schist
6.	Photographs	 Hand Specimen  Thin Section (Cross Nicol)

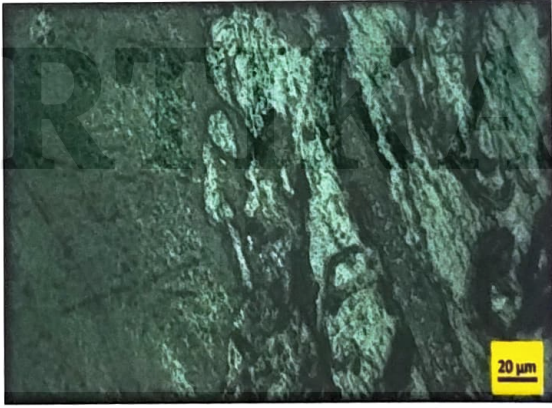


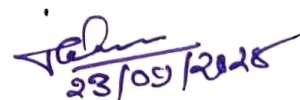
MINERAGRAPHIC TEST REPORT

S. No.	Parameter	Sample No.- KNGC/01/P-01
1.	Location	Govindpur, Maharastra
2.	Physical Properties	1. Colour : Light grey 2. Grain size : Medium to coarse grained 3. Form : Foliated 4. Texture / Structure : Schistose
3.	Mineral Composition	1. Pyrite 2. Chalcopryrite 3. Gangue material
4.	Type of Rock	Metamorphic rock.
5.	Name of the Rock	Quartz chlorite mica schist
6.	Remark	At few places, sulphide phases in the form of pyrite and chalcopryrite are present in the scattered manner.
7.	Photographs	 Hand Specimen  Polished Section (Cross Nicol)



MINERAGRAPHIC TEST REPORT

S. No.	Parameter	Sample No.- KNGC/01/P-02
1.	Location	Govindpur, Maharastra
2.	Physical Properties	1. Colour : Off-white 2. Grain size : Coarse grained 3. Form : Weakly foliated 4. Texture / Structure : Schistose
3.	Mineral Composition	1. Gangue material 2. Opaque phase – Absent
4.	Type of Rock	Intrusive rock
5.	Name of the Rock	Quartz vein
6.	Remark	No sulphide phase is present in the given sample.
7.	Photographs	  Hand Specimen Polished Section (Cross Nicol)


 23/09/2025

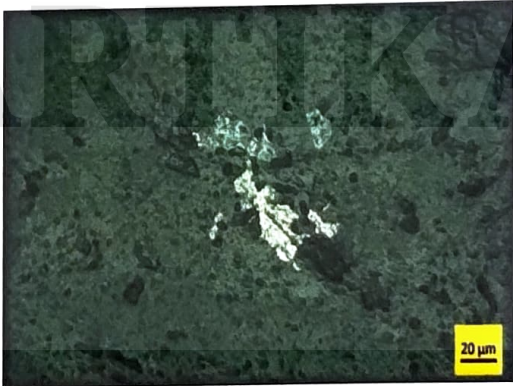
Investigator
 (Dr. N. Vishwakarma)

Dr. N. Vishwakarma
Associate Professor

Department of Applied Geology
 National Institute of Technology Raipur
 G.E. Road, Raipur (Chhattisgarh) 492010

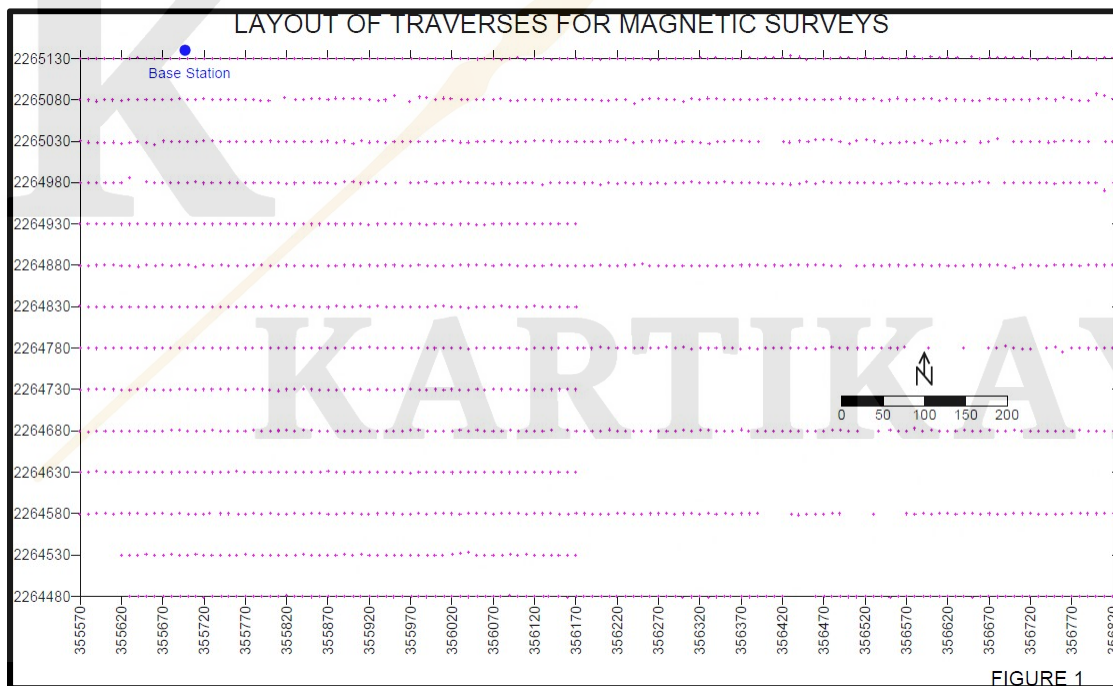


MINERAGRAPHIC TEST REPORT

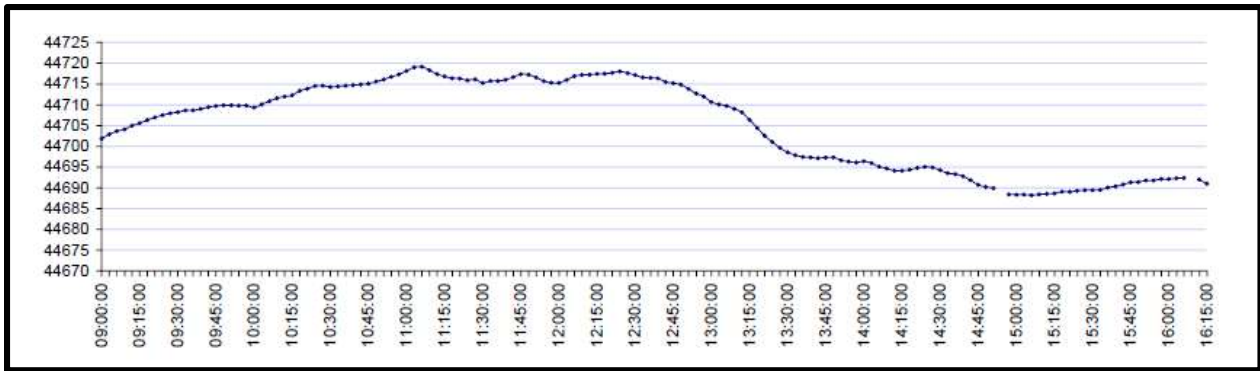
S. No.	Parameter	Sample No.- KNGC/01/P-03
1.	Location	Govindpur, Maharastra
2.	Physical Properties	1. Colour : Dark greenish grey 2. Grain size : Fine to medium grained 3. Form : Foliated 4. Texture / Structure : Schistose
3.	Mineral Composition	1. Pyrite 2. Chalcopryrite 3. Gangue material
4.	Type of Rock	Metamorphic rock
5.	Name of the Rock	Quartz chlorite schist
6.	Remark	At few places, sulphide phases in the form of pyrite and chalcopryrite are present in the scattered manner all along the foliation plane.
7.	Photographs	 Hand Specimen  Polished Section (Cross Nicol)

ANNEXURE-V**INTEGRATED REPORT ON GEOPHYSICAL SURVEY CARRIED OUT FOR
COPPER AND ASSOCIATED MINERALISATION IN GOVINDPUR BLOCK,
CHANDRAPUR DISTRICT, MAHARASHTRA**

Initially the desktop studies are done for the proposed area. The area coordinates and Block boundary has been plotted using open source software. Geophysical surveys, comprising Magnetic, electrical Resistivity Tomography, Induced polarization and Self Potential Surveys in the area. The layout of Geophysical survey grid is shown in figure 1, with traverse interval of 50m and station spacing of 10m, keeping the dimension of the copper mineralisation in view.



The magnetic surveys are carried out using GemSys 19T magnetometer and another magnetometer at the base station 355697E; 2265140N and the base data are recorded at every 3mins. The typical diurnal chart is reproduced here.



The diurnal variation of the magnetic field at the site is 35nT over a period of 7hrs and 15mins. The magnetic elements at the station are listed below:

D	I	ΔH	ΔT	ΔT_x	ΔT_y	ΔZ
0.01526	0.12004	23.8	85.1	23.9	10.2	124.7
-0.17742	31.25447	38448.4	44975.6	38448.2	-119.1	23335.1

Where D: Declination

I: Magnetic Inclination

ΔH : Horizontal Intensity of ΔT

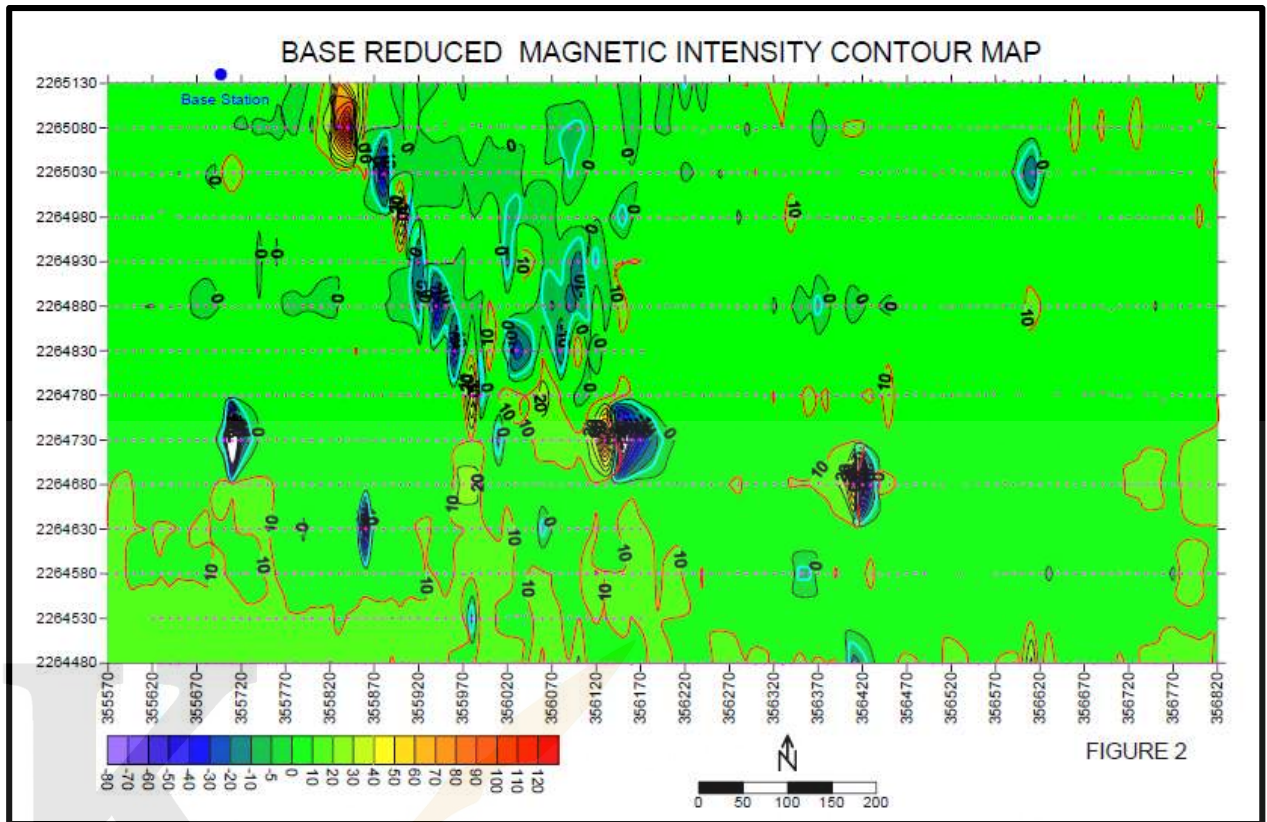
ΔT : Total Intensity

ΔH_x : X Component

ΔH_y : Y Component

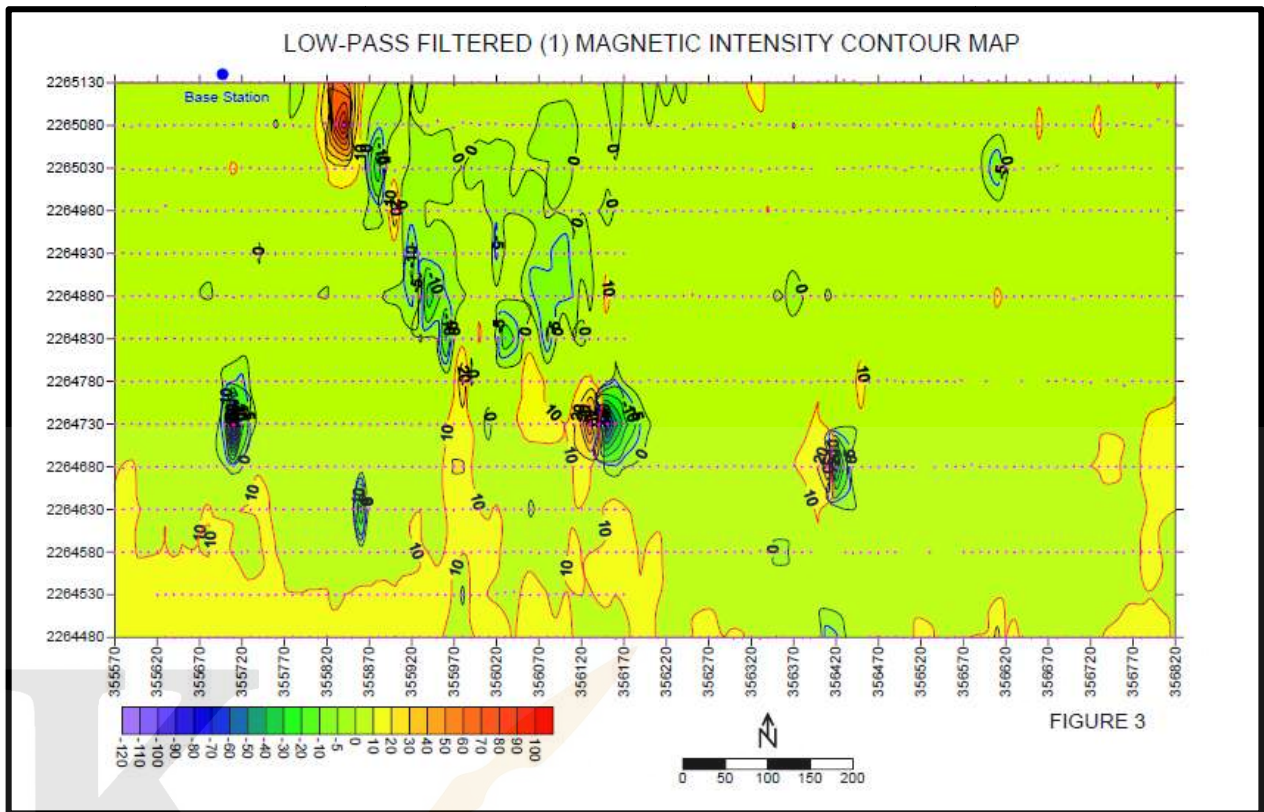
ΔZ : Vertical Intensity of ΔT

The Field magnetic data along the EW traverses are reduced to the base station, to get base reduced magnetic contour map (Figure 2).



The variation of the magnetic field is -80nT to 120nT, with highest values around the traverse 2265080N at 355820E. The magnetic trend in NW-SE alignment with magnetic 'low' over a strike length of 600m is noticed. In addition, such magnetic 'lows' are seen as small pockets spread over the map. The +10nT contour in the southern portion appears to be the demarcation of different lithological units. The magnetic 'low' may be representing the quartz intruded into the granite gneisses (country rock).

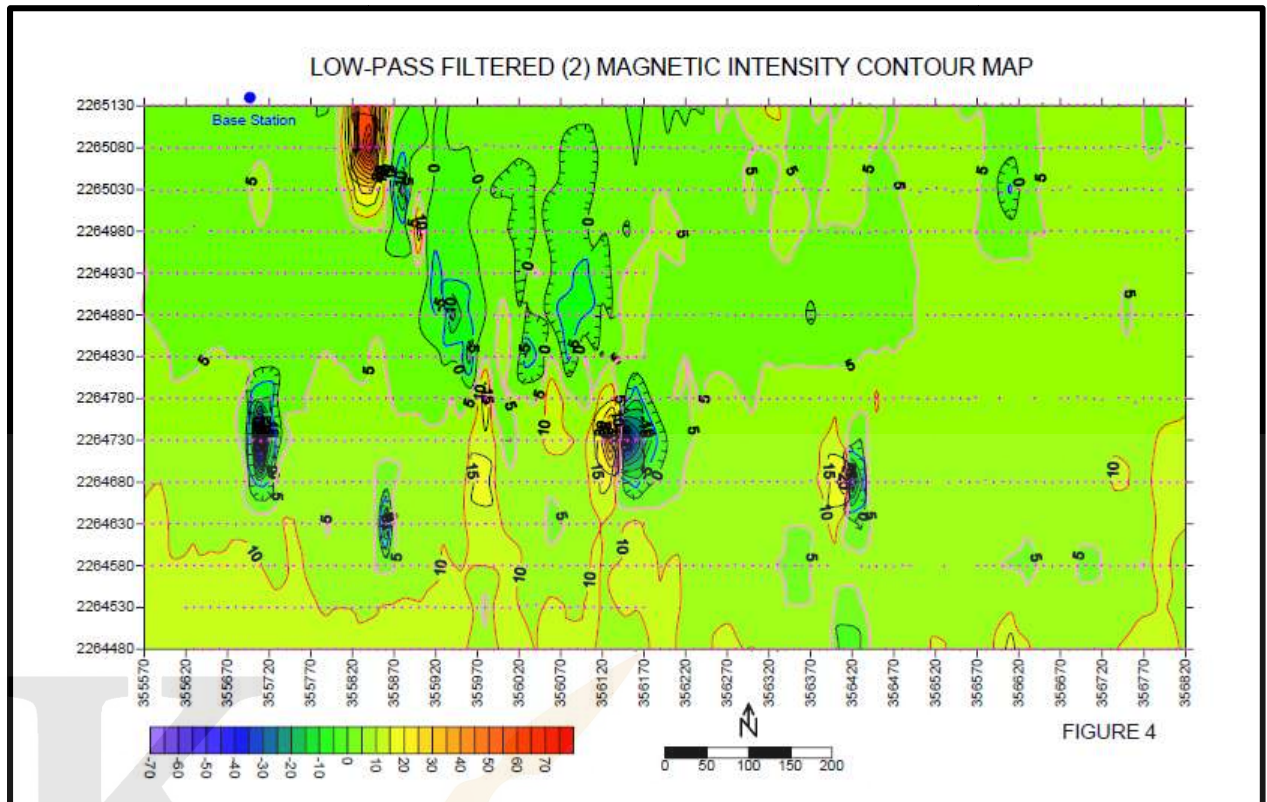
The noisy picture seen in Figure 2, must be representing the complex geological and structural disturbances in the area. The base reduced magnetic data is subjected to low-pass filtering and then cascaded for further smoothening. Now the maps are presented in figures 3 and 4.



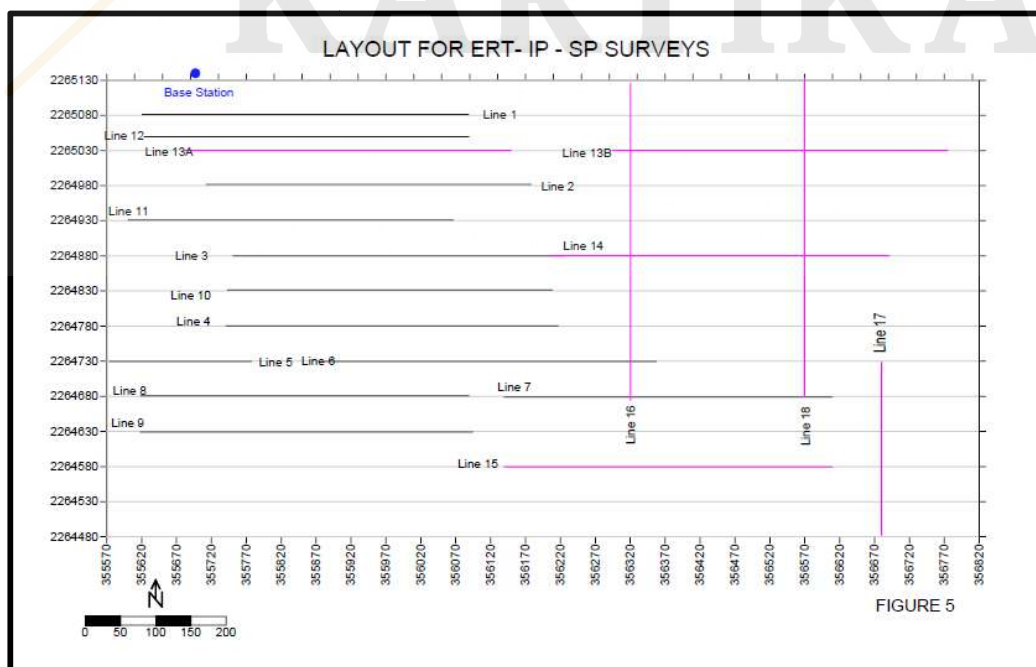
In Figure 3, the limited extension of the NW-SE trending shear zone is clearly seen. The southern boundary (10nT contour) is demarcated from the granite gneisses in the north part. The 'low' magnetic zones define the quartz veins, striking over 600m and at places confined to 50m to 100m.

The low-pass filtered data are further subjected to visualize the smoothened magnetic map (Fig.4). The magnetic values from zero (black colored contours hatched inside to the negative magnetic values in blue color) to 5nT (pink colored contour) and to 10nT (red color contour) from north to south demarcates the rock units and the shear zone distinctly.

It is reported that the old copper mine exposed in southeast of Govindpur comprising encrustation of malachite, cuprite and chalcocite are observed in silicified shear zone intruded within Bengpal gneisses of Archaean age.



For this purpose, electrical Resistivity Tomography (ERT) surveys are carried out along the same traverses of magnetic surveys. The nature of mineralisation and the narrowing shear zone which is expected to comprise the encrustations of malachite, cuprite and chalcocite within the silicified shear zone, are given special priority.



The layout of grid lines for ERT and IP surveys is separately shown in Figure 5. The grid is mainly concentrated across the silicified shear zone, trending in NW-SE direction. The distance of the surveys lines is 50m and station spacing of 10m throughout.

We deployed dipole - dipole array with the Advanced Geophysics Instrument **X620EM** 48 - Electrodes by **MAE**, Italy. Before acquiring actual field data, the instrument is tested for continuity of the cables and calibrated for all the channels. In case of flaw, it will be corrected before the acquisition of the actual field data.



The technical specifications of the unit are listed below:

ADC Technology	24bit Delta-Sigma ADC
Number of electrodes	24-48 (with 20 channels)
Array configurations	1D, 2D, 3D
Measurements	Self potential, resistivity, induced polarization
Dimension	40x33x17 cm
Weight	6.3kg
Export compatibility	RESinv, ERTlab, ZondRES, MAE
Roll-along function	Software controlled
Real-time pseudo section	1D, 2D and 3D
Case	IP67
Environmental condition	-20°C/90°C
Power supply	External 12V battery, suggested 100Ah
Average consumption	0.5A, up to 50A peak

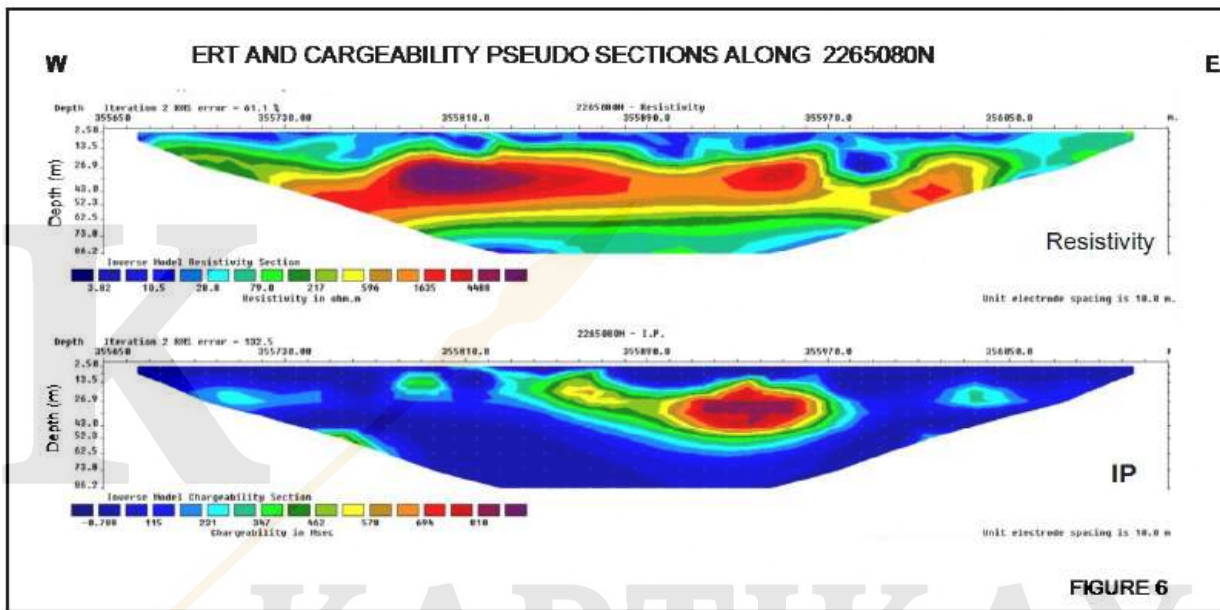
As mentioned above, the electrodes are connected to the console as shown below. The data are collected along each traverse and uploaded to the computer for further processing using the geo-scientific software **Res2dInv**.



Results and discussions

The low resistivity all along the traverse up to 10m to 20m indicate the overburden underlain by highly resistive granite gneissic rock, then followed by low resistive rocks.

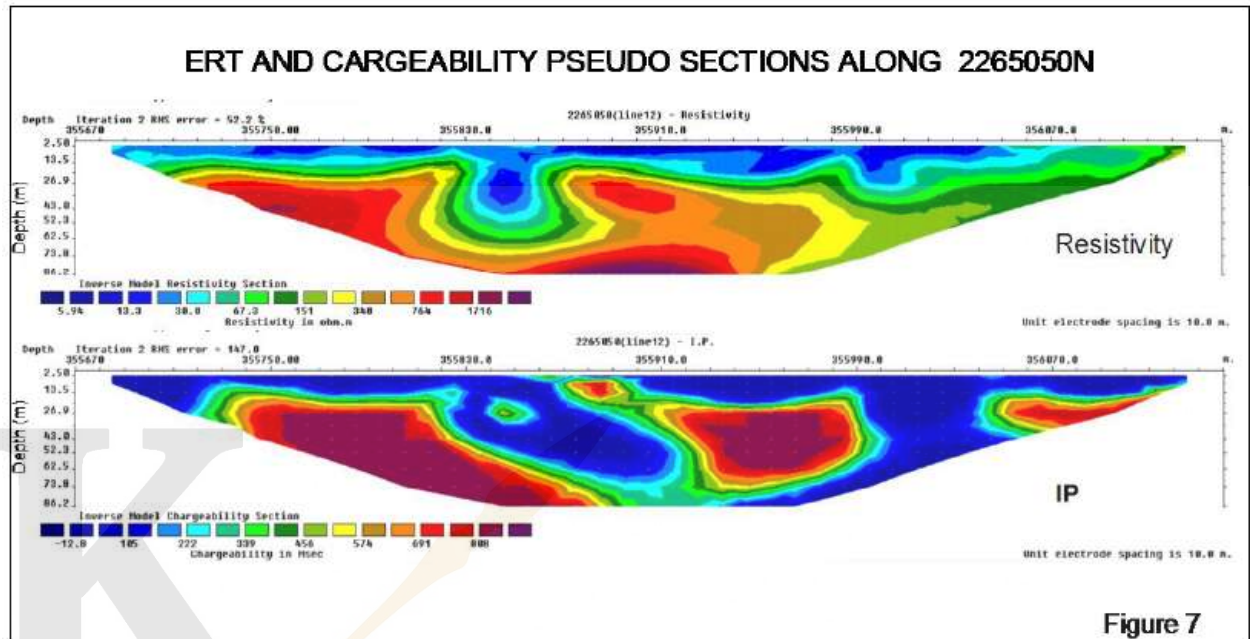
On the other hand, the chargeability section of the figure 6 suggests high chargeability



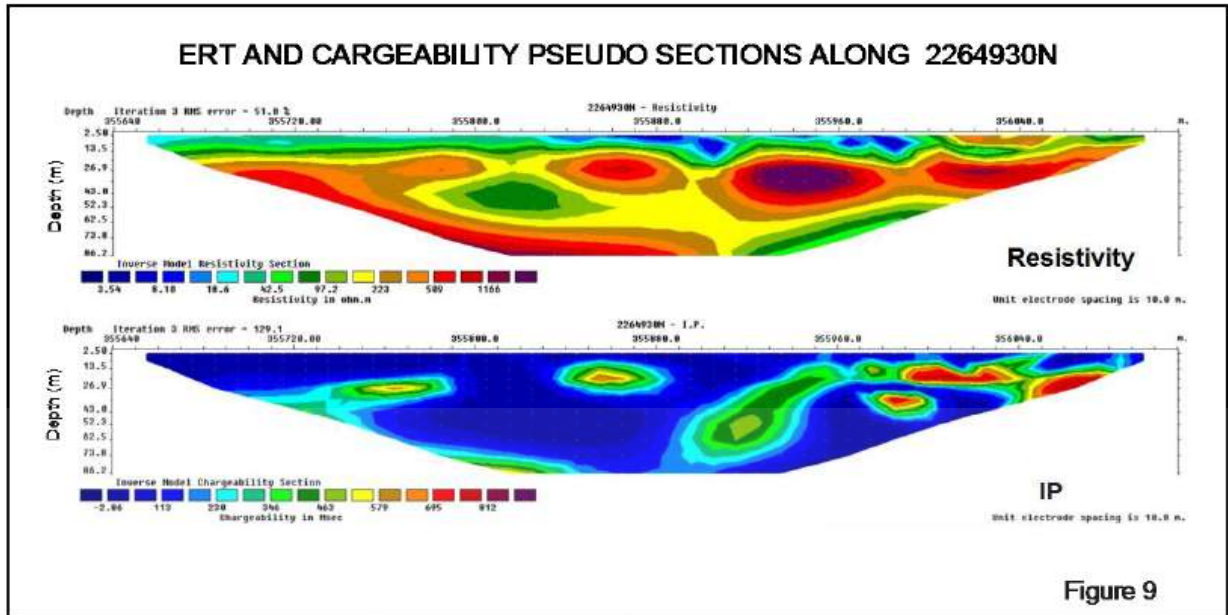
zones, more or less follows the high resistivity zone. The high Resistivity zones associated high chargeability values, should indicate quartz association with disseminated encrustation of malachite, cuprite and chalcocite are observed in silicified shear zone intruded within Bengpal gneisses.

Let us look at another section (Figure 7) through 2265050N. The overburden appears to be conductive as seen blue color of the resistivity section. The depression in the central portion around 355850E is

associated with high chargeability around 26m depth which needs further geological investigations.

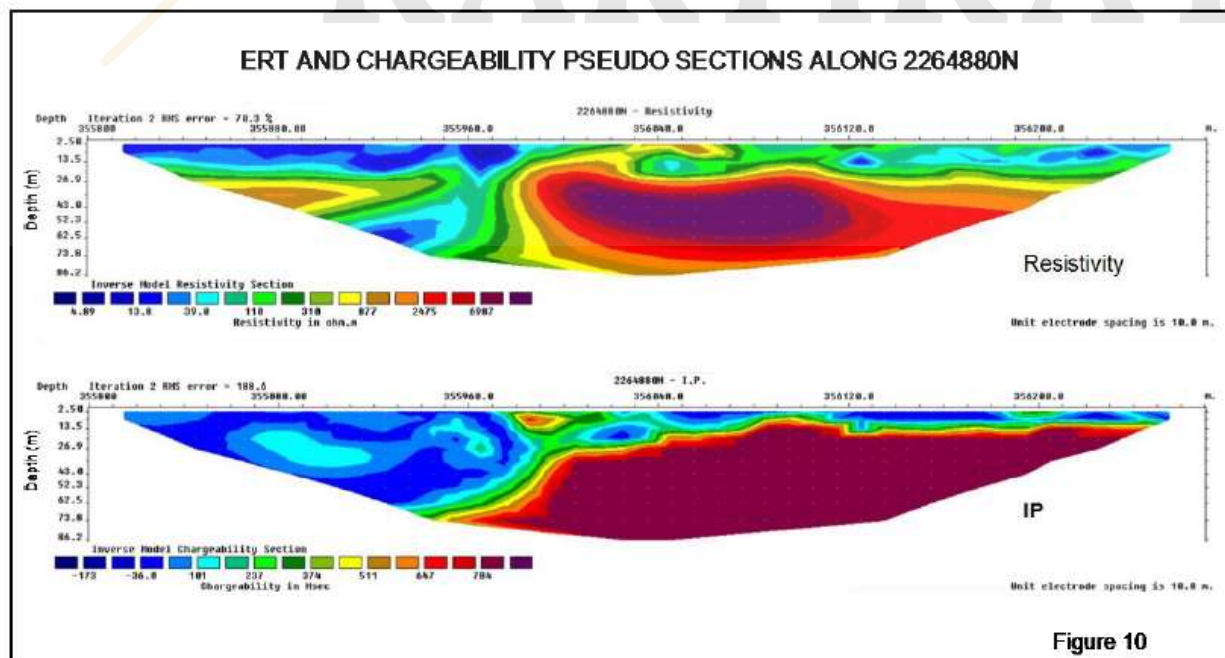


In this section the 'low' resistivity zone and 'high' chargeability zone seems to correlate around 355990E. The flat lying high resistivity and high Ma in both the sections is not clearly understood.



In this Psuedosections (Fig.9), pockets of 'high' chargeability more or less correlate with 'high' resistivity zones. Further geological inputs, from trenches or from drilling data substantiates our observation.

In the section along the traverse 2264880N below (Fig. 10), the high resistivity and high chargeability beyond 355980E and the presence of overburden both sections indicate the encrustation of copper rich zones.



The psuedosections, shown in figures 10 and 11, more or less indicate similar structural and mineralogical features. The 'high' & 'low' resistivity and Chargeability sections around the station 355980E need to be studied.

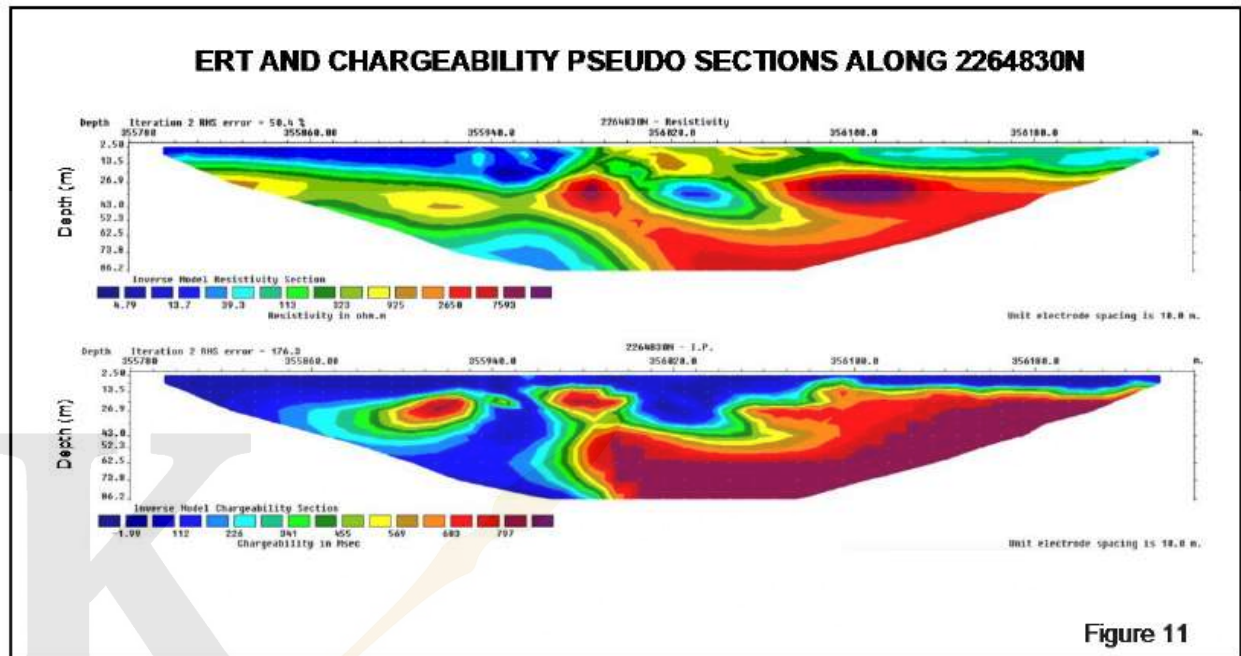
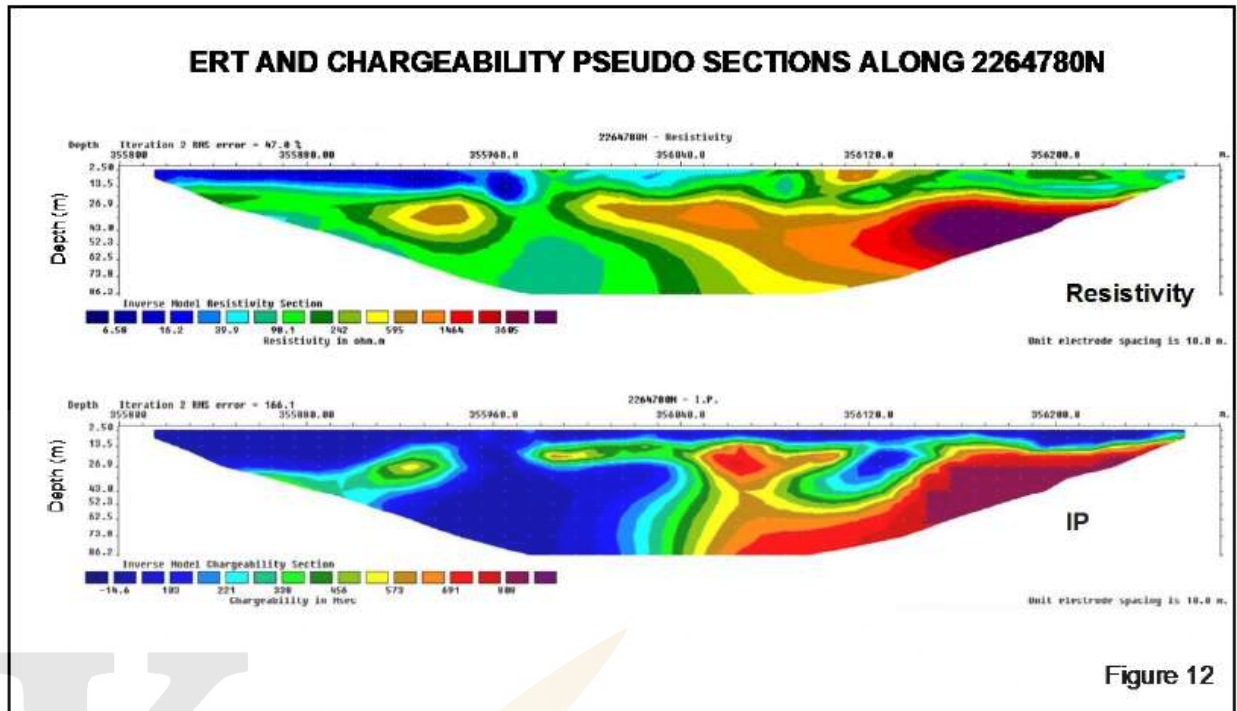
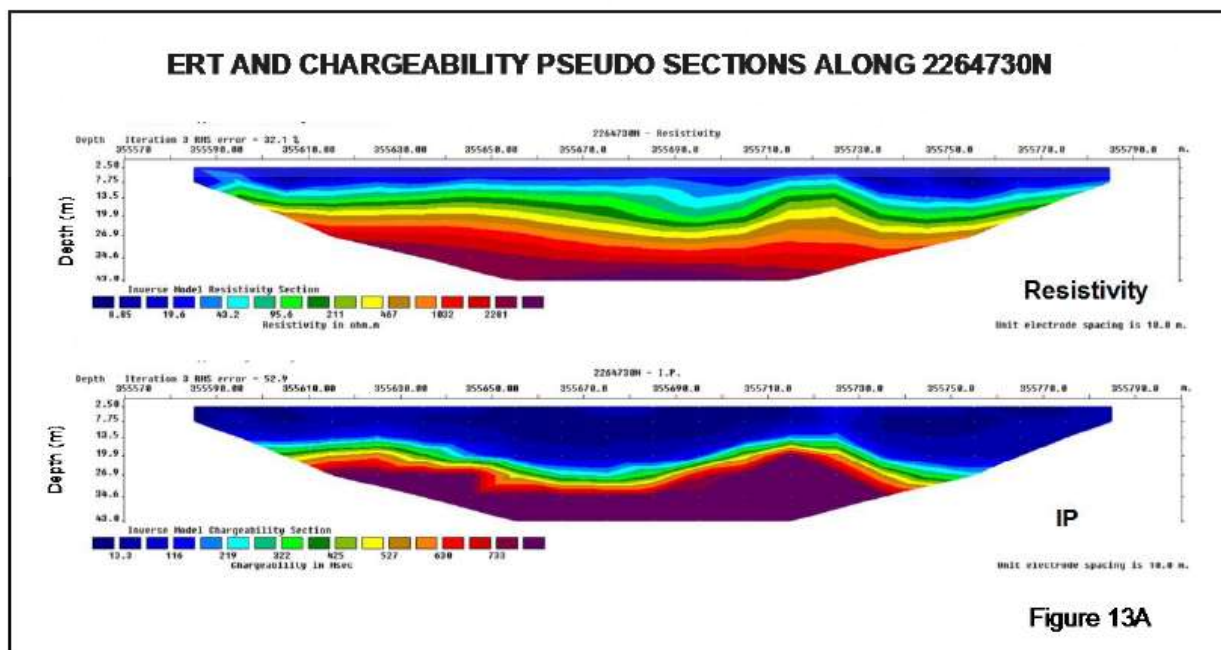


Figure 11

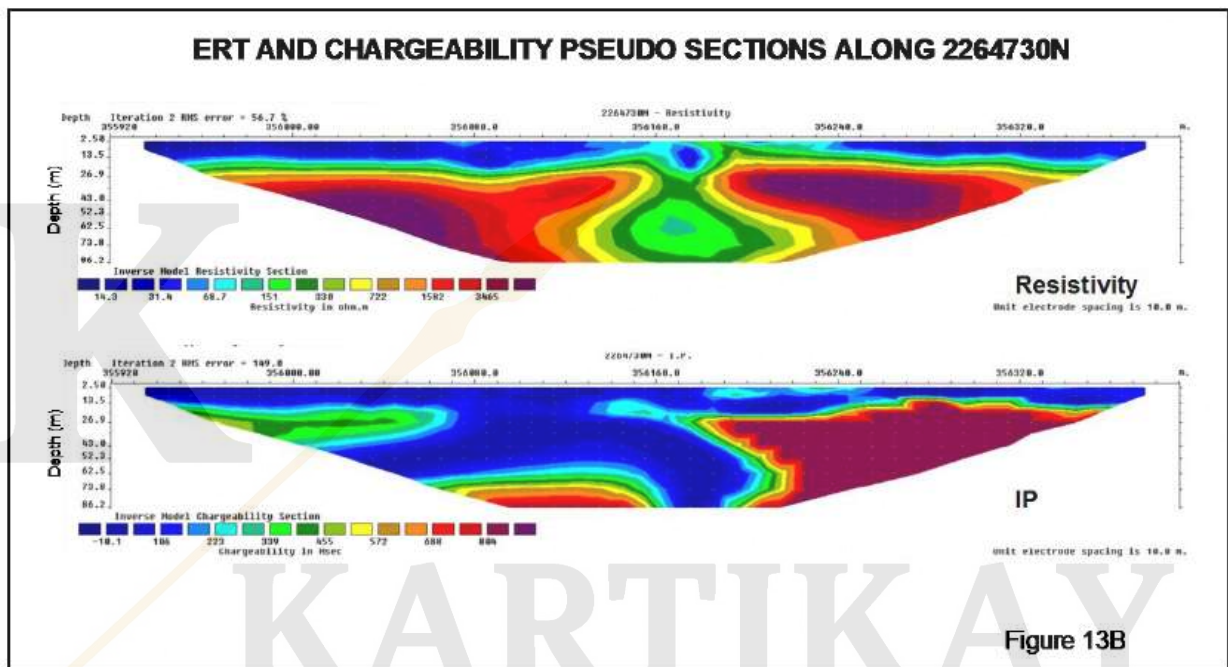
The inverted geo-electric resistivity and Chargeability psuedosections (Figure 12) along the traverse 2264780N also depicts 'low' resistivity and chargeability values in the overburden, around 355940E and 355990E 'high' chargeability and resistivity at a depths of 35m to 40m. There is no ground evidence of the sulfides at these locations and need to be studied critically.



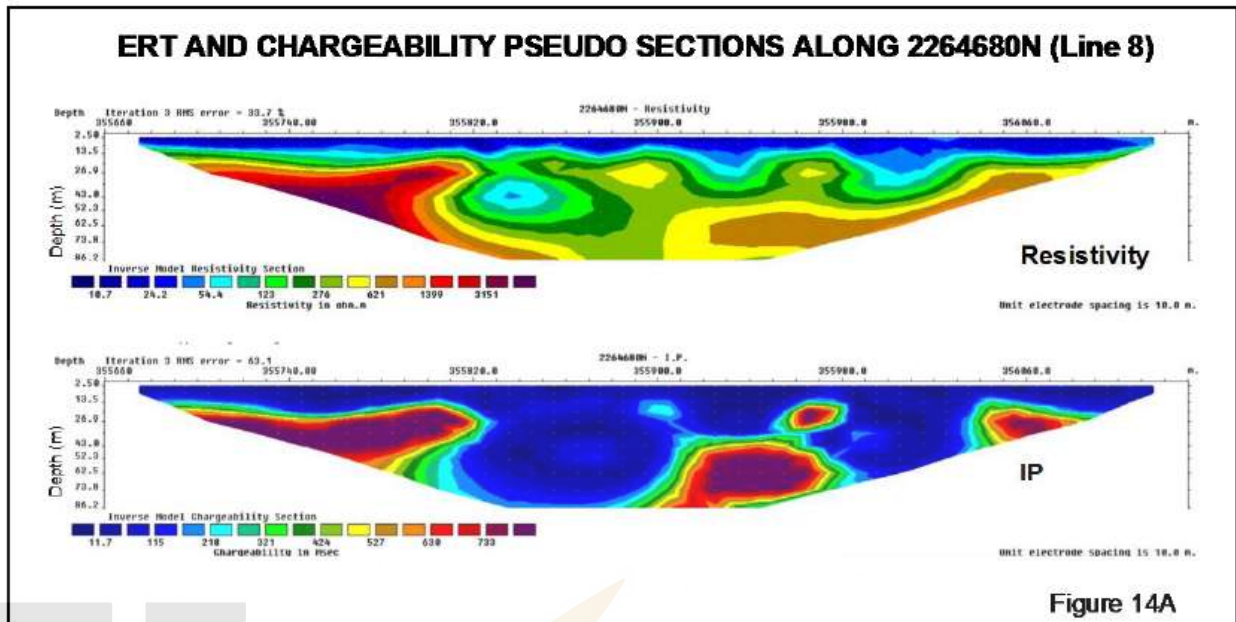
The resistivity and chargeability psuedosections along the traverse 2264730N is presented in Figure 13A. These psuedosections forms the Western part of the traverse 2264730N. The increasing resistivity and chargeability from ground level to depths with undulations in both the images suggest that the subsurface in this locality is structurally undisturbed.



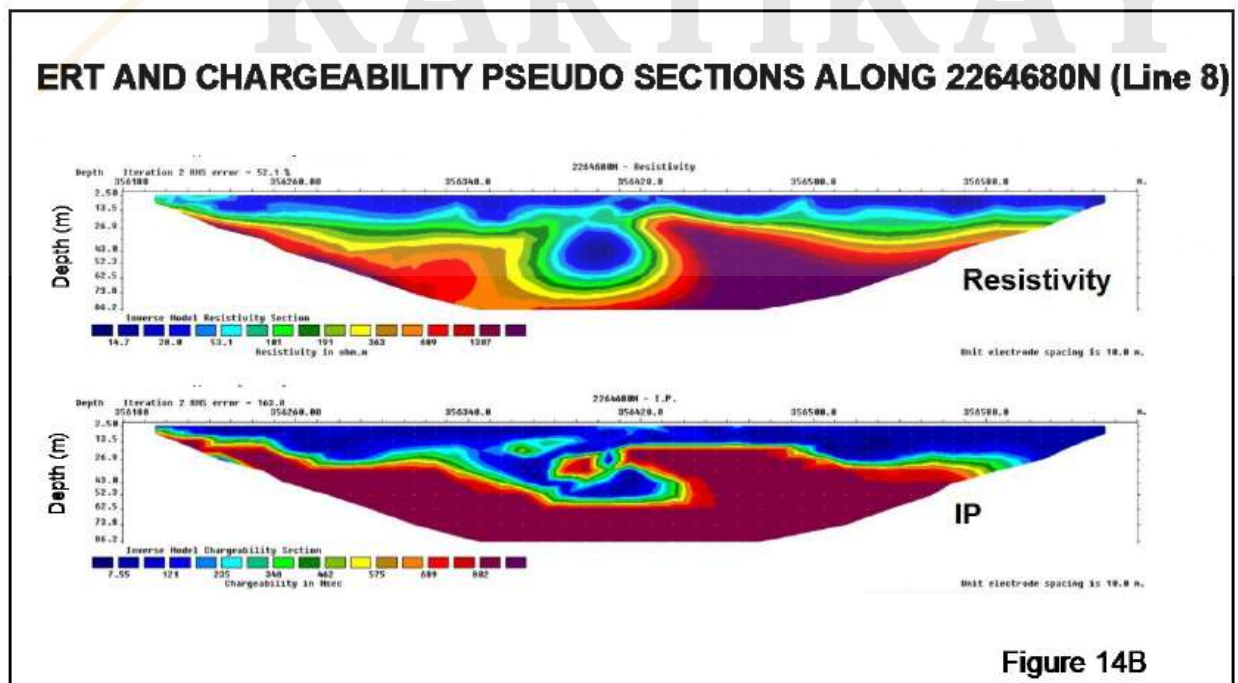
The resistivity and chargeability pseudosections along the Eastern part of the traverse 2264730N is presented in Figure 13B. In these sections, in addition to the 'low' resistivity and 'low' chargeability in the upper layers, the high resistivity zone around 356160E cut off and thrown down. This imprint is seen in chargeability section too. This behavior in the Eastern part opens up new ideas. Had this feature is noticed in the western part, wherein the silicified quartz is intruded into the shear zone, we could have accepted the presence of shearing.



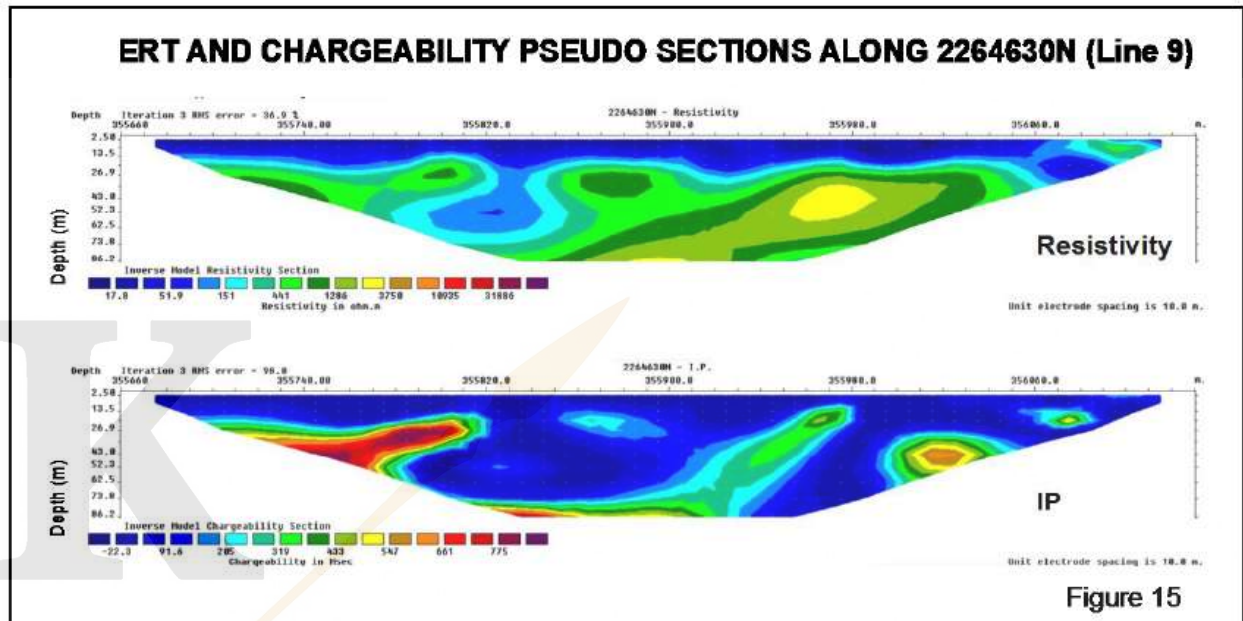
The ERT and Chargeability pseudo sections along the traverse 2264680N in the western part of the line 8 are shown in Figure 14A. The 'low' resistivity and 'low' chargeability is seen within the overburden. The nosing of the high resistivity and high



Chargeability around 355820E and 355980E suggests the faulting or shearing of the subsurface rocks. The ERT and chargeability pseudosections in the Eastern part of the traverse 2264680N (line 8), shown in figure 14B is also depicts similar features as in Figure 14A.



The ERT and chargeability psuedosections along the traverse 2264630N (Line 9) in the western part is presented in Fig.15. This picture is entirely different from that of Figure 14B, in the sense these two traverses are 100m apart, but the resistivity and chargeability values and the psuedosections are different.



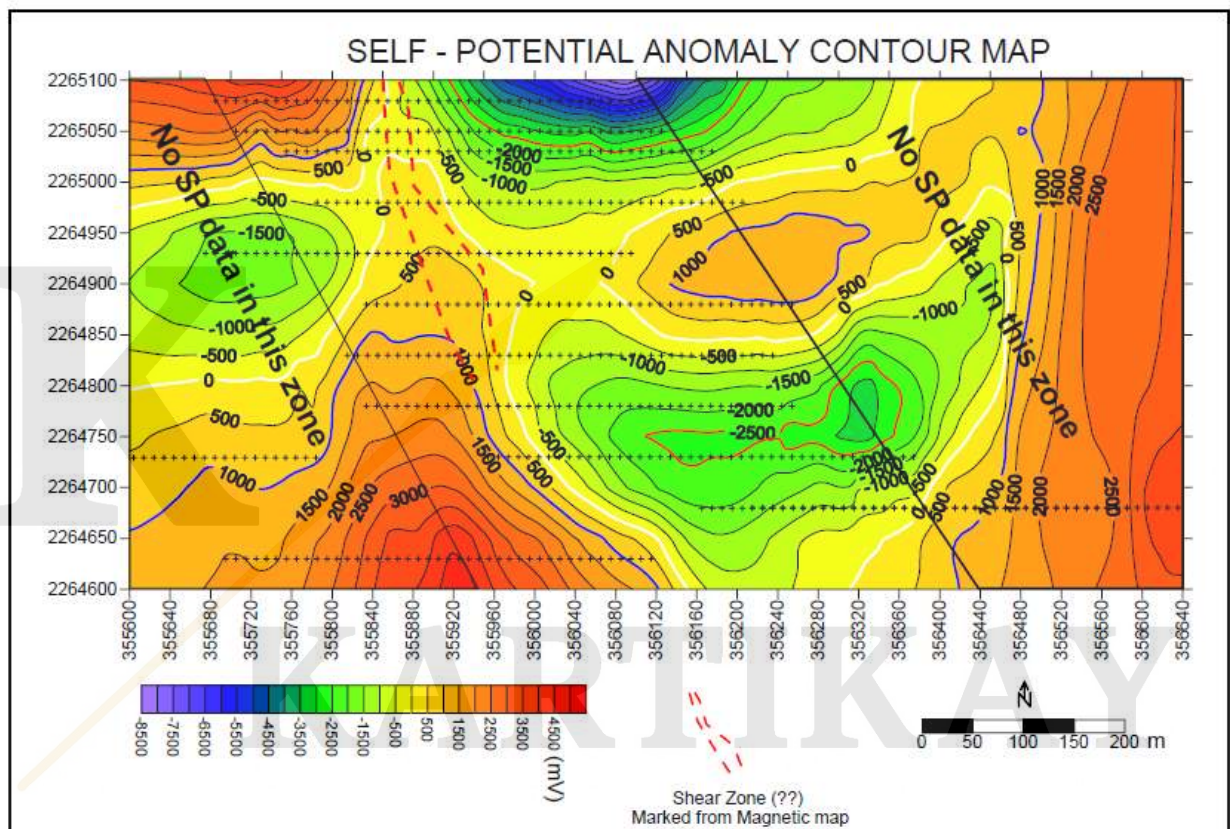
So far we have carried out ERT and IP data inversion along twelve traverses. Every psuedosections is different from each other. Malachite bearing quartz veins, the encrustation of malachite, cuprite and chalcocite, observed in silicified shear zone, could not yield concrete evidence from the psuedosections. We are not able to establish one to one correlation of resistivity/ chargeability with mineralisation. To establish the idea of disseminated sulfides in the area we need to carryout detailed geological studies.

Alternately Self potential surveys are carried out over the fracture zones in which method the massive sulfides can be located, assuming the important two conditions exists in the area under exploration:

1) the target must be partly exposed above the water table and partly immersed in the water table

2) we need to have large crystals to pass the conventional currents to generate potential difference.

The self potential anomaly contour Map given below is compared with the magnetic contour map.



The traverses on which SP surveys can be carried out, in particular in the vicinity of the well established shear zones in which the sulfide mineralisation along with silicified quartz noticed. The SP values varies from +4500mV to -8500mV. The Red, white and blue colored contours are -2500mV, 0 and 1000mV respectively highlighted. The dashed red lines are shear zones marked in the low-pass filtered magnetic anomaly contour map posted on the SP contour map. There are three zones of SP anomaly marked: Very high SP values, intermittent values and very low SP values.

The 'zero' contour separates these three zones and the magnetic map (Figure 4) also separates these ones. The NW-SE trending shear zone continues for almost 300m to 350m. The variance in the high – intermittent – low SP values is attributed to the lithological changes of the surficial to sub-surface rocks.

Now the other traverses (in pink color), were taken to study the effect of magnetic, ERT, Chargeability and SP signatures across the feeble or spot 'low' values. The staked profiles of these parameters along the traverses 2265030N (Lines 13A & 13B), 2264880N (Line 14), 2264580N (Line 15), 356320E (Line 16), 356670E (Line 17) and 356570E (Line 18) are presented below in figures 16A, 16B, 17, 18, 19, 20 and 21 respectively. In all these figures there is no point to point correlation of the signatures verses the parameters.

**STACKED PROFILES OF LOW PASS FILTERED MAGNETIC,
RESISTIVITY, CHARGEABILITY AND SELF POTENTIAL ALONG 2265030N**

2265030N

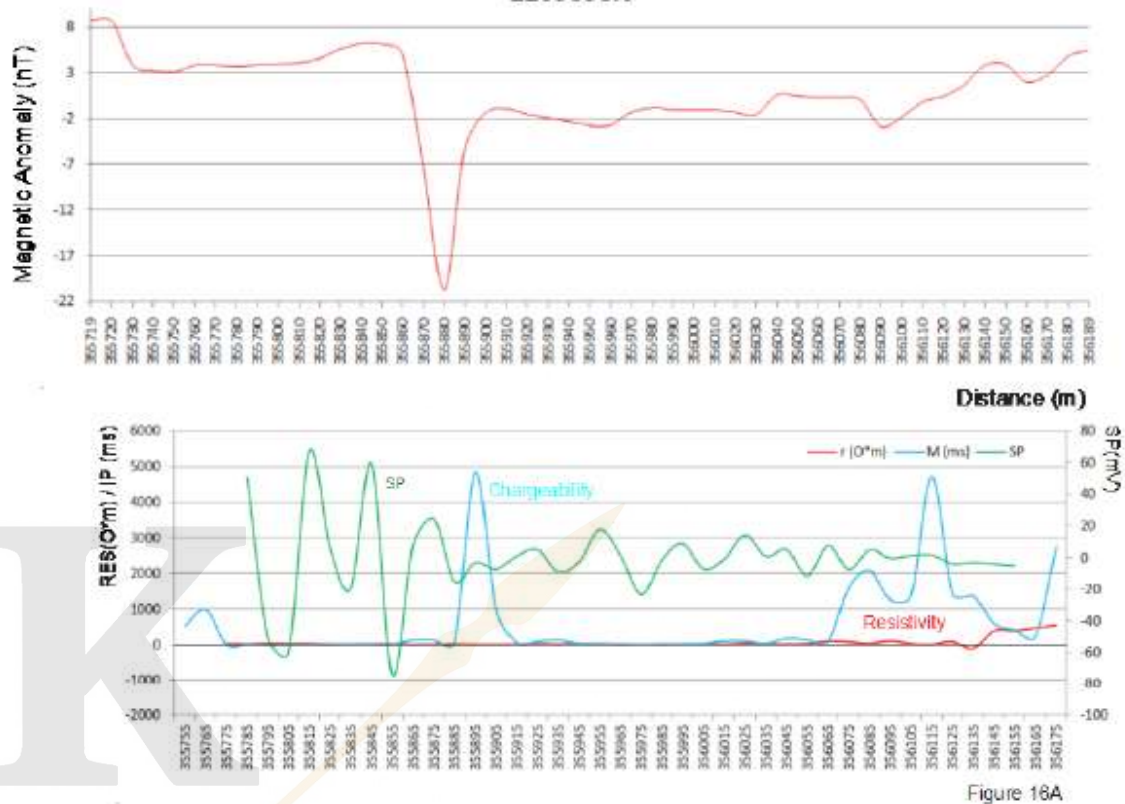


Figure 18A

**STACKED PROFILES OF LOW PASS FILTERED MAGNETIC,
RESISTIVITY, CHARGEABILITY AND SELF POTENTIAL ALONG 2265030N**

2265030N

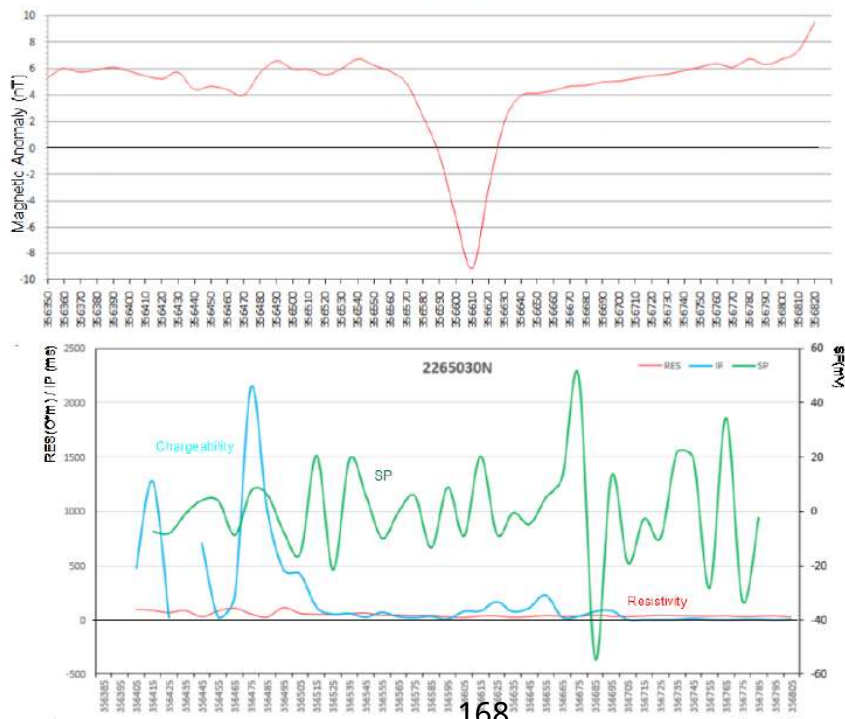
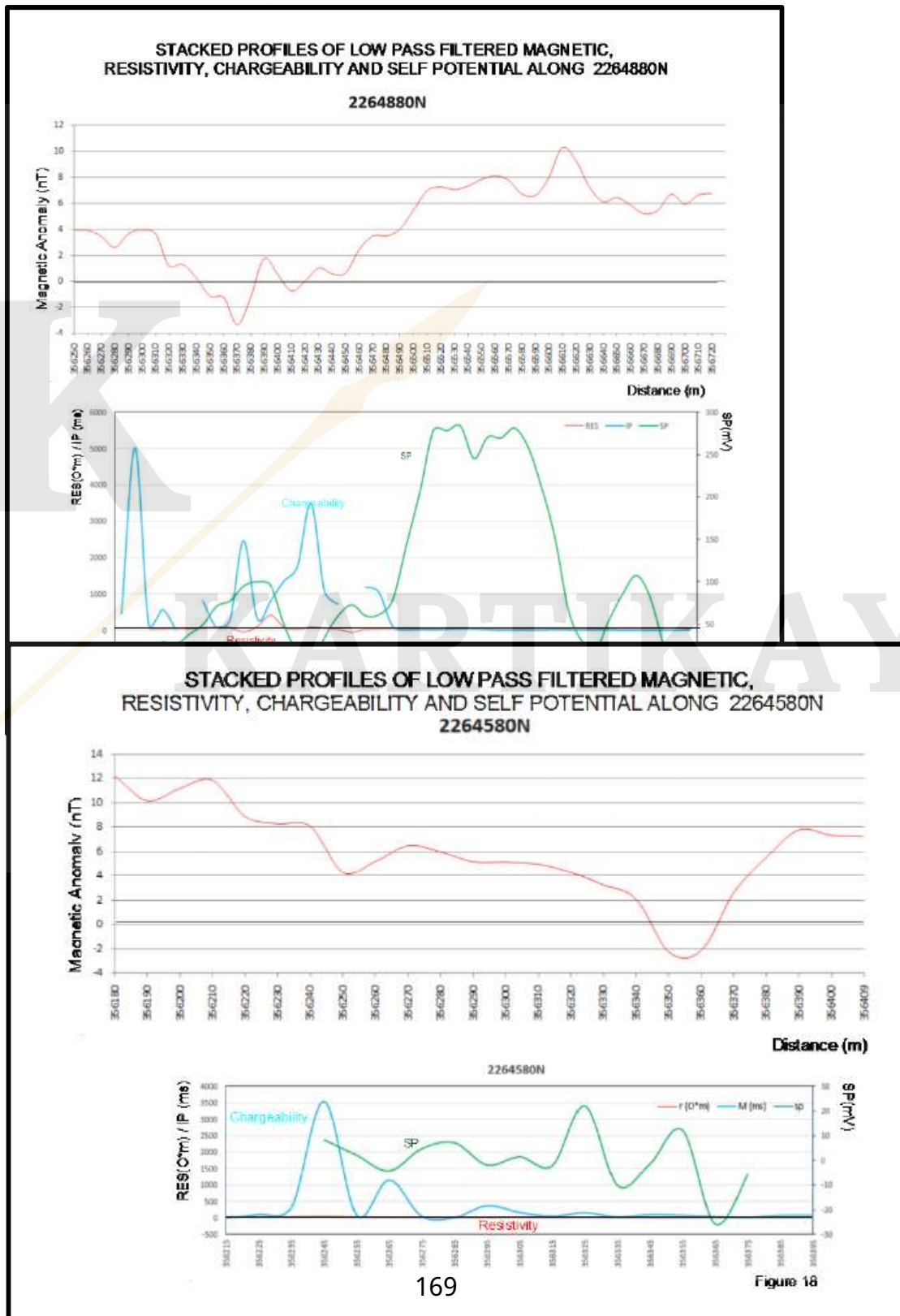


Figure 16B



**STACKED PROFILES OF RESISTIVITY, CHARGEABILITY
AND SELF POTENTIAL ALONG 356350E**

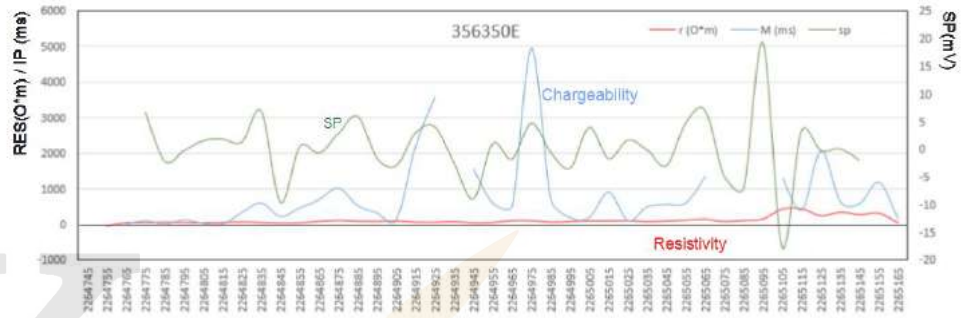


Figure 19

**STACKED PROFILES OF RESISTIVITY, CHARGEABILITY
AND SELF POTENTIAL ALONG 356610E**

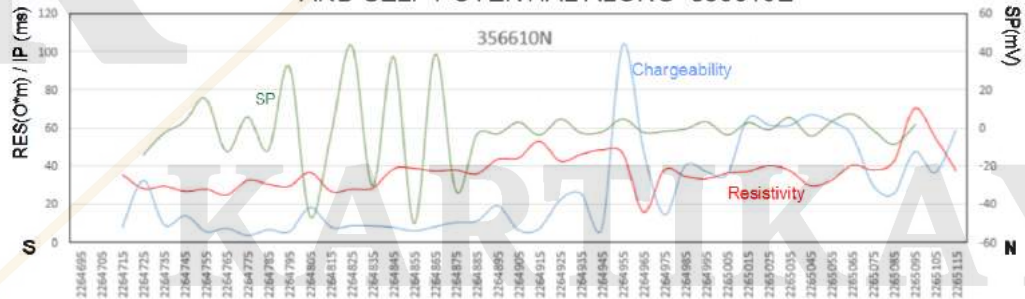
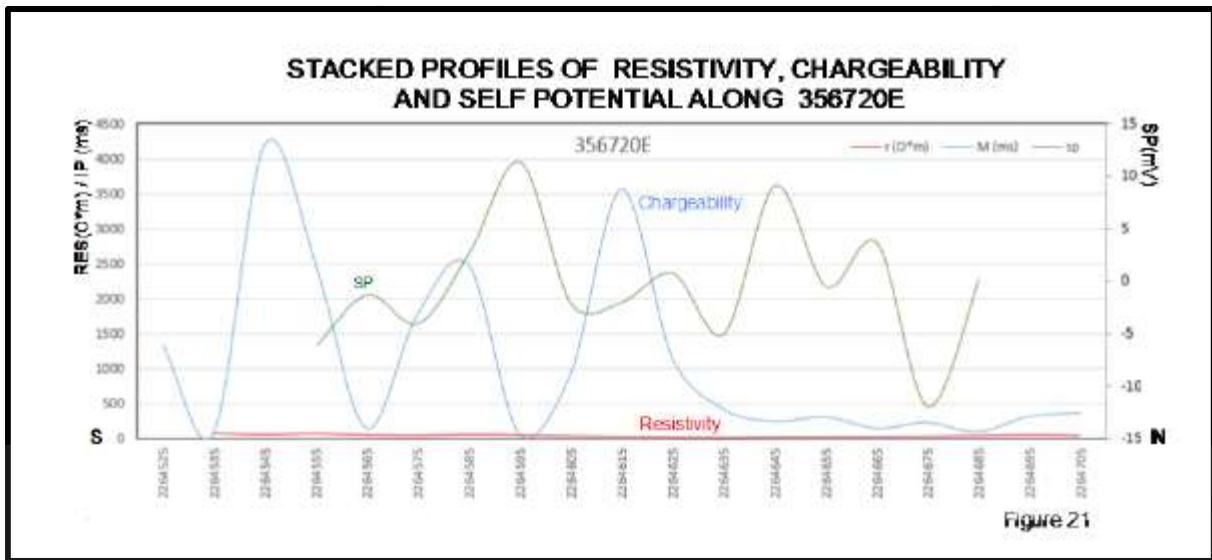


Figure 20



Conclusions

Geophysical surveys comprising magnetic, ERT, Induced polarization and Self-potential methods are carried out at Chadrapur – Govindpur area to locate the silicified quartz bearing malachite, cuprite and chalcopyrite minerals in the fractures/shear zones with the granite gneissic rocks. The data are carefully processed and the following observations are made:

1. Magnetic anomaly values are very feeble, is of the order of -5nT to 15nT representing the local geology that is granite gneissic rocks.
2. Due to the structural disturbances, there is a conspicuous shear zone with relatively strong negative anomaly trend in NW-SE direction, over a strike length of 350m-400m associated with the silicified encrustations of malachite, cuprite, chalcocite and chalcopyrite.
3. The ERT, Induced Polarization and SP surveys are carried out to locate the massive sulfide deposits whose manifestation of the disseminated nature is observed at the surface and in parts mining was also carried during 2010.

4. There is resistivity 'high' and chargeability 'high' at places certainly not continuously, there is no line to line correlation though it was reported earlier. Similarly the SP values are varying heavily from line to line.



**Government of India
Ministry of Mines
National Mineral Exploration Trust**

File No. 23/490/2024-NMET/ 284

New Delhi, 21st Aug, 2024

OFFICE MEMORANDUM

Subject: Approval of mineral exploration project to be executed by M/s Kartikay Exploration and Mining Services Pvt. Ltd. (Preliminary Exploration (G-3) for Copper and associated Mineralization in Govindpur Block (0.83 sq.km.), Chandrapur District, Maharashtra) through NMET fund.

Agency: M/s Kartikay Exploration and Mining Services Pvt. Ltd.

On the recommendation of the Technical-cum-Cost Committee (TCC) in its 65th meeting held on 28th, 29th and 31st May, 2024, the Secretary, Mines and Chairman, Executive Committee (EC) of NMET approved the mineral exploration projects of M/s Kartikay Exploration and Mining Services Pvt. Ltd. through NMET fund as per following details:

S. No	Project/Block Name	Agency	Duration (Months)	Approved Cost (₹ Including GST)
1	Preliminary Exploration (G-3) for Copper and associated Mineralization in Govindpur Block (0.83 sq.km.), Chandrapur District, Maharashtra.	M/s Kartikay Exploration and Mining Services Pvt. Ltd.	8 (Up to 20.04.2025)	1,26,07,813/-
Total (Rupees One crore twenty six lakh seven thousand eight hundred thirteen only)				₹1,26,07,813/-

2. M/s Kartikay Exploration and Mining Services Pvt. Ltd. shall submit progress on monthly basis to NMET Secretariat. The TCC, NMET shall review the progress of project and provide update to the Executive Committee enclosed in **Annexure**, as summarized below:-

- **Field Mobilization** : 1st month (up to 20.09.2024).
- **Exploration** : 1nd to 7th month (up to 20.03.2025).
(Survey, Geophysical data and :
Report writing, DGPS Survey,
Camp winding, Drilling and
sampling)
- **Laboratory Studies** : 6th month to 7th month (up to 20.03.2025)
- **Report Writing with Peer: Review and submission to NMET** : 7th month to 8th (up to 20.04.2025)

3. M/s Kartikay Exploration and Mining Services Pvt. Ltd. shall complete the project as per the above terms.

4. Further, as per clause 3.2(viii) of the Office Memorandum no. 6/3/2015-NMET/380 dated 12th December 2023 regarding Mode of engagement of Notified Private Exploration Agencies and funding by NMET for exploration of Critical and Strategic Minerals, NPEA may avail mobilization advance (up to 30% of the approved project cost) upon submission of Bank Guarantee (BG, including e-bank guarantee) of equal value of advance to NMET.

Yours faithfully,



(Geetika Sharma)

Deputy Secretary & HoD, NMET

Copy for information and further necessary action

1. M/s Kartikay Exploration and Mining Services Pvt. Ltd., Bhaskar Tower, Temple Road, Near MLA Hostel, Civil-Lines, Nagpur- 440001 Maharashtra India.
2. Dr. S. Ravi, Dy. Director General and Chairman ,TCC-NMET, Geological Survey of India, SU: Karnataka & Goa, Bangalore-560078.
3. I.F. Division, Ministry of Mines, Shastri Bhawan, New Delhi.
4. Executive Committee (EC) Meeting file (F.No.6/2/2015-NMET)
5. Grant-in aid Sanction order file.



KARTIKAY

Estimate cost for Preliminary Exploration (G3) for Copper & Associated mineralisation in Govindpur block, Chandrapur District of Maharashtra. [Block area-0.83 sq.km; Drilling:500m (spacing :100m) Nos. of Borehole-4; Borehole depth range- upto 150m;Schedule timeline-8 months, Review after 4 months]

S.No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC- Item-SI No.	Rates as per SoC	Qty	Amount (Rs)	
1	SURVEY WORK						
	GEOLOGICAL WORK - upgradation of detailed geological map						
i	Charges for one Geologist per- HQ	day	1.5.1a	9,000	30	2,70,000	
	Charges for one Geologist per- HQ	day	1.5.1a	9,000	0	0	
i	Charges for one Geologist- Field	day	1.5.1a	11,000	90	9,90,000	
ii	Charges for one Geologist- Field	day	1.5.1a	11,000	0	0	
iii	1 labours / party (Rs 504/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	180	93,960	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt whichever is higher
iii	1 labours / party (Rs 504/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	0	0	0	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt whichever is higher
iv	CoreSampling-1Samplers Labour charge not included	day	1.5.2	5,100	25	1,27,500	

P. Parathi
14/6/2024

San
14/06/2024

v	4 labours/ party (Rs 504/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	240	1,25,280	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt.whichever is higher
SubTotal-A						16,06,740.00	
	GEOPHYSICAL SURVEY						
	IP cum resistivity, Sp, magnetic- 10 line km	8-10 Line km	3.4b	1448693	1	14,48,693.00	
	Tendering cost					0	
	operational cost					0	
D	DRILLING						
i	Drilling upto 300m (Hard Rock)(1rigs) HQ Size	m	2.2.1.4a	11,500	500	57,50,000	After outcome of geophysics , pitting/trenching
ii	Land/Crop Compensation	Per BH	5.6	20,000	4	80,000	Amount will be reimbursed as per actuals or max.Rs.20000perBHwithcertificationfrom localauthorities
iii	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	4	8,000	
iv	Transportation of Drill Rig & Truck associated per Drill	Km	2.2.8	36	500	18,000	Certification in this regard is required to be provided. To and fro from Nagpur to Chandrapur
v	Monthly Accommodation Charges for drilling Camp (upto 1Rig)	month	2.2.9	50,000	4	2,00,000	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
vii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
	Borehole plugging by Concrete	Meters		0	400	0	
	Drill core preservation	per m	5.3	1590	200	3,18,000	
	Core Boxes Transportation	Km		0	400	0	
	Trenching (8x1x2) x 10	Cu m	2.1.1	3330	160	5,32,800	
ix	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	0.5	11,010	Road Making will be considered as per the requirement and Road Making

Parathi
14/6/2024

Sanu
14/06/2024

							Charges will be reimbursed for max. 4km.
x	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and By DGPS	Nos	1.6.2	19,200	8	1,53,600	*4 Boreholes and 4 corners of Block
	SubTotal-B					75,71,410.00	
E	LABORATORY STUDIES						
1	Chemical Analysis						
i	Primary & Check samples for -AAS method						
	a.Primary Samples for 8 radical (Pb, Cu, Zn, Co, Ni, Ag, As & Au)	Nos	4.1.7a+7 b	3511	180	6,31,980	100 trenching, BH : 80
	b-External (10%) Check samples for 8 radical (Co, Pb, Zn, Co, Ni, Ag, As & Au)	Nos	4.1.7a+7 b	3511	18	63,198	
ii	Composite samples for Copper					0	
	a.Composite Samples for 8 radical (Co, Pb, Zn, Co, Ni, Ag, As & Au)	Nos	4.1.7a+7 b	3511	0	0	
2	Physical & Petrological Studies					0	
i	Preparation of thin section	Nos	4.3.1	2,353	5	11,765	
ii	Complete petrographic study report	Nos	4.3.4	4,232	5	21,160	
iii	Preparation of polished section	Nos	4.3.2	1,549	5	7,745	
iv	Complete mineralogical study report	Nos	4.3.4	4,232	5	21,160	
v	Digital Photographs	Nos	4.3.7	280	5	1,400	
vi	Whole Rock Analysis (Major oxide)	Nos	4.1.15a	4200	5	21,000	
	SubTotal-C					7,79,408.00	

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F	Total A to C					99,57,558	
G	Geological Report Preparation		5.2	iii		4,97,878	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
H	Peer review Charges		As per EC decision			30,000	
I	Preparation of Exploration Proposal (5 Hard copies with a soft copy)	5 Hardcopies with a soft copy	5.1	2% of the Cost or Rs.5 Lakhs whichever is lower		1,99,151	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan a suggested by the TCC-NMET in its meeting while Clearing the proposal.
J	Total Estimated Cost without GST					1,06,84,587.06	
K	Provision for GST (18%ofI)					19,23,225.67	GST will be reimburse as per actual and as per Notified prescribed rate
L	Total Estimated Cost with GST					1,26,07,812.73	
M	Rs. In Lakhs					126.08	
Note:							
1	Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.						
2	In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.						
3	If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certifiате regarding non outsourcing of any component/project is required.						
4	Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.						
5	Any item of work not mentioned above shall be added as per SoC.						

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Time Schedule/ Action Plan for Preliminary Exploration (G3) for Copper & Associated mineralisation in Govindpur block, Chandrapur District of Maharashtra.

S.No.	Description	Months/Days	1	2	3	4	Review	5	6	7	8
1	Camp Setting	days									
2	Geophysical Survey(10 Lines)	month									
3	Processing of Geophysical data and Report Writing	Month									
4	Trenching and Preperation of Geological plan by Correaltion of Geophysical data	days									
5	Preperatory Work for Review by NMET	days									
6	DGPS Survey day	days									
7	Drilling(1rig)	months									
8	Sampling days	months									
9	Camp winding	days									
10	Laboratory Studies	months									
11	Report Writing with Review	months									

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Agenda 83.4.8. Reconnaissance Survey (G-4) for REE & RM (Sc, Nb) mineralization in Samalpatti Block (28.5 sq.km), Krishnagiri District, Tamil Nadu.

[Implementing Agency: KIOCL]

- KIOCL informed that the project was approved in the 38th EC Meeting held on 29th November, 2024. The Sanction Order was issued on 13th December, 2024 with timeline of 10 months (up to 12.10.2025) and approved cost was Rs. 132.12 Lakhs/-.
- The agency apprised the committee that scout drilling in two boreholes was completed up to 30 m vertical depth, but the results were not encouraging, with no carbonatite encountered at depth.
- The agency also informed that the REE values in the adjoining syenite were, however, found to be encouraging.
- The committee reviewed the progress of work and suggested the agency to come for another review in the 85th TCC-1 meeting with complete data to take a final decision on closure.
- Analysis of other trace elements should also be presented in upcoming review.
- The timeline has been extended up to December 31, 2025.

Recommendations of TCC-1:

The committee approved timeline extension of 2.5 months upto 31.12.2025 for completion of project.

Agenda 83.4.9. Preliminary Exploration (G3) for Copper and Associated minerals in Govindpur Block, Chandrapur district, Maharashtra.

[Implementing Agency: Kartikay Exploration and Mining Services Pvt. Ltd.]

- The agency informed that the project was approved in the 36th EC Meeting held on 29th July, 2024. The sanction order was issued on 21st August, 2024 with timeline of 8 months (up to 20.04.2025) and approved cost was INR 1,26,07,813/-. Timeline extension upto 20.07.2025 and 31.10.2025 was approved in 76th TCC-I and 1st PSC meetings respectively.
- The item was reviewed in the 81st TCC meeting, and the agency was advised to submit a revised cost sheet. Work could not be completed fully due to the non-receipt of Forest Clearance (FC).
- The agency informed the committee that the peer review of the report has been completed, and it is ready for submission.
- The agency apprised the committee that the Detailed Mapping (DM) has been fully achieved, while trenching and drilling could not be completed owing to the pending FC.
- The committee reviewed the work and opined that the chemical analyses of trench, channel, and drill core samples have not shown encouraging values.
- The agency was advised to submit all relevant documents to NMEDT for ratification.
- The cost revision was discussed.
- The timeline was extended upto November 30, 2025 for submission of the final GR to NMEDT and uploading the report on the NGDR portal.

Recommendations of TCC-1:

The item is recommended to PSC for revision of cost from Rs. 143.17 lakh to Rs. 63.61 lakh with a change in amount of (-) Rs 79.56 lakhs (~55.58 % de-escalation) as per Annexure 3. The committee also recommended timeline extension of 1 month upto 30.11.2025 for final submission of GR.


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Annexure 3

Revised cost for Preliminary Exploration (G3) for Copper and Associated minerals in Govindpur Block, Chandrapur district, Maharashtra.

S.No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Approved Quantum		Achieved Quantum		Remarks
			SoC- Item-SI No.	Rates as per SoC	Qty.	Amount (Rs)	Qty.	Amount (Rs)	
A	SURVEY WORK								
1	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and By DGPS	Nos	1.6.2	19,200	8	1,53,600	5	96,000	1 Boreholes and 1 base station and 4 corners of Block
	GEOLOGICAL WORK					0			
	Charges for One Geologist for-Field	Per day	1.5.1a	11,000	90	9,90,000	90	9,90,000	
	Charges for One Geologist for-HQ	Per day	1.5.1a	9,000	30	2,70,000	30	2,70,000	
	1 labours / party (Rs 526/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	180	93,960	160	83,520	
	CoreSampling-1Sampler	Per day	1.5.2	5,100	25	1,27,500	12	61,200	
	4 labours/ party (Rs 526/day/labour) (As per rates of Central Labour Commissioner)	Per day	5.7	522	240	1,25,280	120	62,640	
	SubTotal-A					17,60,340		15,63,360.00	
B	GEOPHYSICAL SURVEY								
	IP cum resistivity, SP, Magnetic-10 Lkm	8-10 Lkm	3.4b	1448693	1	1448693	1	14,48,693.00	
	Trenching (8*1*2)	Cu m	2.1.1	3330	160	532800	80	2,66,400	Depth 2m
	DRILLING					0			
i	Drilling upto 300m (Very hard Rock)(2 rigs) HQ Size	m	2.2.1.5a	11,500	500	5750000	61	7,01,500	

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	Land/ Crop compensation	Per BH	5.6	20,000	4	80000	1	20,000	
	PILLARING					0			
iii	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	4	8000	1	2,000	
iv	Transportation of Drill Rig & Truck associated per Drill (1 DRILL RIGS)	Km	2.2.8	36	500	18000	260	9,360	The distance to & Fro Nagpur to Govindpur block.
v	Monthly Accommodation Charges for drilling Camp (upto 1Rigs)	month	2.2.9	50,000	4	200000	1	50,000	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	250000	1	2,50,000	
vii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	250000	1	2,50,000	
	Approach Road Making (Flat Terrain)	Km	2.2.10b	22,020	1	11010	0.5	11,010	
	SubTotal-B					8548503		30,08,963.00	
C	LABORATORY STUDIES								
	Primary and Check samples for AAS method								
1.1a	Primary samples for 8 radicals (Pb,Cu,Zn,Co,Ni,Ag,As,& Au)	Nos.	4.1.7a+7b	3511	180	631980	49	1,72,039.00	
1.1b	Check samples (Pb,Cu,Zn,Co,Ni,Ag,As,& Au)	Per Sample	4.1.7a+7b	3511	18	63198	5	17,555	
	Petrographic studies					0			
	Preparation of thin sections	Per Sample	4.3.1	2353	5	11765	3	7,059	
	Study of thin sections	Per Sample	4.3.4	4232	5	21160	3	12,696	
	Preparation of polished sections	Per Sample	4.3.2	1549	5	7745	3	4,647	
	Study of polished sections	Per Sample	4.3.3	4232	5	21160	3	12,696	
	Digital photographs			280	5	1400	3	840	

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	Whole Rock analysis (Major oxides)	Per Sample	4.8.1	4200	5	21000	2	8,400	
	Preparation of Exploration Proposal (5 Hard copies with a soft copy)	5 Hardcopies with a soft copy	5.1	199151	1	199151	1	1,99,151	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan a suggested by the TCC-NMEDT in its meeting while Clearing the proposal.
	Drill Core Preservation	Per m	5.3	1590	200	318000	61	96,990	
	Peer review Charges		As per EC decision	30000	1	30000	1	30,000	
	SubTotal-C					1326559		5,62,073.00	
	Sub Total (A+B+C)							51,34,396.00	
D	Geological Report Preparation		5.2.IV	For the projects having cost exceeding Rs.50 lakhs and less than Rs.150 lakhs- A minimum of Rs.2.5 lakhs or 5% of the value of work	1	4,97,878		2,56,720	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMEDT.

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				Whichever is more					
	SubTotal-A-D					1,21,33,280		53,91,116.00	
I	Total Estimated Cost without GST					1,21,33,280		53,91,116.00	
J	Provision for GST (18%ofI)					2183990.4		9,70,400.88	GST will be reimburse as per actual and as per Notified prescribed rate
K	Total Estimated Cost with GST					1,43,17,270		63,61,516.88	
	Or say in lakhs					143.17 lakh		63.61 lakh	
	Change in amount					(-) 79.56 lakh		De-escalation of ~55.58%	
Note:									
1	Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.								
2	In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.								
3	If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.								
4	Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.								

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5	Any item of work not mentioned above shall be added as per SoC.
6	All the Geological Reports and data are to be uploaded on NGDR portal as per Mineral Exploration Reporting Template (MERT) by the agency.

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ANNEXURE-VII

Statement showing Peer review comments and action taken of Govindpur block (G3 stage) for Copper and associated mineralisation, District-Chandrapur, Maharashtra

Sl no	Observations & Suggestions of peer Reviewer By Dr. Kamalakaran Saripalli	Reply by Author
1	Preliminary exploration (G3 stage) report under peer review is written as per NMET format.	Thanks for the appreciation
2	Objectives laid in the proposal are strictly followed during execution of exploration.	Thanks for the appreciation
3	List of contents, plates, text figures and photos are to be provided.	Attended
4	Abbreviation used in the text are only to be given.	Attended
5	Title of the annexure should be same in the annexure and list of annexure.	Attended
6	Annexure – IID and IIE are to be incorporated after receipt of check sample analysis	Attended & Incorporated
7	Plate numbers to be reflected in the text.	Attended & Incorporated
8	Departure values i.e., Co-ordinates written on the plates are written in plates are to be same as that of text.	Attended & Corrected
9	Title of the plate and plate numbers are to be written only in the block details.	Attended
10	Total trench samples drawn from 5 trenches are 40 i.e. 8x5 but analysis are given for 42 numbers the difference is due to check analysis carried out by chemical laboratory while carrying analysis. This is to be clearly mentioned in the text.	Attended & Incorporated in th Chapter no. 9
11	Plate number may be given as text figure.	Attended
12	Annexure numbers for petrographic and micrographic studies are to be given.	Attended & Due care has been taken. attended & Incorporated in chapter no.9
13	Some of the text figures are illegible and hazy. Hence proper attention is to be needed.	Hard copy received from peer reviewer, all the corrections attended.
14	In addition to above, the correction marked on the text, annexure and plates are to be incorporated.	All the corrections were attended.