Criterion-1: Curricular Aspects

Key Indicator – 1.3: Curriculum Enrichment

Metric: 1.3.3

Programme: M.Sc. Geology

Syllabus	https://www.du.ac.in/uploads/RevisedSyllabi1/Annexure-17.%20M.Sc.CBCS%20syllabus%20(Geology).pdf
Number of Students	Annexure-I
Sample Field Work Reports	Annexure-II

Annexure-I

Number of Students

Department of Geology, University of Delhi
भू–विज्ञान विभाग, दिल्ली विश्वविद्यालय
(CENTRE OF ADVANCED STUDIES)
34, Chhatra Marg, Delhi-110 007
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E-mail: head@geology.du.ac.in

Dr. Pankaj Srivastava
Senior Professor & Head

Geol./2024/
27th January, 2024

TO WHOM IT MAY CONCERN

This is to certify that the following research scholars & students (approximate) have done their field work and internships as per the details is given below:

Year	Particulars	Approximate number of scholars & students
2017-18	Ph.D., M.Phil., M.Sc., M.Sc. Integrated & B.Sc.	249
2018-19	Ph.D., M.Phil., M.Sc., & B.Sc.	244
2019-20	Ph.D., M.Phil., M.Sc., & B.Sc.	276
2020-21	Ph.D., M.Phil., M.Sc., & B.Sc.	286
2021-22	Ph.D., M.Phil., M.Sc., & B.Sc.	249

27/1/2024

Head of the Department

विभागाध्यक्ष / Head
भू–विज्ञान विभाग / Department of Geology
दिल्ली विश्व... University of Delhi
दिल्ली ...0007

27/1/24

Annexure-II

Sample Field Work Reports

FIELD REPORT

AJEETHGARH

FEB-2023

ANUKAR RAJPUT
M.Sc. Geology

DEPARTMENT OF GEOLOGY
UNIVERSITY OF DELHI

CONTENTS

PREFACE

“Earth is the art of nature”. Geologists know that this artwork is asymmetrical and very unstable. I keeps on changing at varying time-scales. The processes taking place within and on the surface keep on creating and destructing the strokes on the canvas of earth.

Every chronological sequence of processes taking place in earth create a final puzzle, which needs to be solved to completely understand the art of nature. This beautiful puzzle can only be solved when the viewer has the ability of appreciate the art.

The eyes of an experienced geologist are trained to understand and solve every tricky riddle formed by the nature. This experience cannot come by reading books and doing research in the closed systems of laboratories. This could only be achieved by going in to the field, experience the nature first-hand, by having the feel of rocks in hands and making observations, small or big. Every aspect of the puzzle is needed to be understood to appreciate the art.

Field observations are then interpreted in labs and theories and hypothesis are made, which finally lead to a solution of how the artwork was formed and what could be the key natural processes behind its creation.

So, the main objective of this work is to study the regional geology of the area near Ajeethgarh town in Rajasthan.

~ Anukar Rajput

ACKNOWLEDGEMENT

I thank everyone who spent considerable time mentoring me in this geological field trip near Ajeethgarh town, Rajasthan.

I would like to thank Prof. Pankaj Srivastava, Dr. Saquib Abdullah and the GSI geologists who joined us in the field. It was under their proper guidance that we learnt more than we could imagine.

I am very grateful to all of my batchmates especially Aparajita Mitra, Ankita Nambiar, Gargi Tripathi, Anjali Katiyar and Mayank Sagar whose curiosity and enthusiasm made understanding geology of the area a lot of fun.

I thank Ph.D. scholars Dr. Jeev J.Sharma and Mr. Rohit Kumar who have helped us in all the lab, post field work and made us understand the significance of the field and field report.

INTRODUCTION

As the term implies, **field geology** means Field work, geology as practiced by direct observation of outcrops, exposures, landscapes, and drill cores. Those engaged in field geology investigate rocks and rock materials in their natural environment. Field geologists thus attempt to describe and explain surface features, underground structures, and their interrelationships. Although field geology is based on observation, many conclusions are predicated on inferences, “the ability to infer and infer correctly is the goal of training in field geology”.

Successful geological field work consists of the accumulation of significant facts. At each outcrop the geologist records whatever data are pertinent to his problem, and, ideally, he should never have to visit an outcrop a second time.

As the field work progresses and the larger geological picture begins to unfold, experience and judgement are essential if the geologist is to evaluate properly the vast number of facts gathered from thousands of outcrops.

Nothing is more naïve than to believe that a field that a field geologist should gather only “facts” the interpretation of which is to be made at a later date. Because of his numerous tentative interpretations, the field geologist will know how to evaluate the facts; these hypothesis, moreover, will lead him to critical outcrops that might otherwise never have been visited. On the other hand, the field geologist should never let his temporary hypothesis become ruling theories, thus making him incapable of seeing contradictory facts.

TOOLS & MEASUREMENTS

- A **hammer** with a pick or chisel end is used for cleaning exposures, for digging, for breaking rocks, and for trimming samples. Standard geologists hammer have heads weighing 1.5 to 2 lb (0.68 to 0.9 kg) and are adequate for most geologic work. A small sledge--- for example a 2 or 3 lb head on a 14-in. handle may be needed to collect fresh samples of especially hard rocks. While using hammer, it is important to wear safety goggles, not to strike heavy blows when people are nearby, never to strike one angular rock edges.

- A cold **chisel** maybe used with a hammer to split rocks parallel to bedding or foliation and to free fossils or specific mineral samples from unfoliated rocks.

- Of the **hand lenses**, 10X and 14X lenses are used most widely. In testing a lens, and in all other viewing, the following are important, hold the sample so that the area being viewed is in full light -- in sunlight, if possible, hold the lens exactly at the distance of sharp focus, with its optical axis perpendicular to the surface being viewed, bring the eye to the point where the eyelashes are mostly touching the lens (this is the only position from which the entire field of view will be sharply and comfortably in focus)

Geologic Hammer

Chisel

Hand lens

Brunton compass

Measuring tape

Maps & Toposheets

FIELD REPORT

AJEETGARH, FEB 2023

Ajeetgarh Diaries

APARAJITA MITRA

M.Sc I GEOLOGY

Department of Geology,

University of Delhi

Field Equipments

Brunton Compass: The Brunton in the field is the calculation of the strike and dip of geological features (faults, contacts, foliation, sedimentary strata etc.). It is used to measure Strike and Dip.

Hammer: A geologist always carries a heavy hard hammer with one side blunt. It is used to crush and the break the rock along the fractures and parting.

Satchel: Satchel is a cloth bag used carrying rock samples and field equipments.

Field Dairy: It is used to note down the data and observation including sketches involve.

Digital Camera: It is used to take pictures of various materials to the study.

Hand lens:- A hard lens is used to magnify the textural feature of the rock sample when held closely between the eye and the sample towards the sources of light.

Measuring Strike: - Place the bottom edge of the Brunton compass against the plane of intersection. Adjust the compass orientation, making sure the bottom edge is always flat against the plane until the air bubble in the Bull is Eye level' is cantered. Read either end of the compass needle to obtain the value of the strike.

Measuring Dip: - After determining the strike, we rotate the compass 90. Place the side of the compass flat against the plane. Adjust the lever on the back of the compass until the air bubble in the 'clinometers level' is centered. Read the dip directly from the scale in the compass.

Geology of the Aravalli Craton

1. Introduction

The Aravalli Craton represents the well-preserved geological history of evolution of The Aravalli Mountains and adjacent areas covering Rajasthan and parts of neighbouring states. The geological study of this area was predominantly done by early workers, like Coulson (1933), Gupta (1934), Gupta & Mukherjee (1938) and Heron (1917a, b, .1923, 1936). Heron was the first person to suggest the basic framework of the Precambrian geology of Rajasthan through detailed mapping of his studied area. The Aravalli craton consists of three major terranes BGC, Sandmata Complex and supracrustal sequences. Various lines of evidence suggests that the banded gneiss-complex (BGC) and the Bundelkhand Gneiss constitute the basement rocks. The Sandmata Complex was previously interpreted as a reworked equivalent of the basement gneisses but based on contrasting lithology, deformation styles and metamorphic grade now its inferred that the Sandmata Complex possibly represents an independent terrane with a distinct tectonothermal history.

The majority of Archean crust comprises of granite-greenstone terranes characterized by keel-shaped greenstone sequences and granitoid domes (Nutman et al., 1993; Zhai and Santosh, 2011). The marginal zones of such terranes are characterized by Precambrian orogenic belts. These orogenic belts are the product of tectonic events that occurred during two distinct stages – accretionary and collisional orogens and mark the onset of plate tectonics. But to study the evolutionary history of the earliest continental crust we have to note the structural, petrological, geochemical and geochronological datasets to understand the geodynamic settings. According to recent studies, the Aravalli craton consists of three major crustal studies the Mewar gneissic terrane and intrusive granitoids (~3.3–2.5 Ga), the Aravalli fold belt (~2.2–1.7 Ga) and the Delhi fold belt (~1.7–0.7 Ga).

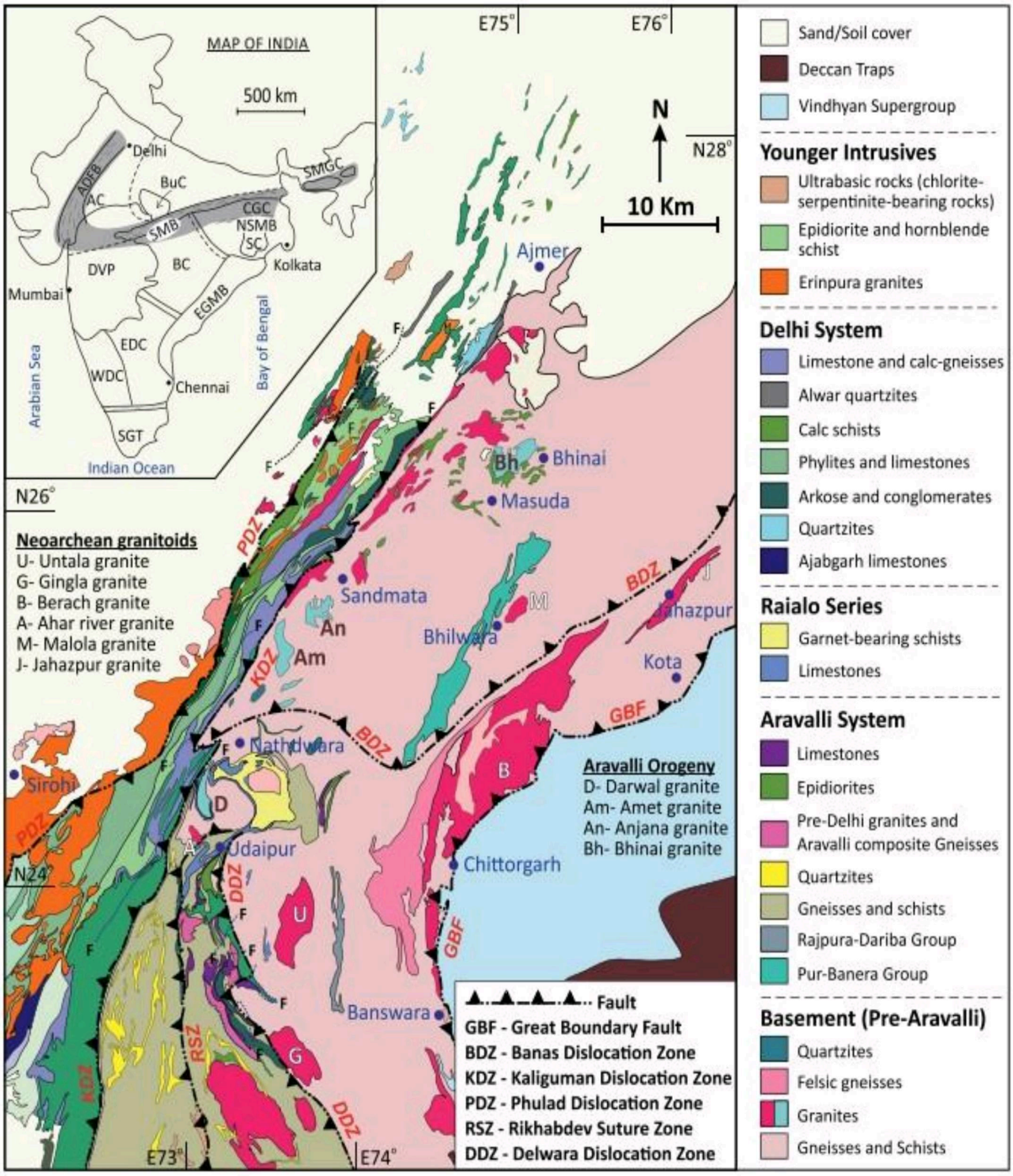


Fig 1: Detailed geological map of the Aravalli Craton and associated fold belts showing stratigraphic subdivision (after Heron, 1953) and major crustal lineaments.

GEOLOGICAL FIELD WORK REPORT on AJITGARH, RAJASTHAN

Submitted by: GARGI TRIPATHI

M.Sc. GEOLOGY: 335

1sr Year (1ST Semester)

2023

Submitted to:

Dr Pankaj Srivastava

Dr Saquib Abdullah

Department of Geology

University of Delhi

UNDERTAKING

I declare that the work presented in this project titled “Geological Field Report on Ajitgarh, Rajasthan”, submitted to the Department of Geology, University of Delhi, New Delhi for the partial fulfilment for the award of Master of Science degree in Geology, is my original work. I have not plagiarised or submitted the same work for the award of any other degree. In case this undertaking is found incorrect, I accept that my degree may be unconditionally withdrawn.

(Gargi Tripathi)

CONTENTS

IMPORTANCE OF FIELD WORK

Fieldwork is one of the central methods of investigation through which human geographers gather information about people, places, and landscapes, and generate formal knowledge about space–society relations in different contexts. Many human geographers identify themselves and the evolving contexts of their work through fieldwork practices. Quite often, fieldwork is one of the research activities that other academics and the general public outside the discipline most associate with human geography.

Natural sciences, such as biology or chemistry, focus on the physical characteristics of nature and natural environments. Fieldwork is used to understand how natural environments function. A researcher in the field of ecology, for example, may conduct fieldwork to understand how specific organisms, such as plants and animals, relate to one another and to their physical surroundings.

To carry out the Geological Fieldwork few important types of equipment are necessary which include-

- Field Bag
- Field Diary
- Brunton Compass (To measure the attitude of several features)
- GPS Device (Track the location)
- Hammer
- Chisel
- Hand Lens
- Measuring Tape
- Toposheet
- Geometry Box

INTRODUCTION TO AREA OF STUDY- AJITGARH, RAJASTHAN

GENERAL GEOLOGY

The Aravalli Mountains and neighbouring areas have well-preserved records of development of Precambrian basins, which spans about 2500 myr of the Earth's history. It is located in the north – western part of India covering states of Rajasthan, Gujrat, Haryana and Delhi. It is bounded by Mewar craton and great boundary fault in the east and Marwar craton and thar desert in the west.

To the north it is bounded by Indo – Gangetic alluvial plains and Son – Narmada – Tapti lineament to south. It consists of the Archean Banded Gneissic Complex (BGC; 3.3–2.5 Ga) overlain by Paleoproterozoic (~2.2–1.7 Ga) and Paleo- to Neoproterozoic (~1.7–0.7 Ga) metasedimentary sequences of the Aravalli and Delhi supergroups, respectively. The reworked late Paleoproterozoic terrane is called the Sandmanta complex. The BGC, Sandmata Complex and supracrustal sequences, collectively known as Aravalli Craton, were developed by multiple accretionary-collisional processes from ~3.3 to 0.7 Ga and are important terranes for understanding Precambrian crustal evolution.

The Aravalli craton has evolved by the accretionary collisional interaction between three crustal domains. These crustal domains are: The Mewar gneissic terrane, Aravalli fold belt and Delhi fold belt. The Mewar gneissic complex has formed by partial melting of the hydrated mafic crust. The terrane evolved till collision between the Aravalli craton and the Bundelkhand craton. The collision between the cratons led to emplacement of many granitoid bodies. The presence of mafic – ultramafic rocks indicate opening of the basin. This basin opening was driven by rising mantle plumes. Whereas, Felsic magmatism is associated with closing of the basin.

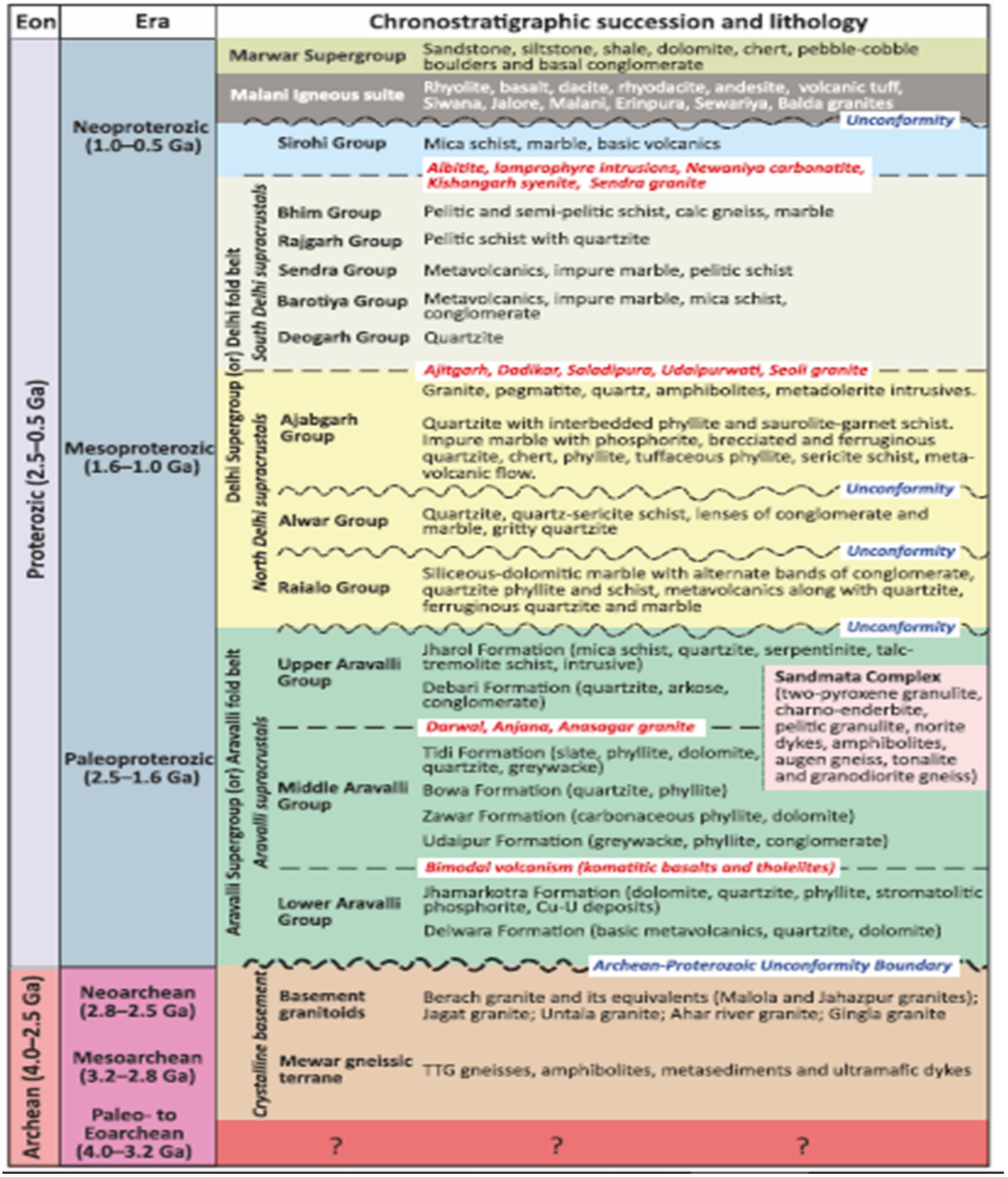
Evolution of Delhi basin took place in two stages. The initial stage developed the North Delhi fold belt and emplacement of A – type granites. The second stage is observed in the southern part. It consists of I – type and S – type magmatism and high-grade metamorphism. Following the Delhi basin closure the western region experienced emplacement of Malani Igneous suite. This was due to western Marwar craton amalgamation with the eastern Aravalli – Bundelkhand craton. This led to development of Sirohi and Marwar basins.

Geological Setting:

The main lithostratigraphic units of Aravalli craton includes Archean basement rocks (BGC), tectonically emplaced granulite facies of Sandmata complex and the overlying metasedimentary sequences of Proterozoic Aravalli and Delhi fold belts.

It also includes the occurrence of largest felsic volcanic province called Malani igneous suite.The Aravalli craton underwent several cycles of magmatism, sedimentation, deformation and metamorphism. This led to various stratigraphic classifications.

Stratigraphic Classification:



FIELD TRAINING REPORT

(AJITGARH, RAJASTHAN)

FIELD TRAINING

BY

SNEHLATA SINKU

UNDER THE GUIDANCE OF

DR. PANKAJ SRIVASTAVA

&

DR. SAQUIB ABDULLAH

M.Sc. GEOLOGY

CLASS ROLL NO: 323

DEPARTMENT OF GEOLOGY

UNIVERSITY OF DELHI

NEW DELHI-110007,INDIA

UNIVERSITY OF DELHI

(DEPARTMENT OF GEOLOGY)

CERTIFICATE

This is to certify that the 'Report on Geological field training report on mapping at Ajitgarh, Rajasthan' is a bonafide document prepared by Snehlata Sinku of 1st year M.Sc. Geology based on the field training conducted during 31/01/2023 - 04/02/2023 towards partial fulfillment of the course of the Field Work.

PREFACE

The main objective of working in a field is to have a better understanding of the different processes involved in the Earth surface, understanding the stages of past-present-future changes that shape them. Working on the field is a systematic and organized description and analysis of the landforms of the earth leading to all the answers that we thrive on.

Geological field work can be both fun and a challenge. It provides a chance to work in the fields under different conditions and to explore our natural world. It also provides an unparalleled opportunity to visit localities more than a tourist. Almost all field work enables us to work as part of a team often with partners and this can be one of the most rewarding experiences of being a geologist because it provides a platform to share our knowledge in mutual terms.

INTRODUCTION

This field excursion that we went for was in the geological section of **Ajitgarh,Rajasthan** to understand the basic techniques and instruments used in the field and make us familiar with the concept of geological mapping and a hand on training-on training of mapping in any geological province.

PURPOSE:-

Like every educational trip, our field work , also aimed at acquainting us with the basic techniques and strategies of the field and to enlighten us with the actual applied knowledge of our course. The main objectives of our field trip were:

1. To understand the geology of AJITGARH, RAJASTHAN.
2. The use of the Brunton compass and methods of measuring the dip and strike of a bed of rock.
3. To identify the location on the toposheet with the help of Brunton compass.
4. To identify geomorphological features of earth.
5. To Observe Local faults, Joints, Erosion, Folds etc.
6. To study and interpret the outcrops.
7. To Study the Fore Bearing and Back Bearing.

INSTRUMENTS AND MATERIAL USED

1.BRUNTON COMPASS: The Brunton compass is used by geologists for field mapping of geological objects. A compact pocket compass with sighting clinometer and reflector attached used for sighting lines as well as measuring strike and dip of geologic horizons.

2.HAMMER: It is a tool that delivers a blow (a sudden impact) to an object. It is used to take out a sample rock from an outcrop.

3. FIELD DIARY: Field diary is required to make necessary notes while observing the outcrops. It helps in recording the observations and readings

BIBLIOGRAPHY

- The best reference in this world for the students is the teachers. During the course of our field work our teachers provided the best consultancy as well as updated knowledge.
- The other references include information from the internet and the journals and papers that our professor provided.
- Geological Survey of India
- Articles from the internet, regarding the works done earlier for references and better understanding.

FIELD REPORT

SECTION 2023

FIELD REPORT ON SURAJ KUND AND BADKHAL LAKE

Submitted by: ABHIJITH K S

Roll NO: 3661

BSC (hons)geology

DEPARTMENT OF GEOLOGY, HANSRAJ COLLEGE

UNIVERSITY OF DELHI

CERTIFICATE

This is to certify that Abhijith K S, student of B.sc.(hons)Geology 2nd Year has successfully completed Geology field report under the guidance of Prof. Partha Pratim Chakraborty, Dr.Pramod Kumar, Dr. Ashima Saikia

This project is absolutely genuine and does not indulge in plagiarism of any kind

Teacher's signature

CONTENT

PREFACE

The field training for BSC (hons)geology 2nd year, Hansraj college was undertaken by Prof. Partha Pratim Chakraborty, Dr. Pramod Kumar and Dr. Ashima Saikia to Suranjkund and Badkhal lake from 31/01/2023 to 1/02/2023.

Like every educational trip, our field word also aimed at acquainting us with the basic techniques and strategies of the field and to enlighten us with the actually applied knowledge of our course.

The main objectives of our field trip were:

1) To study about north Delhi fold bed

2)To study about geological features in Suraj kund and Badkhal lake

3)Learned to measure strike and dip using Brunton compass

4)Learned to locate myself in the map

5)learned about sedimentary structures and bar channel systems

6)Learned how to collect fresh samples of rock from outcrops

7)To study and interpret the outcrops

The approach to accomplish above objectives was that the students were distributed in groups with each group has 6 members. We all worked together and tried to gain the best of knowledge we could from this geological rich location Surajkund and Badkhal lake

FIELD REPORT

Session 2022-23

Field report submitted to Department of Geology of Hansraj College for the partial fulfillment of B.S.c (Hons) Geology 2nd year course.

Submitted by: Achyut Narayan Sharma
RollNo: 3695
Course: B.S.c(Hons) Geology

CERTIFICATE

This is to certify that Achyut Narayan Sharma, student of B.Sc.(hons) Geology 2nd year has successfully completed Geology Field report under the guidance of Prof. Partha Chakraborty, Dr. Pramod kumar and Dr. Ashima Saikia.

This project is absolutely genuine and does not indulge in plagiarism of any kind.

TEACHER'S SIGNATURE

CONTENTS

PREFACE

The field training for B.Sc. (Hons.) Geology 2 nd year HANSRAJ OLLEGE was undertaken by Prof. Partha Chakraborty, Dr. Pramod kumar and Dr.Ashima Saikia in Faridabad from 31/01/23 to 01/01/23.

Like every educational trip, our field work also aimed at acquainting us with the basics of stratigraphy as well as observation of other structural features and to enlighten us with the actually applied knowledge of our course.

- To study different sedimentary structures, rocks etc.
- Learn to locate places on the toposheet.
- To measure strike and dip using Brunton compass.
- Collection of samples for Petrographic analysis.

IMPORTANCE

Working in the field is important for knowledge and understanding of Earth Processes ,prediction of volcanic eruptions, understanding the stages of past climate change recorded in sediment deposition, imagining a process of mountain building, or working with where to find mineral resources, study ripple marks and predicting the direction flow of water of that time etc.

Geological field work can be both fun and a challenge. It provides a chance to work in the fields under different conditions and to explore our natural world. It also provides an unparalleled opportunity to visit localities more than just as a tourist. Almost all field work enables us to work as part of a team often with partners and this can be one of the most rewarding experiences of being a geologist because it provides platform to share our knowledge in mutual terms.

FIELD GEOLOGY

Field geology means field work when the rock and its contents are investigated and studied in their natural environment and in their natural relationship to one another.

It is described as the explanation of surface features and underground structures of Lithosphere. It is an important aspect of Geology. A Practical approach increases the understanding of subject, To enhance practical skills and to enable a person to apply his or her knowledge into practical work and application, field trips are generally conducted. In other words, without field work we cannot become geologists. In books, various geological features are given but they are in 2D representation whereas during a field trip, we can see 3D structures thus better for our understanding. Also, one can learn the use of various instrument's like Brunton Compass, hammer, Toposheet etc.

It is a fact that the best way to solve a problem is to face it practically. A Geologist goes to the site of outcrop to see the geological features, observes it carefully and interprets it to arrive at a conclusion.

Field Report

Rajasthan

Study of Structural feature present in the rocks of Delhi Super Group exposed in Udaipur Kelwara- Kumbhalgarh area.

CONTENTS

Introduction:

Introduction to the field work. General description of the area, its geographic location along with weather patterns . The accessibility of the study areas.

Previous Works:

The previous works done in the area. The on going research. General Geology of the area based on the previous works in the area

Field Work:

Data analysis of measurements taken on the fields by our group on day 1. Analysis of data taken on day 2 Analysis of data on day 3 . Analysis of data recorded by other groups. Interpretation of the entire data.

INTRODUCTION

Introduction to the field work:

For the field work mentioned in the syllabus of MSc Previous Department of Geology, University of Delhi, it was declared that the students were to do there field work on the structural geology of the Delhi Supergroup rocks exposed in the Udaipur Kelwara-Kumbhalgarh area. Dr. Anupam Chattopadhyay and Dr. Pankaj Srivastava along with a PhD scholar of Structural Geology Department, Mr. Kalyanbroto accompanied us to the field work. It was under the guidance of these teachers that we successfully completed our field work in structural geology for semester one. The tour to Rajasthan Udaipur was a total of 5 days which included 2days of journey and 3 days of field work. The students were divided into group of fou students who were to work together on the field to produce a unified collection of data. The day before our journey started We received instructions from our guiding teachers about our journey , an outline of the general geology of the area and the work we were to do on the fields. On the very same day we issued our geological instruments which included a Brunton Compass, a hammer, a chisel, a measuring tape and a mini hand lens

We started our journey on the evening of 4th February 2019 From H. Nizamudin railway station and reached Udaipur the very next day of 5th february At around 7 30 am. From there we booked our own vehicles and left for Kelwara immediately. We reached there by 11 am in the morning. Completing our lunch we straight headed for our first site Pokhariya which was around 15 km from Kelwara. We spent the entire afternoon watching different type of folds and gather data from it. Wrapping up for the day we returned to our hotel.

Next day we began our journey at around 10 am for Ghata which is around 50 km from Kelwara. We traversed the entire road from Ghata To Kelwara And watched different types of rock of Delhi Supergroup. After the journey we reached Kumbhalgarh were our teacher Dr. Anupam Chattopadhyay showed us all the important folded structures. He also gave us some insightful history of the Kumbhalgarh fort along with the geological information of the area. After traversing the entire hill on which the Kumbhalgarh fort is situated, we were given permission to visit the fort from inside as tourists.

Wrapping up our trip at around 4 o'clock , ending our field work for the day we returned to our hotel. The next day we started early morning for Kumbhalgarh fort. Each group was assigned to different sites within the fort where we were supposed to measure the difference structural properties of the folds and generate and over all data for the entire area. We spent our entire day collecting data from different structures after which our teacher Dr. Anupum Chattopadhyay and Dr. Pankaj Srivastav again showed us some new fantastic text book example of folds. Wrapping up for the day at around 4 o clock we reached our hotel at five. At around 7 o clock we were invited according to our groups for a viva about all the three days.

The following day again we started early morning for our journey to Udaipur. Our train was in the evening so we had the entire day to us for exploring the city. At first we visited the Fathehpur Lake followed by The City Palace and Pichola Lake. It was a wonderful experience for all of us. We aboard our train on 6 pm and reached Delhi the next day at around 12 pm with which our trip ended. As per the instructions this is a report detailing all our work in the field along with the interpretation of that work.

NAME - AKASHDEEP BARALA

INTEGRATED Bsc.(HONS.) GEOLOGY Msc. GEOLOGY

ROLL NO -1405

FIELD REPORT TO KUTCH, GUJARAT

INTRODUCTION

A field trip was organised for our class where we went **to kutch, Gujarat**. We started our trip on 9th December, boarded the train from Delhi to Bhuj. Our purpose was to study and observe the Tertiary sequence of kutch. On 10th December we reached bhuj and we learnt and observed some structures in sandstone. Then we went to Naliya on the same day.We stayed at Naliya during our entire trip. On 11th December, we learnt about the matanomadh formation and saw various varieties of corals. We also learnt about the possible environment in which this formation was formed. On 12th December, we learnt and observed the Sandhan formation and its possible environment in which it formed. We also got to know about the paleosol. On December 13, we got to know about Naredi, Harudi and Khari nadi formations and their possible environment in which they would have formed. On 14th December we went to a lignite coal mine and took some samples. In the evening we went to the pingleshwar beach. On the last day of field i.e. 15th December, we got to know about the fulra limestone and maniyara formations. We also saw many fossils here.

On 16th December, we went back to bhuj and boarded the train back to Delhi. Our 6-day field trip was educational, practical, knowldegeable. This credit goes to our professors **Dr. Gvr Prasad and Pramod kumar**, who were extremely cooperative and helpful. **Their guidance during and before the trip helped us a lott.**

So, here is a detailed yet precise report of our field trip to kutch, Gujarat.

LOCATION MAP OF FIELD