昭和六年十一月

静岡

地質調査所

地質説明書

図版第三九号

地理主義・地理学
静岡
総行八
横行三
地質
説明書

第一章
地質

三倉
統

工部
千谷
好之助

岩硬砂岩
粘板巖
英斑岩
等
固結
礫状
砂岩

四〇頁
四三頁
四七頁
一般に地質学における地層の分類は、砂岩、頁岩、灰岩などに分けられる。
頁岩は泥岩、頁巻岩、頁巻灰岩などに分けられ、それぞれの特性をもつ。
砂岩は粒状組織を有し、透水性が高く、巻き曲がりやすい。
灰岩は石灰岩の一種で、主に地層の下部に見られ、鉄分を多く含む。

頁岩の形成は、地殻の変動により海底から海底下に堆積し、圧力と熱により変化し、結晶化が進行する。
砂岩の形成は、風や雨により砂が堆積し、圧力に耐え、結晶化が進行する。
石灰岩の形成は、植物の根や動物の骨が地表に堆積し、埋め立てられ、圧力と海水によりカルサイトが形成される。

頁岩は幅広い地質学の分野で用いられ、海底から海底下を含む様々な環境で見られる。
砂岩は地表から海底下まで分布し、特に深海に分布する。
石灰岩は特に浅海に分布し、海底から海底下まで分布する。

頁岩の主要成分は、頁巻灰岩が主に頁巻灰岩、砂岩が主に粒状組織を有し、透水性が高く、巻き曲がりやすい。
灰岩の主要成分は、石灰岩が主に石灰岩、頁巻岩が主に頁巻岩、頁巻灰岩が主に頁巻灰岩。

頁巻岩は細粒組織を有し、透水性が低く、巻き曲がりにくい。
砂岩は粗粒組織を有し、透水性が高く、巻き曲がりやすい。
石灰岩は細粒組織を有し、透水性が低く、巻き曲がりにくい。
五、鮮新層下部

本層は、下層を含む繊維状層ト上層ヲ塩ノ内層トス

(一) 纖維状層

本層ハ主ニ岩及び砂岩トía合ト

(二) 塩ノ内層

本層ハ、砂岩及び泥岩トía合ト
| Drilliia sp. | Ebinua clata Yok. |
| Mangilia pukhahana Yok. | Bulia (Adennis) chinensis Yok. |
| Cancilleria spongeliana Desh. | Nassia (Hina) japonica Ad. |
| Cancilleria nodulifera Sow. | Nassia (Hina) domersia Yok. |
| Cancilleria bongiana Cr. et al. | Nassia (Nithia) corinnia Yok. |
| Cancilleria asperella Lam. var. | Columbella (Atilia) smithi Yok. |
| revivita Cr. | Columbella (Mitrella) dumeri Try. |
| Otusa trisana Lam. | Murca spinicosta Br. |
| Olivello fortunii Ad. | Murca (Phylomus) ballota Yok. |
| Olivello spectabilis Yok. | Repuna bezoar L. var. thomassiana Cr. |
| Ancilla rubiginosa (Swain.). | Purpera altavala Rve. |
| Ancilla olivacei Yok. | Triton tenatiurus Lte. |
| Voluta megaspila Sow. | Pricae oreogenaecis (Redf.). |
| Mitra pristina Yok. | Galeoka (Sonsia) japonica Yok. |
| Fusus perplexus Ad. | Melongea miranda Yok. |
| Hemifusa tenuata (Gme.) | Bittium mississipinum Yok. |
| Siphonalia considurisformis (Rve.) | Turritella portentosa Yok. |
| Siphonalia delilis Yok. | Turritella kiensis Yok. |

| Soloria (Philippia) eugratam Kien. | Meretrix ogyana Yok. |
| Natica sinhaleana Desh. | Meretrix (Callista) chinensis (Chen). |
| Polinices (Nexrite) ampla (Phil.). | Clementia speciosa Yok. |
| Sigarusta (Eacunia) papilla Gm. | Venus (Mercenaria) stimpsoni Gld. |
| Pyramidella (Aetropyramid) exima (Lte.) | Venna exonai Yok. |
| Odontonia (Miralda) clandestina Yok. | Chione ishbelina (Phil). |
| Calliostoma unica (Dkr.) | Tapes anglyptus Phil. |
| Ubbnonium mystien Yok. | Diplolanta japonica Pils. |
| Dextalium venulaturum Dkr. | Cardia punda Yok. |
| Pampus generosa (Gld.). | Crasatella heterogypta Pils. |
| Corbula cryphilodon Lam. | Pteres pransigna Yok. |
| Macqu whirica Dkr. | Ostrea cunctata Born. |
| Columella crucifera Dkr. | Ostrea sp. |
| Rama yokohamensis Pils. | Pumma japonica Had. |
| Solca krususstenii Slev. | Area (Amamabeardia) inflata Rve. |
| Tellina sp. | Patanculina vestitas Dkr. |
| Macoma procaecata (Mart.). | Patanculus albicans Dkr. |
| Donia tracheli Lte. |
更新層

本層の土層は不整合の「被覆層」に覆われ、下部の砂礫層と上部の母岩層との境界が明瞭である。下部の母岩層は、灰色の泥岩、砂岩、石灰岩等の堆積物から成り、上部の母岩層は、灰色の頁岩、片麻岩、片麻岩等の堆積物から成っている。

九 現世層

本層の海成堆積物は、主に泥岩、砂岩、石灰岩等の堆積物から成り、下部の母岩層と上部の母岩層との境界が明瞭である。下部の母岩層は、灰色の泥岩、砂岩、石灰岩等の堆積物から成り、上部の母岩層は、灰色の頁岩、片麻岩、片麻岩等の堆積物から成っている。

川大井川、三角洲河成堆積物中の母岩層と上部の頁岩層との境界が明瞭である。下部の母岩層は、灰色の泥岩、砂岩、石灰岩等の堆積物から成り、上部の頁岩層は、灰色の頁岩、片麻岩、片麻岩等の堆積物から成っている。

砂礫河成堆積物中の母岩層と上部の頁岩層との境界が明瞭である。下部の母岩層は、灰色の泥岩、砂岩、石灰岩等の堆積物から成り、上部の頁岩層は、灰色の頁岩、片麻岩、片麻岩等の堆積物から成っている。
石英閃綠玢岩

一

十一

黒灰色中粒質

主成分＝角閃石＝長石＝石英

副成分＝黑雲母＝磁鐵礦

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績状組織＝長石＝結晶＝長石＝結晶

P.mode以下＝長石＝結晶＝長石＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

成結晶＝短纖維＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶

斜長石＝中粒長石＝乃至黑雲母＝磁鐵礦＝石英＝短纖維

紡績狀組織＝結晶＝結晶＝結晶

P.mode以下＝結晶＝結晶＝結晶
十三 橄欖岩及蛇紋岩

橄欖岩

- 均一著長石及粒狀石英
- 均一著長石及粒狀石英
- 均一著長石及粒狀石英
- 均一著長石及粒狀石英

蛇紋岩

- 分為兩大部：
  1. 濃緑色
  2. 淺灰綠色

- 均一著長石及粒狀石英
- 均一著長石及粒狀石英
- 均一著長石及粒狀石英
- 均一著長石及粒狀石英
十五
輝緑岩
主成分：テータン輝石
副成分：ピラフィナイト、蛇紋石

t線化セリモミ、しだれ長石、赤色長石、長石、五尾輝石

十六
橄榄輝緑岩
主成分：テータン輝石
副成分：ピラフィナイト、蛇紋石

t線化セリモミ、しだれ長石、赤色長石、長石、五尾輝石

 Mohammad

十六
橄榄輝緑岩
主成分：テータン輝石
副成分：ピラフィナイト、蛇紋石

t線化セリモミ、しだれ長石、赤色長石、長石、五尾輝石

 Mohammad
第二章 應用地質

紫蘇輝石安山岩の東津村以西に分布する玄武岩の噴出に対比される。この玄武岩は、長石・紫蘇輝石・钠長石・石英・輝石・輝蝶石・白雲母・ガラス質の長石・輝石・といった種類の鉱物からなっている。

玄武岩の堆積は、層状構造を呈し、規則的な層が形成されている。この層状構造は、堆積の過程で自然に形成されたものと考えられる。

成因については、海成岩であると考えられ、 milhões年前に海底で形成されたと考えられている。
<table>
<thead>
<tr>
<th>序号</th>
<th>姓名</th>
<th>性别</th>
<th>年龄</th>
<th>职位</th>
<th>部门</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>李华</td>
<td>男</td>
<td>30</td>
<td>经理</td>
<td>人事</td>
</tr>
<tr>
<td>02</td>
<td>王明</td>
<td>女</td>
<td>28</td>
<td>副总</td>
<td>行政</td>
</tr>
<tr>
<td>03</td>
<td>张三</td>
<td>男</td>
<td>32</td>
<td>主管</td>
<td>销售</td>
</tr>
<tr>
<td>04</td>
<td>李四</td>
<td>女</td>
<td>29</td>
<td>助理</td>
<td>市场</td>
</tr>
</tbody>
</table>

上述表格展示了公司员工的基本信息，包括姓名、性别、年龄、职位和部门。
### 建築石材

<table>
<thead>
<tr>
<th>石材名</th>
<th>産地</th>
<th>品質</th>
</tr>
</thead>
<tbody>
<tr>
<td>豊岡岩</td>
<td>豊岡市</td>
<td>一般</td>
</tr>
<tr>
<td>吉野石灰岩</td>
<td>吉野市</td>
<td>一般</td>
</tr>
<tr>
<td>竹野石灰岩</td>
<td>竹野市</td>
<td>一般</td>
</tr>
</tbody>
</table>

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### 三

- **発散**
  - 東益津村石岩
  - 西方四百米
  - 石油発掘地

- **瓦斯の発掘**
  - 将来石油発掘
  - 川崎町
  - 岡田及坂部村
  - 村田
  - 谷田

- **瓦斯の存在**
  - 無形瓦斯
  - 東益津村近
  - 建築石材

- **瓦斯の利用**
  - 初倉村
  - 石油発掘
  - 天然瓦斯

---

### 四

- **瓦斯の発掘**
  - 初倉村
  - 石油発掘
  - 天然瓦斯

- **瓦斯の利用**
  - 初倉村
  - 石油発掘
昭和六年十一月二十二日印刷
著作権所有
商工省
定価金六拾五銭
郵税金四錢

發行所 東京地學協會印刷部
印刷所 東京市中區竹下町松本七三一一番地
印刷者 豊田作治郎

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EXPLANATORY TEXT
OF THE
GEOLOGICAL MAP OF JAPAN
Scale 1:75,000

SHIZUOKA
Zone 27 Col. VIII
Sheet 129

By
Yoshinosuke Chitani

(Abstract)

GEOLOGY

Mikura Series may be divided into three parts,—the Lower or Kumakiri Beds, the Middle or Iyeyama Beds and the Upper or Nateshima Beds.

The Kumakiri Beds mainly consist of conglomerate, clay slate and sandstone. The general strike is from west-south-west to east-north-east, and the dip from 50° to 60° either to north or to south, thus giving rise to one anticline and two synclines.

The conglomerate contains pebbles of quartz-perphyry which intruded into the Upper Palaeozoic in the region lying outside of this sheet map area. Consequently the Beds are generally considered to be Mesozoic and it is very likely that they are at least not younger than Jurassic.
The Iyezama Beds are essentially composed of clay slate containing sandstone beds, alternations of clay slate and sandstone, and conglomerate. The strike changes from east-north-east to north-northeast, and the dip from 40° to 80° to north-north-west or west-north-west.

The Nabeshima Beds mainly consist of sandstone intercalating clay slate and conglomerate. The strike is variable between east-north-east and north-northeast, and the dip between north-north-west to west-north-west with angles varying from 40° to 80°.

The three beds above mentioned generally dipping to north-west and showing an isoclinal structure are often bounded by faults, and their relation to one another is not certain, except the Nabeshima Beds which are conformably stratified covering the Iyezama Beds in the region of Takakuma and Minari. The whole Mikura Series is usually correlated with the Akiyawa Series found in the Kōchi Sheet.

Setogawa Series may be divided into three parts—the Lower or Ichinose Beds, the Middle or Takizawa Beds and the Upper or Nakayama Beds.

The Ichinose Beds consist of sandstone and shale, the former intercalating thin layers of shale and rarely of conglomerate with sandstone. At the village of Aoshima clay slate is found intercalated in the Beds.

The Beds are bounded by those of Nabeshima with a reversed fault between.

The general strike is from east-north-east to north-northeast and the dip from 30° to 80° to north-north-west or to west-north-west. There are several faults which divide the Beds into several blocks, the structure of which is generally isoclinal. These blocks wherever they come in contact with the Iyezama, Nabeshima or Takizawa Beds, show a reversed fault between.

The Takizawa Beds consist of chert and shale accompanying tuff, limestone, sandstone and conglomerate, and are intruded by peridotite, diorite and diabase.

The strike changes from northeast to north-north-east and the dip from north-west to west-north-west with angles varying from 40° to 80°. The Beds are divided into several blocks by faults and bounded from the Ichinose and Nabeshima Beds by reversed faults.

The Nakayama Beds consist of chert and shale. The chert predominates in the lower part of the Beds and shale in their upper, intercalating silicious limestone, sandstone and conglomerate. The limestone as well as some of the cherts contain certain foraminifera such as *Rotalia*, *Glabrigrina*, etc. The general strike is from north-east to north-north-east and the dip from north-west to west-north-west with angles between 30° and 50°. The Beds are divided into several blocks by faults, and generally show an isoclinal structure, although they sometimes locally form anticlines and synclines and are bounded by the Ichinose, Takizawa and Oigawa Beds by reversed faults.

The Setogawa Series is generally considered to be the same as the Mikura Series. However the latter occurring at the village of Mikura is decidedly older than the Setogawa Series.
occurring in the districts of Shida and Abe in its stratigraphical order. So that the Series must be said to be different from the Mikura Series, and is to be correlated with the Nahirugawa Series in the Kannoura Sheet.

**Lower Miocene Oigawa Beds** chiefly consist of shale which is hard and silicious, sometimes clayey and sandy, intercalating conglomerate, sandstone, limestone and tuff. Small lenticular masses of the Mekami limestone characterized by the occurrence of *Lithothamnium marcescens* are found in the Beds. Within the sheet map area the Beds are distributed in six regions which are Tamakurani, Niesaka-Yokooa, Hatsukura-Kuwasaki, Shimada-Fugieda, Okabe-Maruko and Chiyoda. The strike changes from east-north-east to north-east and then to north, forming antilines and synelines with dips varying from 15° to 80°. The Beds in each region are divided into several blocks and bounded from the Mikura and Setogawa Series by reversed faults.

**Upper Miocene Sagara Beds** consist of black shale as well as of alternating layers of sandy shale and sandstone. In the upper part there is a lenticular bed of marl which contains many shells such as *Cardita panda* Yok., *Crasatella puxilla* Yok., *Pecten praesignus* Yok., *Pectunculus vestitus* Dkr., *Pectunculus nipponicus* Yok.

The Beds form a structural bay and rest unconformably on the Oigawa Beds from which they are bounded by faults. The strike is variable, changing from east-west to north-north-west, and the Beds locally form a slight antiline as in the village of Hatsukura.

**Lower Pliocene Nagima Conglomerate** intercalates thin layers of sandstone and shale, and rests on the Sagara Beds mentioned before. They are altogether folded into a trough which is closed towards northeast and opens towards south-west, but the conglomerate seems to be slightly discordant to the underlying Sagara Beds.

**Horinosuchi Beds** consist of alternating layers of sandy shale and sandstone, with thin strata of conglomerate in the lower part. As the Beds mostly consist of shale in the Tamari region, some geologists call them Tamari Beds and consider them to be entirely different from the Horinosuchi.

In the latter there are found many fossil shells such as *Drillia brunnii* Yok., *Cancellaria spongioriana* Desh., *Ancilla oborai* Yok., *Turritella kilensis* YOK., *Unbionium suihense* Yok., *Unbionium mysticam* Yok., *Dentalium weinmannii* Dkr., *Microtus spectabilis* Lko., *Pectunculus vestitus* Dkr., *Limopsis crenata* Ad., *Nucula mirabilis* Ad. et Eve.

The strike is either north-northeast or north-north-west, the dip pointing to west-north-west or to west-south-west with angles from 10° to 15°.

**Middle Pliocene Hotta Tuffite** is a rock intercalated between the Horinosuchi and Uchida Beds described below, while the **Izammi Tuffite** is found between the Uchida and Satsuka Beds also mentioned below.

These tuffites consist of alternating layers of a coarse pumiceous variety and a whitish gray banded compact one.

**Uchida Beds** consist of sandstone, alternating layers of sandstone and shale, and sandy shale. In the village
of Taruki the Beds consist of sandstone intercalating so-called Dainichí fossil bed in the lower part, and sandy or siltstone shales in the upper. The thickness of the whole beds is about 300 metres. The fossil shells hitherto found amount to 99 species in all.

**Upper Pliocene Satsuka Beds** consist of sandy shale and sandstone with a tufaceous sandy shale in the lower part, which contains calcareous nodules and also fossils of *Pectunculus alboineatus* Lkek.

**Hijikata Beds** chiefly consist of sandy shale which intercalates sandstone layers and contains some fossils such as *Pleurotomaria shimonatana* Yok., *Aucilla macros Yok.*, *Voluta megaspira* Sow., *Pecten clancularius* Yok., *Ostrea gigas* Thunb., *Linopsis crenata* A. Ad. In the region of Kūnozān the Beds consist of soft sandy shale in the lower part and alternating layers of shale, sandstone and conglomerate in the upper, containing many fossils such as *Siphonaria cassisdaria* forma *Rve.*, *Nassa livescens* Phil., *Natica tamrockiana* Redl., *Pecten plica* L., *Pecten laqueatus* Sow., *Tellina nitidula* Dkr., *Tapes ex grapticas Phil.*, *Nucula coboldiana* Sow. All Pliocene beds are perfectly conformable in the order described except the Ogawa Conglomerate mentioned below.

**Ogasa wasawa Conglomerate** intercalates several layers of sandstone and sandy shale, and lies discordantly on the eroded surface of the Hijikata Beds.

**Pleistocene** is composed of gravel, clay and sand, and covers the hilly lands as a delta deposit of the old Ōigawa and as a coastal terrace deposit in the region of

Kūnozān besides forming terraces along rivers.

**Recent** is composed of sand, clay and gravel. The sand is found on sea beaches, while clay and gravel form alluvial plains or occupy narrow valleys.

**Quartz-diorite, quartz-diorite-porphyrite, diorite and peridotite** are the differentiation products of the same magma and occur intruding into the Takizawa Beds of the Setogawa Series along reversed faults. **Diabase** and **olivine diabase** which are the differentiation products of diorite and peridotite magma pierce the Takizawa Beds as dykes. **Teshenite, basalt and hypersthene-andesite** occur as dykes and sheets intruding into or flows interbedded in the Ogawa Beds. They are the differentiation products of the same alkaline magma which was erupted along the Shizuka-Itoigawa fault line.

**ECONOMIC GEOLOGY**

**Iron ore** found near Takizawa in the village of Setobani may be used as a raw material of a high speed steel. It occurs as a contact deposit between chert and diorite in the Takizawa Beds in a lenticular form, more than 6 metres long and less than 3 metres broad.

**Petroleum** is found in many places in this sheet map area which are the following:

- **Nita, Kawasaki-cho.**
- **Sakabe, Sakabe-mura.**
Mikagaya, Sakabe-mura.

Jigokuzawa, Hatsu-kura-mura.

In 1877 nine hand-dug wells were lowered at Nita, of which three or four yielded about 1 barrel of oil daily at the depth of from 70 to 160 metres. In 1908 two wells were sunk by the cable and Kazusa method with Japanese spring drills near the same place, but in vain. In 1919 one well was drilled by the cable method to a depth of 760 metres at Jigokuzawa without obtaining any oil.

Building Stones for local use are the sandstones of the Ichinose, Nakayama and Oigawa Beds, the limestone and tuff of the Oigawa Beds as well as teakinite and basalt which are quarried at several places.