भारत सरकार /GOVERNMENT OF INDIA

भारतीय भूवैज्ञानिक सर्वेक्षण /Geological Survey of India

राज्य इकाई: कर्नाटक व गोवा /SU:Karnataka & Goa

बेंगलूरु/ Bengaluru 560 078

277

सं/No: /FSPSUKG/GSI/16-17

दिनांक /Dated: 11.05.2016

सेवा में/To

Shri/Dr./Smt./Ms. Bapat Mangesh Surendra

Senior Geologist / Geologist

State Unit: Karnataka and Goa

Geological Survey of India

Bangalore-78.

विषय/Subject: Taking up of FSP 2016-17.

महोदय/Sir/ महोदया/Madam,

Enclosed please find hard copy of your assignment for the FSP 2016-17. You are hereby directed to report to the Supervisory Officer immediately for further instructions and to make necessary preparations towards field departure for implementation of the assigned field item. You are advised to apply for the advances such as T.A./D.A. and to issue field equipments/stores required for the project work immediately.

भवदीया/Yours faithfully

Neeharika Jha 11/05/16

(नीहारिका झा/Neeharika Jha)

निदेशक (तक.सम.)/Director (C.T.)

कृते उप महानिदेशक /for Dy. Director General

अनुलगन्क/ Enclosure: As above

प्रतिलिपी सूचनार्थ/Copy for information to:

1. The Additional Director General & HOD, SR, Hyderabad
2. The Director-CT/Head of Office/Director/Suptdg. Geologist/A.O.
3. Project Directors- **MISSION-I/II/III/IV/V/**: NGCM/I/II/III/IV/V/VI/VII/VIII/IX/X/XI/XII/XIII/XIV/XV/XVI/XVII/XVIII/ **Ferrous Minerals-** Sandur Schist Belt/Kenkere block/ Haveri and Shimoga/ **Precious Metals and Minerals-** Ajjanahalli block-E/ Ajjanahalli Block-D/ Paramanahalli block/Yerekatte and Siddapura/ Timmanahalli Block/Bagali and Uppanayakanahalli /Harpanahalli Block/ Kanvi Honnapur and Kadinakoppa Block/ Ingaldhal polymetallic mineralization/ **Industrial Minerals-** Doddaguni basin /Tondikatti,Chippalkati/ Hoskoti&Salapur/ Bauxite - Kabri-Honnabar-Apsarkond./NLSM:I,II,III,IV,Service Item Engg. Geol./MCPI/Geoinformatics; Core repository: SU:K&G/Parks and Museum/Archieves/Petrology/Chemical Division, SU: K&G, GSI, Bangalore-78. The Supervisory officers are advised to take necessary action to guide the officers under their projects to take up the FSP items and initiate the likely date of departure of the officers to field.

(नीहारिका झा/Neeharika Jha)

निदेशक (तक.सम.)/Director (C.T.)

कृते उप महानिदेशक /for Dy. Director General

STATE UNIT: KARNATAKA AND GOA
PROJECT: FERROUS MINERALS
SUPERVISORY OFFICER: S. A. Sufiyan, Director

Mission-IIA	**Mineral Resource Assessment**				Item No.	113
Field Season Year	FSP Number					
2016-2017	**ME**		**SR**	**KG**	**2016**	**81**
	Type Code	Com. Code	Region Code	State Unit	Year of initiation	Sl. No.

Participating Unit(s)/Region(s)						
FM	**SR**	**KG**				
Division/Project	Region	State Unit	Division/Project	Region/SU	Division/Project	Region/SU

Geographic Information				
State (Code)	District (s)	Degree Sheet (s)	Toposheet (s)	Mineral / Tectonic Belt / Basin etc.
KAR	**Bellary**	**57A**	**57 A/8 and A/12**	**Sandur Schist Belt**

Personnel	2G
Name of the Project in Charge	Bapat Mangesh Surendra
Name of the Other Officer	Pawan Baraiud
Title	**Preliminary exploration for iron ore resource in blocks 13/1 (South) and 6A/CI 16 MMM 2003 of Ramanadurga Hill range Bellary district, Karnataka.**
Stage	G3
Keywords	Sandur schist belt, resource assessment
Objective	To establish the grade of the ore bodies and assess the resource

Total duration of the Item	One Year (FS 2016-17)
Item linked with	XIIth (On request of DMG, Govt. of Karnataka)
Whether GPM item is taken up in toposheets already covered by GCM or vice versa	No
Whether the item is spin off any other item	No
Whether the item is collaborative	NA
Whether the item is sponsored	No
If yes, name of the sponsor :	NA
Outsourced work component, if any (specify)	Drilling, 1000 m

Nature and quantum of work and time schedule

Nature of work	**Total workload envisaged**	**a) Expected Year of completion b) Circulation of final report**	**Work already completed**	**Work proposed for 2016-17**
(1) Geological Survey		a) March 2017	New item	
(a) DM 1:2000 (sq km) Block-13/1^^	0.65*	b) September 2017		0.65*
(b) DM 1:2000 (sq km) Block-6A^^	1.31*			1.31*
(2) Technological (Blocks 13/1 & 6A)				
(a) Surface exploration				
PT (Cu m)	100			100
PTS (Nos.)	100			100
(b) Subsurface exploration (Blocks 13/1 & 6A)				
Drilling (m) Outsource	1000			1000
CS (Nos.)	600			600

(3) Geochemical Survey (Nos.) (Blocks 13/1 & 6A) BRS/Channel/Groove samples	150			150
(4) Petrographic/Mineragraphic Studies (Nos.) (Blocks 13/1 & 6A) PS **(5) Chemical Analysis** **(FeO,Fe_2O_3,CaO, MgO, SiO_2, MnO, V,TiO_2.Al_2O_3 and selected samples for Au also)	10 625			10 625

*as provided by DMG, Karnataka; **Chemical Division, Bangalore; ^^Boundary coordinates and borehole locations to be fixed by DGPS.

Timeline proposed for each work component

Field Studies			
Name of the officer	Expected field stay (number of days)	Expected period of field work	
		From	To
Bapat Mangesh Surendra, Geologist	120	April 2016	March 2017
Pawan Baraiud,Geologist	120	April 2016	March 2017
Supervisory Officer: S. A. Sufiyan, Director	15	April 2016	March 2017

Laboratory Studies		
Activity	From	To
Pre-field laboratory component and reconnaissance for the assignment under consideration, finalization of report of the previous field season and planning for current programmes	April 2016	September 2016
Geological study (fieldwork and collection, processing of samples and their submission)	April 2016	March 2017
Geophysical study (consultation of interpreted geophysical data)	April 2016	March 2017
Chemical study (last date of sample submission)	30^{th} April 2017	
Chemical study (acquisition of analytical data)	April 2016	May 2017

Report Submission	
Submission of the first draft of report	30^{th} June 2017
Scrutiny of the report	1^{st}July to 31^{st}August 2017
Finalization of the report	September 2017
Circulation of the report	30^{th} September 2017

Operational Expenses

Heads	**Amount**	**Drilling (out sourcing)**
POL	--	Rs. 50,00,000/- Outsource drilling Rs. 5000 per m x 1000 m
WAGES	Rs. 2,50,000/-	
OC	Rs. 2,00,000/-	

Background Information

The DMG, Karnataka state had requested GSI to assess the iron ore potential of chosen blocks in Sandur area, Bellary district for auction purpose as per the directives of ministry to extend the lease areas. The proposed block, Ramanadurga range-notification block 13/1 (South) and 6A, identified by DMG for auction under notification number CI 16 MMM 2003 is located on the western part of Sandur schist belt, which is known for its economic deposits of Iron.

The iron ore deposits occur on top of Ramandurg range in association with metabasalt, ferruginous shale and banded ferruginous chert/quartzite. The ore bands are long and narrow and along the strike are separated from each other by means of fault line valleys and non-ore country rock (Mishra R.N.et.al 1980). The area has under gone two phases of deformation and metamorphism. The axial trace of F_1 have NNW-SSE trend which is refolded by open F_2

folds trending in ENW-WSE direction. The primary structure of banded iron ore formation is bedding and pene-contemporaneous faults; schistosity and fracture cleavage are also common.

The first estimation of iron ore reserves of the region was made by Venkataram and Dutt (1940) and estimated a total reserve of 130million tonnes. In Ramandurg range Mishra et.al (1970) estimated iron ore resource of 27.31 million tonnes from selected private leasehold areas. Four iron ore zones had been reported by R.N.Mishra et.al (1980); designated as I, II, III, and IV from south to north and estimated reserve separately. These iron ore blocks were leased out. The in-situ ore bodies in these ranges were proved down to around 30 to 40m of vertical depth.

Keeping in view the request of the DMG, Karnataka State, it is proposed to commence a project to assess the iron ore potential in DMG identified block in Ramandurg range. The survey of India toposheet No. 57A/ 8 &12 covers the proposed blocks and block-13/1 is bounded by geographical coordinates 15° 04'50.7"N – 15° 05'28.9"N and 76° 29'03.6"E- 76° 30'04.3"E and block-6A is bounded by geographical coordinates 15° 03'55.4"N-15° 05'14.5"N and 76° 29'10.9"E- 76° 30'39.1"E.

These proposed blocks form the southern part of leased area, which was investigated by R.N.Mishra et al (1980). In view of established ore zones in northern part, as designated by previous authors as ore zone I, II, III, IV, detailed mapping on 1:2000 scale with bed rock/Channel/Groove sampling and trenching is proposed.

To establish depth continuity and to estimate the resource/grade as block wise separately up to 50 m vertical depth a total of 1000 m drilling is proposed in the blocks 6A &13/1 (South)of Ramandurg hill range. The borehole spacing will be selected at 200m interval to intersect the ore body at 50 m vertical depth. Drilling will commence only after evaluating data *viz*. number of ore zones, strike length of ore zone and average thickness as per detailed mapping.

BIBLIOGRAPHY

- Mishra, R.N. and Parthasarathy, J. (1970); Report on reconnaissance as an advance action for exploration ores in private sector of the Bellary-Hospet iron ore belt. Unpub.Report, GSI and IBM.
- Biswas S.K. and Roy A., (1976); Geology of parts of Hospet, Sandur and Bellary Taluks, Bellary District, Karnataka. Unpub. Report, GSI, FS 1975-76.
- Mishra, R.N., Gopinath K., Biswas S.K. and Kotiyal P.L. (1980); Final report on exploration of iron ore deposits in leaseholds in Bellary-Hospet area, Bellary district, Karnataka. Unpub. Report, Part-I-V, GSI, FS 1976-77.