P.G. DEPARTMENT OF GEOLOGY
GOVERNMENT COLLEGE, SUNDARGARH
PIN -770002, ODISHA, INDIA
www. govtcollegesng.org

Letter No. 194 /Dt. 03/12/22

To
Additional Director (R&D)
Atomic Mineral Directorate for Exploration and research
Begumpet,Hyderabad,500016
Phone:040-27767593
Fax:040-27762940
Email: addldir-rnd.amd@gov.in,icpmsg.amd@gov.in

Sub-Recommendation for internship/project, during 4th week of December 2022 & 1st week of January 2023.

Sir,

The following P.G. Final year students of our institute are interested for internship/project work on atomic mineral exploration and mapping in your organization. From a reliable source it is learnt that presently the exploration work of your organization is being conducted around Belpahar area of Jharsuguda district, Odisha. More over mention may be made on the fact that the P.G. students of this department have been undergoing the internship/project work under the supervision of your organization since 2020.

In the context, I recommend the names of the following students to complete their internship/ Project work sometimes during Fourth week of December-2022- First week of January, 2023 subject to suitability of time period at your end.

The students will utilise hired vehicle for the above field work.

A line of confirmation in this regard will be highly solicited.

Thanking You,

With regards

03/12/22

Head,Department of Geology
Govt.College,Sundargarh
Mobile No-7815050905
Email-kumadini1964@gmail.com

Memo No. 195 /Dt. 03/12/22

Copy forwarded to Regional Director, Atomic Mineral Directorate (Exploration & Research), Tatanagar, Jharkhand for information and necessary action.

03/12/22

Head,Department of Geology,
Govt.College,Sundargarh

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List of Students

Sl.No	Students Name	Roll No
01	Alok Pradhan	21GL03
02	Ezekiel Bhengra	21GL04
03	Salfarani Bipra	21GL05
04	Prabeer Kumar Sethy	21GL13
05	Manas Ranjan Behera	21GL15
06	Gunjan Bala Dehuri	21GL16
07	Urjaswati Mishra	21GL17
08	Priyadasini Sundaray	21GL19
09	Soubhagya Mohapatra	21GL20
10	Sahil Sidhant Khuntia	21GL21
11	Madhuchhanda Panigrahi	21GL22
12	Itishree Mohanty	21GL23
13	Dibyaranjan Mohanta	21GL24
14	Siddhartha Shankar Behera	21GL25
15	Shubhakankshi Barik	21GL26
16	Debajani Sahoo	21GL27

03/12/22

Head, Department of Geology
Govt.College, Sundargarh
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P.G. DEPARTMENT OF GEOLOGY
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Letter No. 197 /Dt. 22/12/22

To
The Regional Director,
Regional Centre for Exploration & Research,
Eastern Region, AMD, Khasmahal,
P.O. Tatanagar, Jamsedpur,
East Singhbhum District,
JHAKHAND- 831002

Sub-P.G. Final Year Students' Internship- Approval- Regarding
Ref: Your Letter No. AMD-59(2)/20-PMSG / dt. 20.12.2022

Sir,

Thank you very much for the approval of 16 Final Year M.Sc (Geology) students for undergoing their Internship Training Programme in your organization. Further with reference to the letter and subject cited above, this is to inform you that as the exploration work of your organisation is going on around the Telendihi area of Jharsuguda district, Odisha presently, it would be easier for the students to continue their Internship Training Programme in this area instead of at Singhbhum Shear Zone, Jharkand(already approved) during the period from 05.01.2023 to 10.01.2023.

In this context, the application forms of all 16 students are sent here with for necessary action at your end.

The students will utilise hired vehicle for the above field work.

A line of confirmation in this regard will be highly appreciated.

Thanking You,

With regards

22/12/22

Head,Department of Geology
Govt.College,Sundargarh
Mobile No-7815050905
Email-kumadini1964@gmail.com

Head
Dept. of Geology
Govt. College, Sundargarh

भारत सरकार Government of India
परमाणु ऊर्जा विभाग Department of Atomic Energy
परमाणु खनिज अन्वेषण एवं अनुसंधान निदेशालय
Atomic Minerals Directorate for Exploration and Research
बेगमपेट Begumpet,
हैदराबाद HYDERABAD – 500 016
Telefax No. 040 – 27762940
Telephone No. 040 – 27753024
E-Mail: amdhyd@gov.in

No. AMD-59(2)/20-PMSG

दिनांक Dated: दिसम्बर December 26, 2022

सेवा में To

Head,
Department of Geology,
Government College,
SUNDARGARH
ODISHA – 770 002

E-Mail: kumadini1964@gmail.com

विषय Sub: P.G. Final Year students - **Change in place of Internship** - Approval - Regarding

संदर्भ Ref: Letter No. 197 dated 22.12.2022

महोदय Sir,

In continuation of this office letter of even number dated 20.12.2022 and your above-cited letter dated 22.12.2022 regarding the approval for allotment of internship for P.G. Students of Geology (16 Nos.). In this connection, it is informed that the place of internship for the above students may please be read as **Telendih area, Sundargarh district, Odisha,** instead of Singhbhum Shear Zone area.

Rest of the contents of the above letter remains unchanged.

This communication is issued with approval of the Director, AMD.

भवदीय Yours faithfully,

26.12.2022

(धीरज पाण्डे DHEERAJ PANDE)
प्रधान Head,
योजना एवं प्रबंध सेवा वर्ग Planning and Management Services Group

NOO:

प्रतिलिपि Copy to:

क्षेत्रीय निदेशक, पूर्वी क्षेत्र, प.ख.नि., जमशेदपुर Regional Director, Eastern Region, AMD, Jamshedpur: ***This has got reference to your letter No. AMD/ER/Tech/2022 dated 23.12.2022 on the subject.***

प्रतिलिपि सूचनार्थ Copy for information, to:

1. अपर निदेशक (प्रचालन I), प.ख.नि., हैदराबाद Additional Director (Operations I), AMD, Hyderabad
2. अपर निदेशक (अनुसंधान एवं विकास), प.ख.नि., हैदराबाद Additional Director (R & D), AMD, Hyderabad ***This has got reference to your endorsement dated 23.12.2022 on the subject.***
3. प्रभारी, मानव संसाधन विकास, प.ख.नि., हैदराबाद Incharge, HRD, AMD, Hyderabad

24.12.2022

(धीरज पाण्डे/DHEERAJ PANDE)

प्रधान Head,

योजना एवं प्रबंध सेवा वर्ग Planning and Management Services Group

GEOLOGICAL FIELD INTERNSHIP REPORT
ON
TELENDIH AREA, SUNDARGARH

A Report Submitted By: Prabeer Kumar Sethy
Roll no :21GL13
M.Sc. 2nd Year GEOLOGY
Semester :3rd
GOVERNMENT COLLEGE SUNDARGARH, ODISHA
PIN - 770002

Submitted to:

ATOMIC MINERAL DIRECTORATE
EASTERN REGION, JAMSHEDPUR, JHARKHAND

<u>ACKNOWLEDGEMENT</u>

First, I express heartily thanks to the Almighty for giving me a great opportunity to participate in a field internship on Telendih area of Sundargarh.

I pay my deep sense of gratitude to **Mr. Ashish Dahayat, Scientific officer -D, Scientific officer-c of AMD ER, Jamshedpur** who guide me throughout the field training.

I am grateful to Director, AMD, Hyderabad, Additional Director (Research and Development), AMD, Hyderabad, and Regional Director AMD, ER, Jamshedpur for allowing and providing this internship training opportunities.

I am thankful to the respected Head of the Department of Geology, Govt. college Sundargarh **Dr. Kumadini Routray** who helps through the program and provide all the convenience for the field survey. I am highly beholden to **Dr. Lalit Ranjan Sahoo,Principal , Govt. college Sundargarh** to give us consent for this program . I am also thankful **Dr. Sudhir Kumar Dash, Lecture** & **Miss Rashmita Prusty, Lecture, Department of Geology, Govt. college Sundargarh.**

This Field Internship work has been a memorable excursion for me in the comprehension of enigmatic theoretical knowledge. I once again pay my thanks to my Lecturers who consider me able for achieving my good goals.

I would like to thank all my classmate for cooperation during this field training program. At last,I would like to say that preparation of this field report made this academic section’ s internshipfield trip and unforgettable experience.

Date:

Place: Sundargarh

Name: Prabeer Kumar Sethy

Roll No.: 21GL13

Collage: Govt. College Sundargarh

Date	Brief Details of Work
05-Jan-2023	Geologic traverse for backward bearing study locating ourself in field, toposheet studies, Brunton compass study to for measuring altitude of bedding and foliation plane, cross stratification around Telendih area. Geological traverse along the Gondwana Supergroup to study Enclave of sandstone, shale, vein of Quartz. Geological traverse along Singhbhum Mobile Belt (SMB) to study of Chota nagpur Granite Gneiss Complex (CGGC) to measure radioactive anomaly in granite.
06-Jan-2023	Plotting on Geological Map
07-Jan-2023	Geological traverse at Gopalpur village to study radioactive anomaly &its dimensions, fracture, joints, foliation, aplite vein, quartzite enclave, coarse gain pegmatite vein and slicken slide plane etc.
09-Jan-2023	Geological traverse along the Ratansara village to study granite, pegmatite vein, enclave of meta-sediments, trend offoliation, fracture. Geological traverse along Rajpahar to study Barakar formation of Gondwana Supergroup namely sandstone, shale, redbed of siltstone.
10-Jan-2023	Geological traverse along the foot of the Ratansara hill to study granites, quartz vein, crenulations cleavage. Geological traverse along the right side of the road to study quartzite exposer and faulted breccia.
11-Jan-2023	Geological traverse along left bank of Basundhara Nala, N-of Gopalpur and near Ratansara village to study of Lower Gondwana Supergroup exposure namely mud stone, brown sandstone, red bed of siltstone.

1. INTRODUCTION

Geology as a science deal with Earth’ s constitution, structures, and history of its development. It is not easy to understand and imagine the subject with in the frame work of one’ s classroom or laboratory. The importance of field work becomes more significant with respect to every subject of Geology. The practical knowledge of a subject always leads to a better understanding of the subject. Geological field works are organized to enhance and develop practical skills and to convert one’ s theoretical knowledge into reality. During field work one can learn how to interpret the things we observed in the field. It also helps in better understanding of the geological features and the structures. In the field we get the complete idea about the primary and secondary structure and feature which we learn in the book. The internship is an integral platform for anyone to gain experience in an actual workplace. It is a good opportunity for we student to learn and gain experience. We will encounter many difficulties and obstacles, and with experience we are expected to be able to encourage and complete the process. It also helps in better understanding of the geological feature and the structure. The main task during this training is geological mapping, use of compass, identifying location ourself in field using bearing as well as GPS, different rock identification, geologic structure, study of local and regional geology of the area, practical works etc. We also attempt to describe and explain surface features, subsurface structure structures based on findings.

REGIONAL GEOLOGY

The Precambrian Gangpur basin with an east-west extension of 25,000 km^2 contains calcareous psammopelitic and manganiferous metasediment along with basic and granitic intrusives. The western margin of the basin is covered by Barakar Formation of Lower Gondwana sediments along a faulted-unconformity contact. The NW-SE trending Barakar sediments consist mainly of sandstone-coal-shale units of the Mahanadi valley coal field.

Gangpur Group

Paleo-meso Proterozoic rocks in the western Odisha and Jharkhand exhibit platformed sedimentary formations and associated limestone deposits. In north-western Odisha they contain metasediments of low to medium metamorphic grade classified as the Gangpur Group, which host manganese, limestone, and Lead-Zinc deposits. On its northern and southern margin, the basin is respectively bounded by Chhotanagpur Granite Gneissic Complex (CGGC) and Supracrustals of Darjing-

Kunjar. The northern and southern margin along the above said contacts are also marked by shear zones and that in the south is coinciding with the position of the Singhbhum Thrust (Naqvi and Rogers, 1987).

The main Gangpur basin was originally mapped by Krishnah (1937) as an anticlinorium. The structure plunges on the east below the Iron Ore Group rocks, now reclassified as the Singhbhum Group. On this account Krishnan placed the Gangpur Group older to the Iron Ore Group. He divided Gangpur lithologically into four stages, from the oldest, Goriajhor sequence of mica-schist, phyllites and gonditic rocks, then the Kumarmunda stage of meta-pelites with carbonaceous rocks, the Birmitrapur stage of mainly a lower dolomitic and upper calcareous marbles and the youngest Laingar stage of again meta-pelites and carbonaceous rocks intruded by epidiorites (? Dalma Volcanics). The Gondite bearing horizons were correlated with similar formations in the Sausar series of Central India. However, later remapping of the area (Banerjee, 1968) indicated that the easterly plunging Gangpur fold is inverted towards the core and constitute a reclined fold, later refolded into an antiform and subsequently modified in the deeper levels by forceful intrusion of granites. The folding movements are assigned to the Satpura orogeny. This reinterpretation places the Gangpur Group as younger to the Iron Ore Group and as possibly equivalents of the Singhbhum Group (Mahadevan, 2002).

Age: Radiometric age determination by Sarkar, Saha and Miller (1969) from metamorphic minerals show the age of orogeny and metamorphism for Gangpur as 850 Ma against the age of orogeny of 2700 Ma for the adjoining Iron ore series of rocks. It is believed that Gangpur sediments were deposited along the edge of the stabilized Iron ore orogenic belt probably between 2000 and 1700Ma.

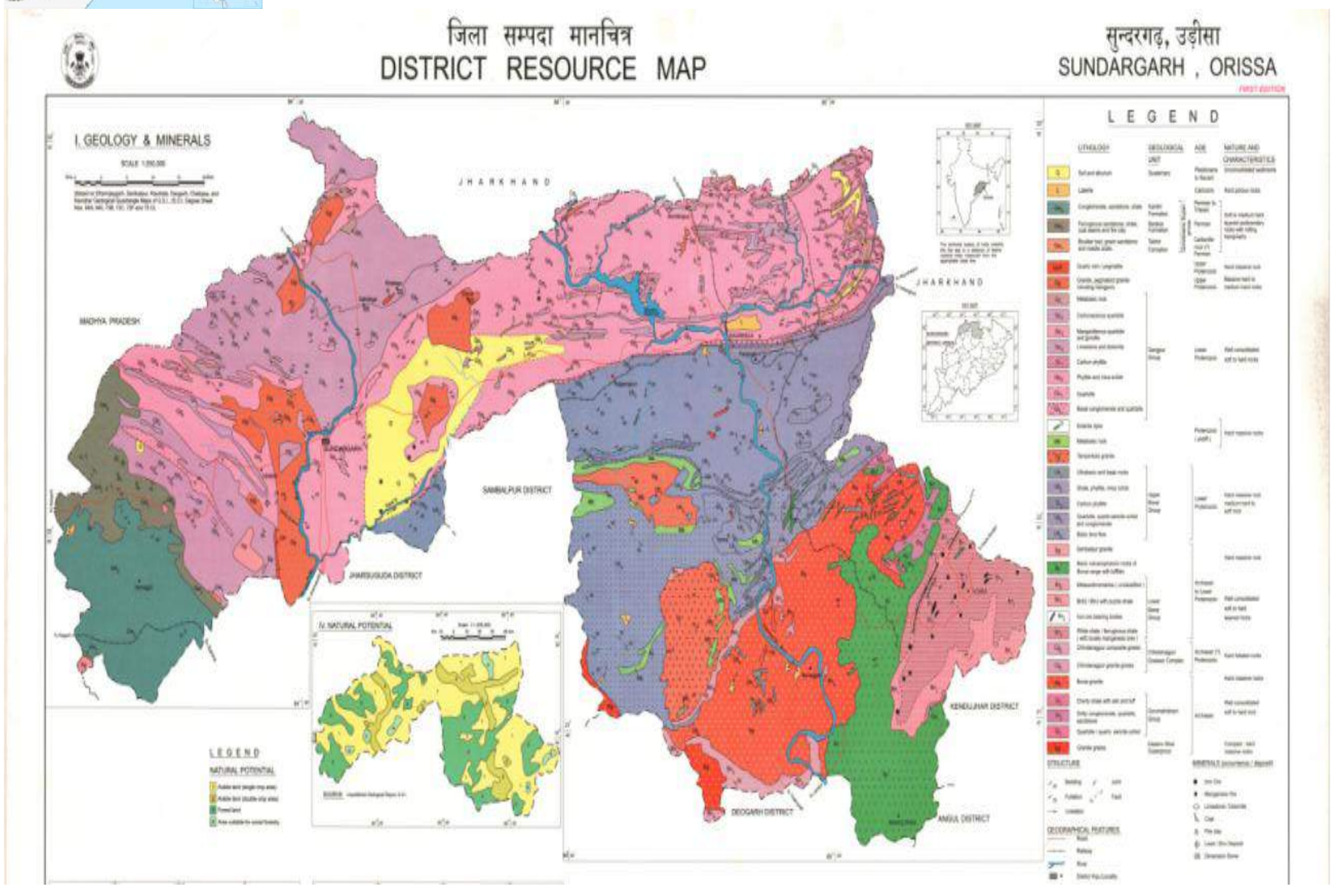
Lithounits	Ages
Gondwana Supergroup (Barakar Formation)	Permo-carboniferous
~~~~~~Fault/unconformity~~~~~~	
Granite/Pegmatite (Intrusive**)**	Meso to Neo-Proterozoic
Gangpur Group (Ghoriajhor Formation)	Meso-Proterozoic

Intrusive in the Gangpur

In its central and western part, the Gangpur basin contains intrusives of basic bodies and granites. The concordant basic intrusions, now metamorphosed to amphibolite, occur between Laingar and Birmitrapur formations, and the intrusions are likely to have taken place later than the deposition of all the Formations (Choudhury and Pal, 1983). Granites occur as two big bodies in and around Itma and Ekma and was the source of numerous quartz and tourmaline vens (Kanungo & Mahalik, 1994).

Gondwana Supergroup

The western and southwestern margin of Gangpur is overlain by Barakar Formation of Lower Gondwanas of Mahanadi valley. Barakar sediments comprises sandstone-coal-shale sequence with workable coal seams of Mahanadi/Basundhara coal field. The Mahanadi Gondwana basin was viewed as a reactivated Precambrian suture by Naqvi and Rogers (1987).


जिला सम्पदा मानचित्र
DISTRICT RESOURCE MAP
सुन्दरगढ़, उड़ीसा
SUNDARGARH , ORISSA
I. GEOLOGY & MINERALS
LEGEND
JHARKHAND
JHARKHAND
MADHYA PRADESH
SAMBALPUR DISTRICT
JHARSUGUDA DISTRICT
KENDUJHAR DISTRICT
DEOGARH DISTRICT
ANGUL DISTRICT
IV. NATURAL POTENTIAL
LEGEND
NATURAL POTENTIAL

Field Description: -

Day 1

STOP 1:

Co–ordinates:

(N 22°04’62.7”, E 83°41’23.2”)

Locality: Gopalpur (Telendih)

Rock observed:

- Sandstone
- Shale
- Chhotanagpur Granite Gneissic Complex (CGGC)
- Pegmatite veins

Description:

In this part of the Gopalpur area, we found the exposers of the medium to fine grained, brownish to grey colored, clastic sedimentary rock composed of quartz and feldspar which may be Sandstone. And found the fine-grained grey colored, composed of quartz and clay minerals, shale.

At the left bank of the Basundhara Nala (Gopalpur) the main rock mass which is Granite is exposed. These granites are coarse grained, light brown to grey colored, hard and compact, massive in nature with prominent pegmatite veins. In the granite, foliation, and fractures are observed which probably be secondary phenomenon. In this area Granites are generally composed of Quartz, Feldspar, Mica (muscovite and biotite) as primary minerals.

Tourmaline is identified as the secondary minerals under hand lens. Tourmaline crystals are observed irregular scattered in quartzo-feldspathic / pegmatite vein.

These Granites is known as the Chhotanagpur Granite Gneissic Complex (CGGC). It is located at Eastern Indian shield which is a mesoproterozoic ferro-granites that intruded the palaeoproterozoic. (Dating ca.1450-1350ma)

In the CGGC Granite we found the Radioactive anomaly using Radiation Survey Meter / GM counter i.e., 138 uR/h (background – 18).

Fig: Shale bed exposed at the bank of Basundhara Nala

Fig: Radioactive anomaly measuring

Day 2

On the second day of the internship program, we studied the concepts of structural geology such as Dip, strike, and learnt the symbols used for different structural features on the field. Thereafter we learnt to measure the Dip and Strike of the different outcrops of the beds using the Brunton compass. We also analyzed the methods of forward and backward bearings.

Additionally, we learnt the method of plotting of our location on the toposheet of the Telendih area (64N/12), studied the other structural as well as natural resources, their legend (such as, forest covers, forest boundaries and water bodies) of the area and nearby including plotting of the lower Gondwana and the overlying CGGC beds and their contacts.

After studying and understanding the method of plotting of our existing location on the toposheets we headed for a traverse encompassing three locations;

Stop	Coordinates	Accuracy	Lithology
L1	N22° 04’ 62.7”, E 83° 41’ 23.2”	1.6	Schist, Sandstone
L2	N22° 04’ 62.8”, E 83° 41’ 23.5”	1.7	Granite, Benitoite, CGGC granite
L3	N22° 04’ 66.1”, E 83° 41’ 20.7”	1.9	CGGC Granite

Fig: Showing the Gondwana exposers near the Gopalpur village

Day 3

On the third day of our field internship program, we are divided into several groups to take the traverse along the area of Ratansara village to investigate of different rock types throughout the exposers. After taking the sample at different locations (through the GPS), we observed different surface features, structures, bed rocks and then plot all them into the toposheet. Additionally, we found Radioactive anomaly in the CGGC Granite i.e., 129 uR/h (background – 16).

After studying of the lithology with respect to the co-ordinates we found;

Stop	Coordinates	Accuracy	Lithology
L1	N22° 04’ 56.1”, E 83° 40’ 37.4”	1.5	Schist, Shale
L2	N22° 04’ 56.9”, E 83° 41’ 37.6”	1.8	Sandstone
L3	N22° 04’ 58.3”, E 83° 41’ 42.9”	1.9	CGGC Granite

Fig: Study of shale in the area of Telendih

Fig: Ex of Sandstone on Gondwana formation

Day 4

In the fourth day, we took the traverse along the river bed of Basundhara Nala near the Ratansara area, where we found the exposers of Granitoid beds and other rock types. We also observed some features like, fractures, joints, pegmatitic veins, quartz veins, and some foliations throughout the lower Gondwana. Along the Nala section of Gondwana, a red colour silt to shale size rock is observed in between sandstone and shale, which exhibits red colour, and very fine grained, platy, and massive rock. Ferruginous minerals dominant throughout, that's why red colour is prominent.

Now further the structural data are also taken into the study. And at the end of the day, we plot all these information on the toposheet:

Stop	Coordinates	Strike	Dip amount	Dip direction	Lithology
L1	N22° 04' 45.1", E 83° 40' 55.4"	N65°W – S65°E	10°	S 25° W	Sandstone
L2	N22° 04' 34.2", E 83° 41' 43.3"	N75°W – S75°E	5°	S 15° W	Schist, Shale
L3	N22° 04' 39.3", E 83° 41' 11"	N70°W – S70°E	8°	S 20° W	Shale / siltstone
L4	N22° 04' 13.2'', E 83° 41'38''	N50°W – S50°E	6°	S 40° W	Granitoid, CGGC Granite

Fig: CGGC Granite

Fig: Showing Quartz veins

Day 5

On the fifth day of the internship program, we headed towards the Drilling Site and observed that, on the area of Telendih there is a sub-surface Exploration or the second phase exploration is confined to prove the presence of the ore body and its continuity in the areal extent. In the field we also observed that there are two drilling sites are conforming which are continued by the core drilling method to extract the core sample from various depths for confirming the geology beneath and/or providing sample for chemical analysis.

Additionally, we learnt the method of selection of Bore hole sites, spacing of borehole sites, angle of Borehole, deviation of Borehole, and the geological and mechanical factors that affects the bore hole deviation throughout the drilling process.

In the field we know that, in the Gopalpur village there are inclined Bore holes are continued with core drilling method and detect the Radioactive anomaly using the RSM.

Fig: Showing Chhotanagpur Granite Gneiss Complex

Fig: Inclined Core Drilling

Fig: Showing how to measure the angle
Of deviation

Day 6

On the last day of our field internship program, we observe the litho-logging, of the extracted core sample that are drilled out by the process of core drilling.

Lithologging is systematic, depth wise enumeration of details of Core/Sludge samples or rock exposure in cross sections.

The basic objective of lithologging of core is to provide a factual, accurate, and concise record of the important geological characteristics of exploration significance. Standard drill core logging and formation identification will assist in understanding and interpretation of localised stratigraphy, structure, depositional environment, and thickness of rock unit encountered in the boreholes.

Through our observations recorded while carrying out lithologging include sediment or rock type, formation boundaries or lithological contacts, facies correlation, physical properties such as colour, texture, mineralogy, grain size, grain-angularity, angle of planar structures etc.

We also studied the process of core display, core marking, core examination, core recovery and further process like core sampling i.e., preparation of sample, core box etc.

At the end of the day, we take a study of the present Shale bed near the drilling site at the Gopalpur village.

Further we put all the data that are taken from the first day into the toposheet. After plotting all the data on toposheet we trace them into a tracing paper for better view of geological map of Telendih area.

Fig: Lithologging of the extracted Core sample

Fig: Showing the Shale bed near the drilling site at Gopalpur villege

Fig: Showing the extracted core sample

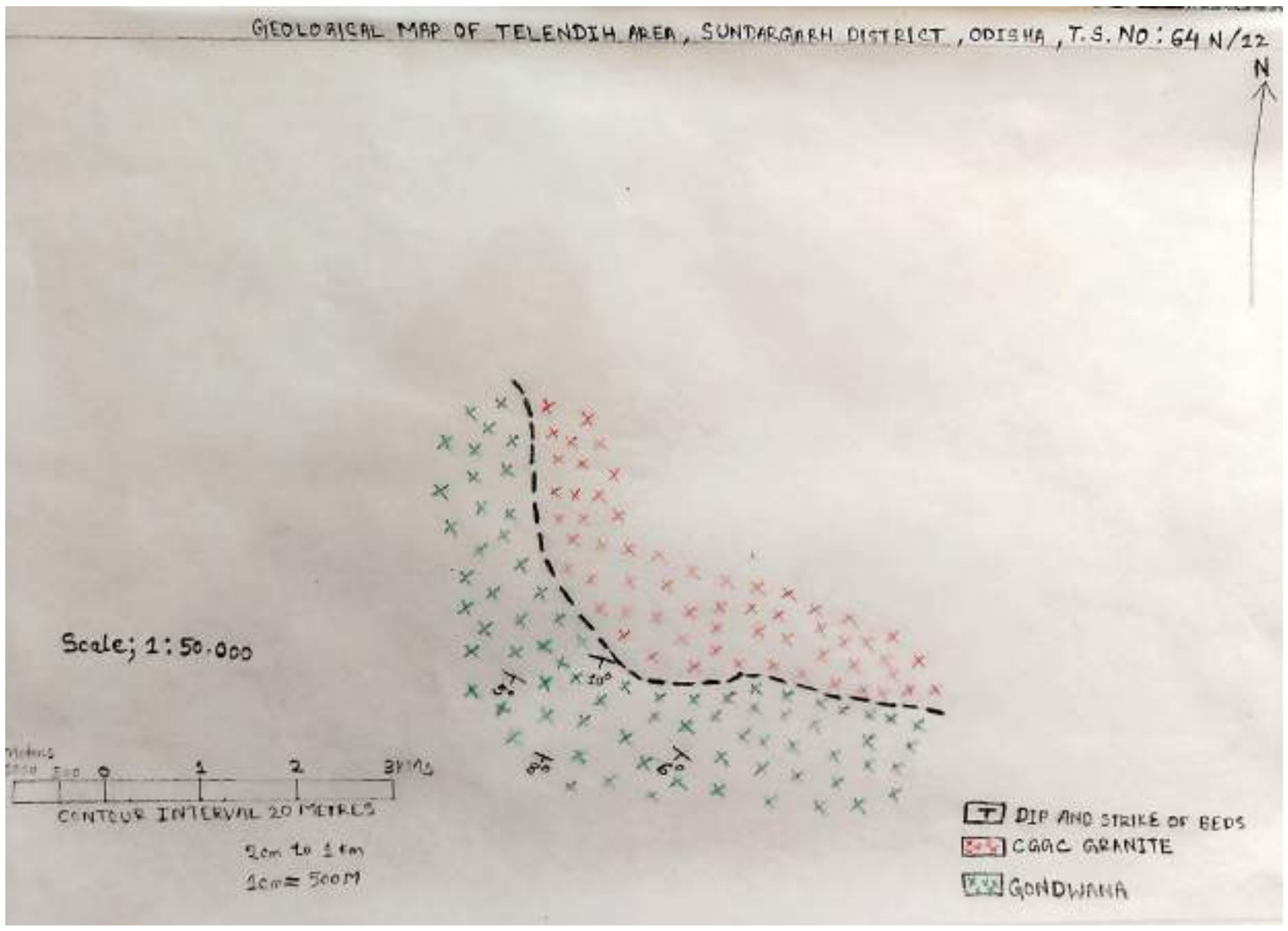


Fig: Geological map of Telendih area, Sundargarh District, Odisha,

T.S. No: 64N/12

Conclusion

Thus, the conclusion of the six days geological field internship program throughout the different sites of the Telendih block of Sundargarh, Odisha, we realized the geology has wide scope in stratigraphic and structural field and is very much important in both theoretical and practical point of view. Since Sundargarh has various geological features, we also gained knowledge to analyze different significance of various rock types with respect to their formations. The following are the points that we studied during this training program.

I. Locating our self at field with the help of backward bearing by triangulation method of three known natural features likes hill peak, temple, settlement, bridge, lake, pond etc. using toposheet and Brunton compass. Also locating unknown position from known location with forward bearingusing toposheet and Brunton.
II. Uses of Brunton Compass, toposheet in the field.
III. Identification various types of rocks, their megascopic description and measuring attitude of the beds, Dip, and strike of the exposers
IV. Study of interrelationship between different litho-units
V. Identification of geological structure like bedding plane, lamination, fault, shearing, foliation,brecciation, slicken slide.
VI. Selection of bore hole sites and various drilling methods and some important techniques at the drilling site
VII. Litho-logging and sampling techniques
VIII. Measuring of radioactive anomaly using RSM

भारत सरकार / Government of India
परमाणु ऊर्जा विभाग / Department of Atomic Energy
परमाणु खनिज अन्वेषण एवं अनुसंधान निदेशालय
Atomic Minerals Directorate for Exploration and Research
पूर्वी क्षेत्र / Eastern Region

NEW INDIA @ 75
आजादी का अमृत महोत्सव

प्रमाण-पत्र / Certificate

प्रमाणित किया जाता है कि भूविज्ञान विभाग, शासकीय महाविद्यालय, सुंदरगढ़ के श्री आलोक प्रधान ने भूगर्भीय मानचित्रण पर दिनांक 05.01.2023 से 10.01.2023 तक टेलेंडीह क्षेत्र, सुंदरगढ़, ओड़ीशा मे अंतःशिक्षुता (इंटर्नशिप) कार्य को सफलतापूर्वक पूरा किया।

This is to certify that Mr. ALOK PRADHAN of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature

25/7/2023

Date: 24.07.2023
Place: Jamshedpur

(सी. [illegible])

भारत सरकार / Government of India

परमाणु ऊर्जा विभाग / Department of Atomic Energy

परमाणु खनिज अन्वेषण एवं अनुसंधान निदेशालय

Atomic Minerals Directorate for Exploration and Research

पूर्वी क्षेत्र / Eastern Region

प्रमाण-पत्र / Certificate

प्रमाणित किया जाता है कि भूविज्ञान विभाग, शासकीय महाविद्यालय, सुंदरगढ़ के **श्री एजेकिएल भेंगरा** ने भूगर्भीय मानचित्रण पर दिनांक 05.01.2023 से 10.01.2023 तक टेलेंडीह क्षेत्र, सुंदरगढ़, ओड़ीशा मे अंतःशिक्षुता (इंटर्नशिप) कार्य को सफलतापूर्वक पूरा किया।

This is to certify that Mr. EZEKIEL BHENGRA of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature 25/7/2023

Date: 24.07.2023

Place: Jamshedpur

(Seal)

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भारत सरकार / Government of India
परमाणु ऊर्जा विभाग / Department of Atomic Energy
परमाणु खनिज अन्वेषण एवं अनुसंधान निदेशालय
Atomic Minerals Directorate for Exploration and Research
पूर्वी क्षेत्र / Eastern Region

प्रमाण-पत्र / Certificate

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This is to certify that Ms. SALFARANI BIPRA of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature 25/7/2023

Date: 24.07.2023
Place: Jamshedpur

(सील/Seal)

भारत सरकार / Government of India
परमाणु ऊर्जा विभाग / Department of Atomic Energy
परमाणु खनिज अन्वेषण एवं अनुसंधान निदेशालय
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पूर्वी क्षेत्र / Eastern Region

प्रमाण-पत्र / Certificate

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This is to certify that Mr. PRABEER KUMAR SETHY of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature 25/7/23

Date: 24.07.2023
Place: Jamshedpur

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Atomic Minerals Directorate for Exploration and Research
पूर्वी क्षेत्र / Eastern Region

प्रमाण-पत्र / Certificate

प्रमाणित किया जाता है कि भूविज्ञान विभाग, शासकीय महाविद्यालय, सुंदरगढ़ के कुमारी उर्जास्वाति मिश्र ने भूगर्भीय मानचित्रण पर दिनांक 05.01.2023 से 10.01.2023 तक टेलेंडीह क्षेत्र, सुंदरगढ़, ओड़ीशा मे अंतःशिक्षुता (इंटर्नशिप) कार्य को सफलतापूर्वक पूरा किया।

This is to certify that Ms. URJASWATI MISHRA of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature

25/7/2023

Date: 24.07.2023
Place: Jamshedpur

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भारत सरकार / Government of India
परमाणु ऊर्जा विभाग / Department of Atomic Energy
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This is to certify that Ms. PRIYADARSINI SUNDARAY of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature 25/7/2023

Date: 24.07.2023
Place: Jamshedpur

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पूर्वी क्षेत्र / Eastern Region

प्रमाण-पत्र / Certificate

प्रमाणित किया जाता है कि भूविज्ञान विभाग, शासकीय महाविद्यालय, सुंदरगढ़ के **श्री सौभाग्य महापात्र** ने भूगर्भीय मानचित्रण पर दिनांक 05.01.2023 से 10.01.2023 तक टेलेंडीह क्षेत्र, सुंदरगढ़, ओड़ीशा मे अंतःशिक्षुता (इंटर्नशिप) कार्य को सफलतापूर्वक पूरा किया।

This is to certify that Mr. SOUBHAGYA MOHAPATRA of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature 25/7/2023

Date: 24.07.2023
Place: Jamshedpur

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प्रमाण-पत्र / Certificate

प्रमाणित किया जाता है कि भूविज्ञान विभाग, शासकीय महाविद्यालय, सुंदरगढ़ के श्री साहिल सिद्धांत खुंटिया ने भूगर्भीय मानचित्रण पर दिनांक 05.01.2023 से 10.01.2023 तक टेलेंडीह क्षेत्र, सुंदरगढ़, ओड़ीशा में अंतःशिक्षुता (इंटर्नशिप) कार्य को सफलतापूर्वक पूरा किया।

This is to certify that Mr. SAHIL SIDHANT KHUNTIA of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature 25/7/2023

Date: 24.07.2023
Place: Jamshedpur

भारत सरकार / Government of India

परमाणु ऊर्जा विभाग / Department of Atomic Energy

परमाणु खनिज अन्वेषण एवं अनुसंधान निदेशालय

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पूर्वी क्षेत्र / Eastern Region

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This is to certify that Ms. MADHUCHHANDA PANIGRAHI of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature 25/7/23

Date: 24.07.2023

Place: Jamshedpur

(सील/Seal)

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परमाणु खनिज अन्वेषण एवं अनुसंधान निदेशालय
Atomic Minerals Directorate for Exploration and Research
पूर्वी क्षेत्र / Eastern Region

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This is to certify that Mr. SIDDHARTHA SHANKAR BEHERA of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature 25/7/2023

Date: 24.07.2023
Place: Jamshedpur

(सील/Seal)

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प्रमाणित किया जाता है कि भूविज्ञान विभाग, शासकीय महाविद्यालय, सुंदरगढ़ के **कुमारी देबजानी साहू** ने भूगर्भीय मानचित्रण पर दिनांक 05.01.2023 से 10.01.2023 तक टेलेंडीह क्षेत्र, सुंदरगढ़, ओडीशा में अंतःशिक्षुता (इंटर्नशिप) कार्य को सफलतापूर्वक पूरा किया।

This is to certify that Ms. DEBAJANI SAHOO of Department of Geology, Government College, Sundargarh has successfully completed Internship Programme on Geological Mapping from 05.01.2023 to 10.01.2023 at Telendih area, Sundargarh, Odisha.

हस्ताक्षर/Signature 25/7/2023

Date: 24.07.2023
Place: Jamshedpur

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