## THE SOCIALIST REPUBLIC THE UNION OF BURMA ON GEOLOGICAL SURVEY REPORT THE MONYWA AREA

(DRILLING)

PHASE III (VOL. III)

November 1975

METAL MINING AGENCY JAPAN INTERNATIONAL COOPERATION AGENCY GOVERNMENT OF JAPAN

UNION OF BURMA

PHASE II

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#### PREFACE

The Government of Japan, in response to the request of the Government of the Socialist Republic of the Union of Burma, decided to conduct a geological survey for mineral exprolation in Monywa area of the Burma, and commissioned its implementation to the Japan International Cooperation Agency.

The Agency, taking into consideration of the importance of technical nature of the survey work, in turn, sought the Metal Mining Agency of Japan for its cooperation to accomplish the task within a period of four years.

The term of this survey is four years on agreement including one year extended, and this year is for the survey of the third year phase. The survey work on the spot in Burma for the phase of this year has been completed successfully as scheduled owing to the assistance and support extended by the authorities concerned of the Government of the Socialist Republic of the Union of Burma.

This report submitted hereby summarizes the results of boring survey conducted in the third year phase, and it will be also formed a portion of the final report.

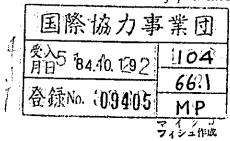
I wish to take this opportunity to express my heartfelt gratitude to the Government of the Socialist Republic of the Union of Burma and the other authorities concerned for their kind cooperation and support extended to the Japanese survey team.

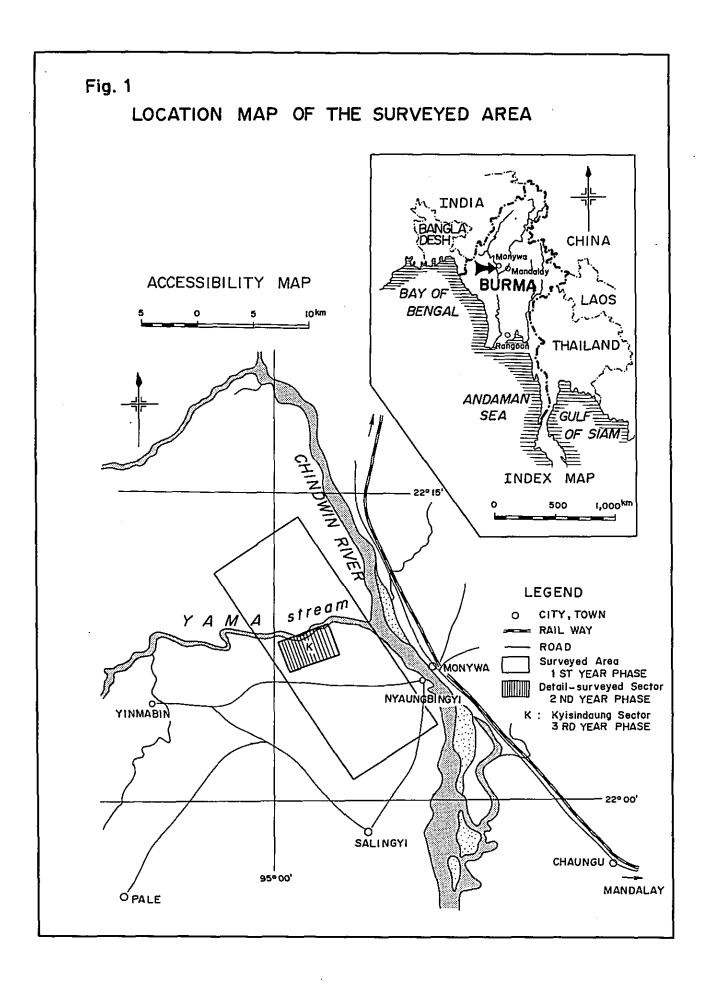
September, 1975

Shinsaku Hogen

President

Japan International Cooperation Agency





#### ABSTRACT

The operation of the Geological Survey for Mineral Exploration in Manywa area was started in 1972 as the First Year Phase, which consisted of ground geological survey, geophysical survey, and diamond drilling. In the Second Year Phase, precise geological survey for the potential areas of mineral resources, geophysical survey, and the calculation of ore reserves of Sabedaung and Kyisindaung Ore Deposits were carried out. The exploration by diamond drilling for Sabedaung Ore Deposit had nearly come to completion within the Second Year Phase, while kyisindaung Ore Deposit had been still under the exploration by diamond drilling, for which it was pointed out through the results of surveys in the Second Year Phase to carry out the precise drilling for the specific part of the ore deposit in view of the necessity to acquire the correct informations about ore emplacement.

The present survey, the operation of the Third Year Phase, consists of diamond drilling of 5 holes with total drilled length of 1,505.3 meters, based upon the results of the Second Year Phase, for the purpose to acquire the correct informations of ore emplacement in the northeastern part of kyisindaung Ore Deposit.

The important fruits of the present survey are firstly that the modes of occurrence of the secondary sulphide ore body has been clarified much accurately in the northeastern part of kyisindaung Ore Deposit, and secondly that the existence of a fault in NE-SW system, which had been inferred at the east side of kyisindaung Hill in the survey of the Second Year Phase, has been ascertained and, consequently, the mineralized domain has well been clarified.

It has been found that kyisindaung Ore Deposit, though it has been put under the continuous drilling operation by Burmese party, has the spaces to be explored in

its southern and southwestern parts, as well as some parts of the deeper ore zone in its central part not to have been explored deep enough to its bottom. In view of this, it may be said necessary to try the definitive calculation of ore reserves at the moment of the completion of the said drilling operation.

Since Kyisindaung Ore Deposit has generally deeper leached zone, reaching more than 200 meters below the surface in some parts, and this means enormous amount of overburden to be stripped in the open pit system, it may be necessary to investigate various ways of mining system in planning the development programme.

As Sabedaung South Ore Deposit has been explored by diamond drilling since June last year, for which the survey of the Second Year Phase had pointed out the necessity of rushed exploration, it is also advisable to try the definitive calculation of ore reserves as soon as the operation will come to completion.

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#### CHAPER 1 INTRODUCTION

#### 1-1 Purpose of Surveys

As the survey works of the Third Year Phase in Monywa area of the Socialist Republic of the Union of Burma, surface diamond drillings were carried out in the northeastern part of Kyisindaung, for the purpose to contribute for planning the development programme of the Monywa Copper Mine by collecting fundamental informations regarding to the ore deposits such as subterrenean informations of geological structure and mineralization.

#### 1-2 Outline of Surveys

- 1-2-1 Site and Amount of Drilling Works
  - 1) Site Kyisindaung Ore Deposit
  - 2) Amount 5 drill holes of approx. 300 meters deep each, totalling 1,505.3 meters
  - 3) Core Logging for 5 drill holes totalling 1,505.3 meters
- 1-2-2 Period of Field Operation from December 6, 1974 to April 30, 1975

#### 1-3 Organization of Survey Team

The field works and data analysis have been done by Mitsui Kinzoku Engineering Service Co., Ltd. (MESCO), with the cooperation of M.M.D.C. (Myanma Mineral Development Corporation) of the Ministry of Mines, Government of the Union of Burma.

Followings are the members of field team;

Liaison and General Supervision

Toshiaki Hisamoto

**MESCO** 

U Kyi

M.M.D.C.

Drilling

Katsuei Narita

**MESCO** 

Isamu Furuya

Drill Core Logging

Sakiyuki Mononobe

**MESCO** 

#### 1-4 Core Logging

- 1) The results of geological logging of the drilled cores have been compiled into the drawings of scale 1/300 for the entire drilled length of 1,505.3 meters of 5 drill holes done by the Japanese team in the present survey.
- 2) All the mineralized cores were split into two and one of the halves was further split into two, from the one half of which assay samples for total Cu were taken at every 2 meters length.
- 3) In the logging, not only the variety of ignenous rocks and sediments with their modes of occurrence were observed carefully, but also the distribution of fissures, dykes, and fractured zones, and the aspects of wall rock alteration were precisely examined, with the special cares to clarify the relation of ore deposition to the geological structure.

#### 1-5 Data Analysis

1) More than 60 pieces of specimens of the important rocks and ores were picked out of the cores logged to use for the closer examination. The split sides of cores by diamond saw of the said specimens were polished to be photographed, of

which remarkable parts were further made into thin sections or polished sections for the use of rock determination, classification of wall rock alteration, and discussion of assemblage of ore minerals with their paragenic relations.

- 2) Clay minerals were determined by X-ray diffraction method.
- 3) A geological section of 1/1000 scale was prepared by arranging the geological logs of the current 5 drill holes to investigate the features of ore emplacement.

#### Cl.APTER 2 GEOLOGICAL SUMMARY

The followings are the geological informations obtained through the surveys of Monywa area in the First and Second Year Phases.

#### 2-1 Formation of Basin and Sedimentation

The Monywa area occupies a part of a local basin formed on the eastern fringe of Salingyi Uplift, which spreads widely in approximately central part of Burmese Plain. Formation of the basin was caused by the depressional faulting of NW-SE and NE-SW systems, and the active volcanisms followed in the course of generating the sedimentary basin.

#### 2-1-1 Sedimentation

The depression of the basin began in Miocene Epoch of Tertiary Period, resulting in the deposition of Damapala formation covering unconformably the green rocks of late Cretaceous Period exposed in the western fringe of the basin. The severest depression took place from Miocene to Pliocene of Tertiary Period with the active volcanisms resulting in the deposition of Magyigon formation which served as the host for mineralization. The depression continued upto the deposition of Kangon formation of Diluvial Epoch of Quarternary, although the depression itself diminished gradually.

Total thickness of the sediments in Monywa Basin reaches to 1,150 meters in which Damapala formation is more than 300 meters thick, the Magyigon 800 meters, and the Kangon 50 meters.

Table 1 shows the inter-relation of successions of the sediments and volcanisms in this area.

Table 1 Generalized Column of Monywa Area

MINERALI- ZATION	ИО	MINERALTZATI (MONYWA AREA)							body
IGNEOUS ACTIVITY	kndesite, Rhyolite.  Hb-biot porphyry ( lavadome )  Qz-Biotite porphyry ( dyke )  Rhyolite ( dyke )  Rhyolite ( dyke )  Rhyolite ( dome)				ı 🦄 ore				
STRUCTUAL MOVEHENT	SUBSIDING MOVEMENT BY STEP-WISE FAULTING  (MONYWA BASIN)				F formation				
ROCK FACIES	soil ne basal muddy r	rhyolite dome with its  pyroclastics upper s.s. and mudstone.	alternation of upper Hb-biot with its	alternation or middle, s.s. and mudstone lower Hb-biot porphyry and its pyroclastics	lower s.s. mudstone alternation and rhyolite dykes	alternation of graded s.s.	and laminated mudstone andesite flow	greenrock hornbl granol	biot - biotite F
COLUMAR SECTION							^^^^		Hb - hornblende
FORKATICN	(10-20m) (10-20m) (10-20m) (4MIGON F.	<b>}</b>	<del>≽</del> ₁	(300 - 800m)		DAMAPALA F.	(PEGU-GROUP)	BASEKENT	
GEOLOGICAL AGE	RECENT PLEISHOCRIE		PLIOCENE	KIOCENE		MIOCENE	OLIGOCENE		as. – sandstone
GEOTC	QUATERNARY			ТЕЙТІЛЯ			-	CKETA-	

 $\overline{NV}$  undesite

L rhyolite A Hb-biot-porphyry

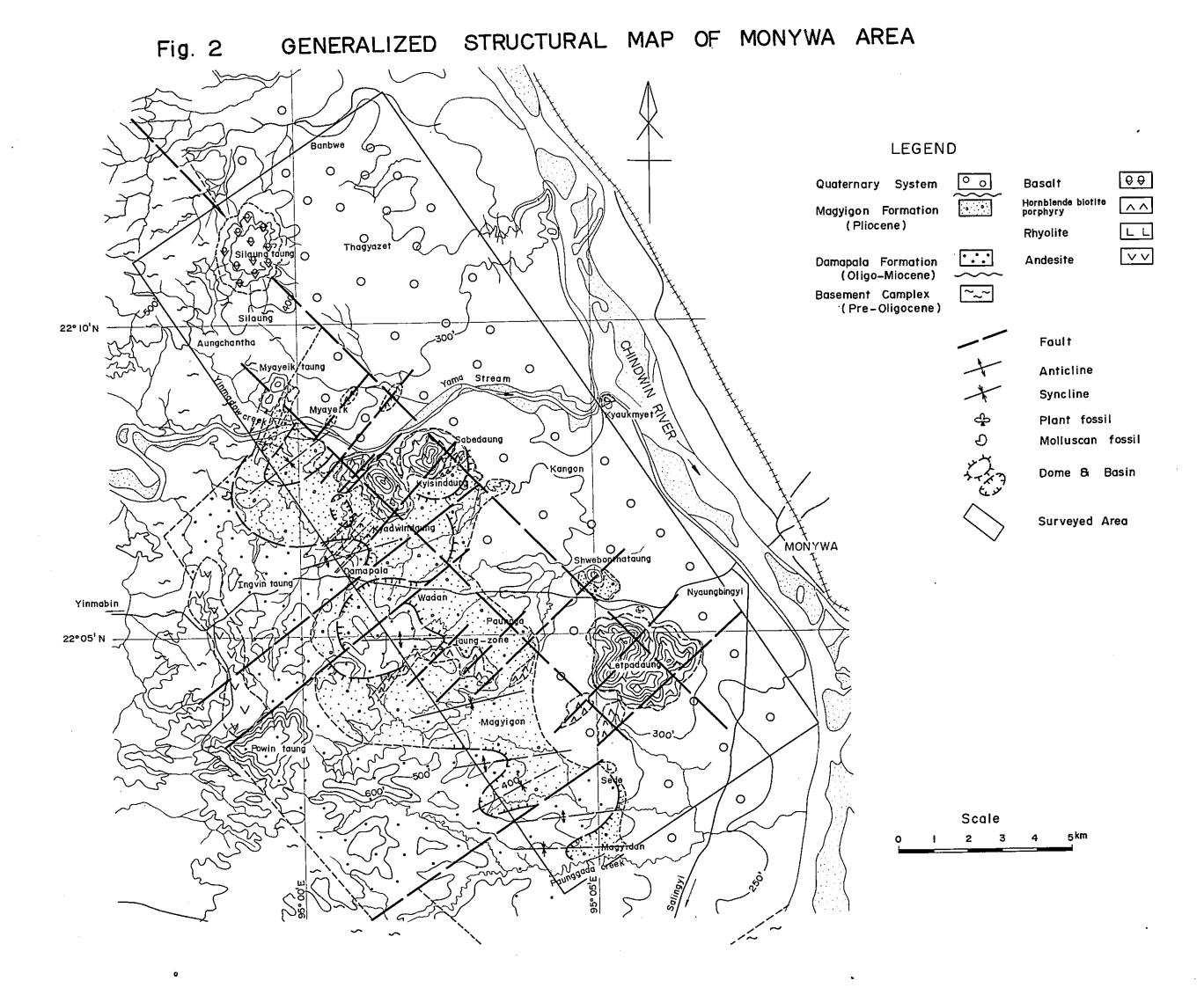
w tuff (AA basalt

sandstone

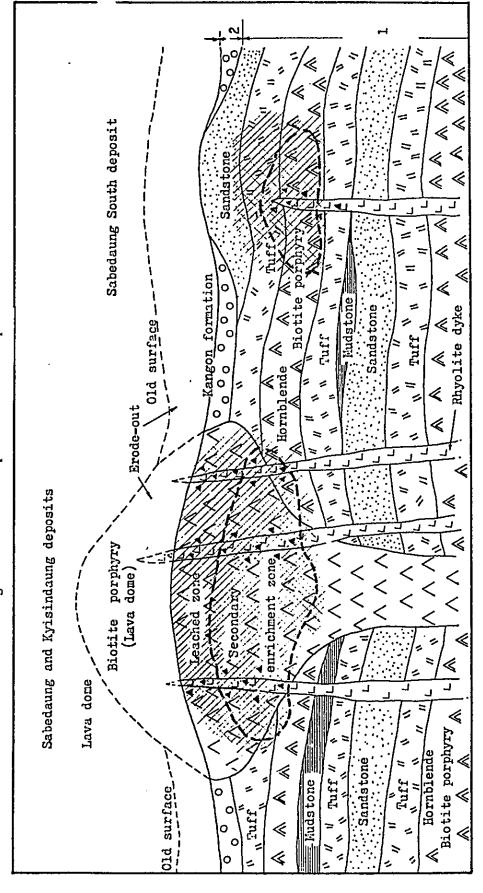
mudstone

#### 2-2 Volcanisms and Geological Structure

- 1) The volcanic activities took place in the period from Miocene to Pliocene of Tertiary Period, having their eruptive centers at the intersections of the two systems of faults of NE-SW and NW-SE which partook the formation of the sedimentary basin, and these activities are represented by hornblende-biotite porphyry and its pyroclastics. In the latest stage of activities of hornblende-biotite porphyry, such lava domes of biotite porphyry as Sabedaung, Kyisindaung, Letpadaung, etc., were formed, which offered the host for the ore emplacement in Monywa area. The distribution of these lava domes are shown on Fig. 2.
- 2) Succeeding to the eruption of lava domes, intrusion of a series of liparitic dykes took place which accompanied the mineralization of copper in and around the domes. This is how the Monywa Ore Deposits were formed which is illustrated schematically on Fig. 3.
- 3) The volcanic activity had a pause after the formation of ore deposits in Monywa area, during which sandstone and mudstone of the uppermost of Magyigon formation were deposited. Penetrating this formation, an activity of volcanic rocks forming Kyaukmyet and Shwebonthataung Hills took place as the last volcanic activity during Tertiary Period.
- 4) On the northwestern extension of the line combining Letpadaung and Kyisin-daung, there exists a plateau in Silaungtaung formed by Quarternary olivine-basalt, which may suggest that the fractures related to the formation of the sedimentary basin and ore emplacement are still controlling the recent volcanic activity.



Schematic Explanation of Ore Deposits Fig. 3



▲ Brecciated structure

Kangon formation

1 Magyigon formation



Metwork and Dissomination zone

#### CHAPTER 3 GEOLOGY OF ORE DEPOSITS

#### 3-1 General Aspects

The ore deposits of Monywa area are mostly formed in and around the volcanic domes scattered in Monywa basin, which may roughly be divided into three groups of Sabedaung, Kysindaung, and Letpadaung.

These volcanic domes, as stated before, are lava domes formed by the volcanic activities during Miocene of Tertiary Period, and the deposits are of hydrothermal disseminated or network type directly related to the liparitic dykes intruded in and around the domes, which has been clarified since the geological surveys of the First and Second Year Phases.

Main ore minerals are pyrite and secondary chalcocite due to the supergene alteration, and are distributed approxmately in lenticular masses beneath a leached zone of 10 to 200 meters deep.

#### 3-2 Mineralization

- 1) The characteristics of intense mineralization in these known deposits of Sabedaung and Kyisindaung are as follows;
  - (1) the portions of intense silicification and alunitization,
  - (2) the portions of dense distribution of gossans consisting of hematite and limonite,
  - (3) the portions where network fractures and fractured zones are developed,
  - (4) the portions where the abundant dykes of liparite are distributed with brecciated structure.

It has been recognized that the enriched portions of ore exist under

the portions where the above four conditions are distinguished on the ground surface.

- 2) In view of the said geological conditions, the precise surveys by diamond drillings were recommended through the surveys of the Second Year Phase in Sabedaung South, northeastern, southern, and southwestern parts of Kyisindaung, and the exploratory diamond drillings in Letpadaung where the areas of intense alteration coincide to the strongly anomalous area of IP survey.
- 3) The events of ore deposition and volcanic activities in Monywa area have been concluded to have taken place after the following chronological successions through the surveys of the First and Second Year Phases.
  - (1) activity of hornblende-biotite porphyry at the upper Magyigon formation,
  - (2) formation of domes of biotite porphyry,
  - (3) intrusion of liparite dykes in and around the lava domes and associated mineralization,
  - (4) post mineralization activity of liparite.

As stated above, the alteration haloes of silicification, alunitization, and argillization, are arranged zonally from the center of liparite dykes, and the rich mineralization has often been found where the silicification is strong. Judging from such alteration features, it is understood that the alunitization and argillization may represent the fore-runners of mineralization, and the succeeding silicification might have deposited the sulphides. It has been ascertained that the primary copper mineral was chalcopyrite, as part of it unattacked by supergene alteration has been found remaining in pyrite crystal.

#### CHAPTER 4 GEOLOGICAL LOGGING

#### 4-1 Geological Logging of Drillings of the Third Year Phase

#### 4-1-1 Amount of Drilling Works (cf. Location Map of Drill Holes)

The following diamond drillings for exploration were performed as the operation of the present year phase by the Japanese survey team;

<b>Drilling Site</b>	Nos. of Holes Drilled	Total Length Drilled
Kyisindaung	5	1,505.3 meters

in which particulars are given as

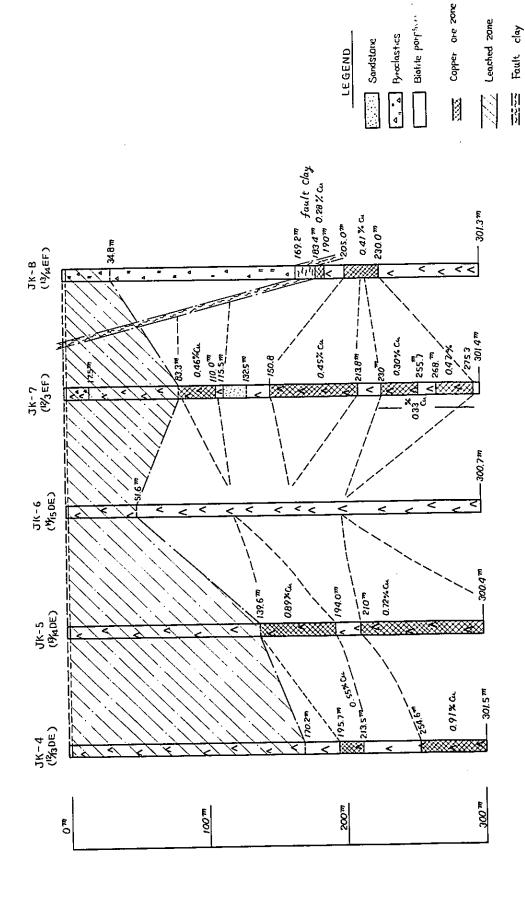
NO.	Notation of Drill Holes		Length Drilled
	Japan	Burma	
1	JK - 4	(12/13 DE)	301.5 m
2	JK - 5	(13/14 DE)	300.4
3	JK - 6	(14/15 DE)	300.7
4	JK - 7	(12/13 DF)	301.4
5	JK - 8	(13/14 DF)	301.3

Total 1,505.3 m

#### 4-1-2 About Notation of Drill Holes

A systematic notation was given as JK-1, JK-2, and so on, for each of the three drill holes drilled by the Japanese team for the depth of 300 meters in the Second Year Phase on the southern foot of Kyisindaung Hill, where an anomaly had been detected by the IP survey of the First Year Phase. In order to keep clear the numbers of drilled holes by the Japanese survey team, the notation of them in this year phase followed the previous system, starting in JK-4 and ending in JK-8. On the other hand, as the holes were located in between the grid patterns which Burmese

Fig. 4 Compiled Map of Core-logs



the one located between lines 12 and 13, and between lines D and E has been named as 12/13 DE; the rest followed this system as 13/14 DE, 14/15 DE, 12/13 EF.

Therefore, the attached drawings of geological logging contain the both notations.

#### 4-2 Geological Descriptions of Drill Holes

#### 4-2-1 JK-4 drilled length, 301.5 meters

The hole consists of medium to coarse grained biotite porphyry from the surface to the bottom, in which the leached zone reaches as deep as 170.2 meters from the ground surface. The fair concentrations of chalcocite have been recognized at the depths of 195.7 m to 213.5 m, net 17.8 m, and from 254.6 m to 301.5 m the bottom, net 46.9 m, that is to say, two zones of fair mineralization have been recognized to exist with a barren interval of 58.9 m. The simple arithmetic averages of copper assays are 0.55% in the former and 0.91% in the latter.

#### 4-2-2 IK-5 drilled length, 300.4 meters

Similarly to JK-4 the hole is composed of medium to coarse grained biotite porphyry throughout the length. Silicification is generally intense, as well as the concentration of hematite and limonite is advanced in the leached zone. Especially, intense alumitization is recognized from the surface to the depth of 70 meters.

A xenolith of fine sandstone is recognized for 20 cm from the depth of 157.0 m to 157.2 m, which is highly silicified.

The zones of intense brecciation have been observed in the depths of 180.0 m-185.7 m (net 5.7m), 253.5 m-255.9 m (net 2.4m), 259.8 m-263.7 m (net 3.9m), and 282.7 m-288.4 m (net 5.7m), the surroundings of which have been found especially fair in mineralization.

The leached zo 2 reaches as deep as 139.6 meters from the surface, from which chalcocite is recognized almost continuously for the rest 160.8 meters to the bottom accompanying intense silicification. The fair mineralizations have been recognized in the depths of 139.6 m-194.0 m (net 54.4m) with average Cu of 0.89% and 210.0 m-300.4 m (net 90.4m) with average Cu 0.72%.

#### 4-2-3 JK-6 drilled length, 300.7 meters

Throughout the length is composed of biotite porphyry of medium to coarse grained. The leached zone is shallower as 51.6 meters from the surface.

The distinct alumitization is recognized at the following 4 spots; at 6.0 m, 34.5 m, 230.5 m, and 287.0 m deep from the surface respectively.

Silicification is generally weaker with less dissemination of pyrite, showing the average assay of copper as low as below 0.20%, with the exception at the depths of 120.0 m-132.1 m (net 12.1m) and 196.6 m-199.5 m (net 2.9m) with advanced silicification. Chalcocite concentration has been recognized at the following three spots, 71.7 m-90.7 m (net 19.0m), 101.0 m-140.7 m (net 39.7m), and 187.8 m-223.5 m (net 35.7m). Chalcocite is recognized in other holes continuously to the bottom, while in this hole, it can only be found poorly scattered below the depth of 223.5 m, showing the weaker mineralization in the depth zone.

#### 4-2-4 JK-7 drilled length, 301.4 meters

There exists a brecciated zone from the surface to 17.5 m depth with well developed boxworks of hematite, below which is occupied by medium to coarse grained biotite porphyry to the depth of 115.5 m., while for another 27.4 m from there to the depth of 132.5 m, there appears fine to medium grained silicified sandstone of grayish white in color. For the rest length to the bottom of 301.4 m depth, appears medium to coarse grained biotite porphyry. Both the upper and lower contacts

between the sandstone and biotite porphyry are represented by fractured zones, which may suggest a part of sandstone in Magyigon formation was drugged up into the porphyry at the time of formation of the porphyry dome.

The leached zone continues from the surface to the depth of 83.3 m, while the secondary enriched chalcocite zones are recognized roughly as the following 4 zones; from 83.3 m to 110.0 m (net 26.7m) with average 0.46% Cu, from 150.8 m to 213.9 m (net 63.0m) with average 0.45% Cu, from 230.0 m to 255.7 m (net 25.7m) with average 0.30% Cu, and from 268.0 m to 295.3 m (net 27.3m) with average 0.47% Cu.

The exceptionally high silicification is recognized from the depth of 123.1 m to 135.0 m (net 11.9m), where the network veins of pyrite are well developed with fair concentration of chalcocite.

#### 4-2-5 JK-8 drilled length, 301.3 meters

From the surface to the depth of 169.2 m, there appears tuff-breccia, for the next 14.2 m from there to the depth of 183.4 m there comes a faulted zone with argillization, and the rest of the length to the bottom is occupied by medium to fine grained biotite porphyry.

The tuff-breccia consists of alternation of two kinds of layers, the one containing the breccias of hornblende-biotite porphyry with 5 to 10 cm diameter, and the other volcanic tuff layer containing breccias of same origin with less than 3 cm diameter. The leached zone continues from the surface to the depth of 34.8 m, showing faint stain of yellowish brown with much less gossans. From the bottom of this zone to the faulted zone, the formation is so fresh that any trace of mineralization has ever been found.

The faulted zone is found almost free from pyritization, indicating none of the

mineralization effect. The determination of minerals in this zone by X-ray diffraction method has revealed alpha quartz and kaoline, but none of the other elements has not been detected. This may suggest the kaoline so far detected was formed during the faulting movement and the movement is considered to have taken place after the completion of mineralization.

Mineralization is also feeble even in the biotite porphyry below the fault with generally weaker silicification, and chalcocite has been recognized only at the following two sections; from 180.0 m to 190.0 m with 0.28% Cu as an average for 10 m, and from 205 m to 230 m with 0.41% Cu as an average for 25 m.

#### 4-3 Relation to the Results of Last Year Phase

#### 4-3-1 About the Fault East of Kyisindaung

A fault of NE-SW system was inferred in the east side of Kyisindaung Hill during the geological survey of the Second Year Phase, the existence of which has been ascertained with its nature by Drill Hole JK-8 in the present survey. The reason why two or three of the secondary enriched zones were recognized in this ore deposit was interpreted that a set of parallel faults of NE-SW system, intercalating Kyisindaung Dome in between, caused the dome down-thrown, and consequenly the primary leaching zone was also taken down below withholding some unleached chalcopyrite in it, which offered the source of copper to be leached again after the completion of faulted structure and to be redeposited as another secondary enriched zone after its migration. It is very fruitful that this interpretation has been justified by Drill Hole JK-8 in the present survey.

#### 4-3-2 Relation to the Ore Emplacement

1) Drill Hole JK-4, located between the lines of No.12 and No.13 in the grid

pattern of Burmese party, has revealed the existence of continuous mineralization from the depth of 200 meters to the bottom, which may suggest these holes drilled by Burmese party on these lines have not penetrated the ore zones deep enough.

- 2) As for JK-5 and JK-8, located between the Burmese lines No.13 and No.14, the former, JK-5, has not penetrated the lower zone deep enough, and the latter, JK-8, has revealed the fault impervious and its hanging-wall tuff-breccia formation unmineralized, which has clarified the reason why the assay around the fault has not shown any sizable concentration of copper, as the secondary enrichment had been prevented to be well progressed by such geological conditions.
- 3) JK-6, located between the Burmese holes 14 D and 14 E and south of them, has revealed too low grade zone all the way down to result in any increase of ore reserves. But this hole has served a great deal to supplement the adjacent 14 D which has been drilled as shallow as only about 100 meters.

#### CHAPTER 5 CONCLUSION AND FUTURE PROBLEMS

#### 5-1 Exploration Problem of Kyisindaung Ore Deposit

It has been pointed out since the surveys of the Second Year Phase that Kyisin-daung Ore Deposit has the spaces to be explored in its southern and southwestern parts, and including the results of the present survey, its lateral extension of mineralized area has been explored almost thoroughly. But as regards to its deeper persistence, the present survey has revealed the increase of possibility of the lower ore zone to reach to about 50 m horizon below sea level. This, or to prospect the bottom of the lower ore body of this deposit, must be kept in mind as the exploration problem from this time on, for which deeper drillings of about 500 meters will be required.

5-2 Forms of Ore Bodies in Kyisindaung Deposit and Future Development

Kyisindaung Ore Deposit consists of two ore bodies, the upper and lower ones. The upper is smaller in its size, while the lower lies under a leached zone of enormous thickness, reaching more than 200 meters below the surface, which may cause a great strip ratio in planning the development by open pit system. In planning the development, therefore, it may be necessary to search for some other system to substitute the open pit system, such as in-place leaching.

#### 5-3 About Calculation of Ore Reserves

The ore deposits of Kyisindaung and Sabedaung South have been explored by the Burmese party in this year, too, and this operation will be completed within this year. Although their ore reserves were calculated in the Second Year Phase. it is advisable to try a re-calculation of reserves at the state in order to prepare the definitive guide in planning the development programme.

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Annex 6	- ditto <b>-</b>	DHK-13/14-EF(JK-8)	55		

#### CHAPTER 1 SUMMARY OF DRILLING WORKS

The drilling works for the third year phase (1974) consist of 5 holes, of which locations are shown on Plate 1, with the total drilled length of 1,505.30 meters, conducted as the detailed investigation of Kyisindaung Deposit in order to confirm the mineralization and geological structure at the east end of the deposit. In executing the works, the drilling method was established on the basis of the experiences gained in this area last year, and the results were successful in both core recovery and drilling efficiency.

The drilling operation was commenced on February 11, 1975 and completed on April 12 by two teams composed of two Japanese drillers and one supervisor with the assistance of two Japanese drilling experts under the Colombo Plan (Mr. Itsuki Hatazawa and Mr. Akio Chida) operating two drills on two shifts a day.

With the works performed as above, the three years' survey by diamond drilling in Monywa Area has completed its entire program aggregating 30 holes and 6,840.50 meters in drilling length. In carrying out the drilling project, emphasis has been laid on the training of local technicians as one of the objectives of the project and, at the same time, cares have been taken in organizing the team so that there are always experienced members who participated in the past phases of the survey after the first year to facilitate the operation of the project. In consequence, satisfactory results have been obtained as expected through the efforts made by the survey team and the collaboration rendered by all Burmese people concerned.

#### CHAPTER 2 DRILLING METHOD AND EQUIPMENT EMPLOYED

As aforesaid, in the execution of the three years' drilling works in Monywa Area that have ended this year, various drilling methods were elaborately designed to suit the geological conditions and put into practice successfully to produce the results well surpassing those initially anticipated.

For this year's survey in particular, priority has been given to the following two points in working out the drilling method in view of the drilling results obtained in Kyisindaung area last year-one is the measures to protect against the loss of mudfluid and cavings that might happen in the oxidized and leached zone and the other is the increased cutting efficiency of diamond bits.

Summaries are given below on these considerations.

- 2-1 Matters Attended to in Establishing Drilling Method
  - (1) Because of a great variety of hardness and abundant cracks found in the rocks, formations existing in the oxidized and leached zone, on the whole, are very likely to cause the loss of mud-fluid, making it difficult to provide against the caving of drill holes and resulting in the decreased drilling efficiency.

    The drill hole caving will also induce to casue sometimes detention, breaking-off and other troubles to the drilling tools, many of them being very difficult to recover.
  - (2) Vibration of the drilling rods caused by the loss of mud-fluid, caved materials, sludges remaining in the hole, etc. hinder the recovering of cores.
  - (3) In addition to the loss of mud-fluid and caving that may happen frequently, bit wear becomes heavy due to the breakage and falling-off of diamond in drilling the formations consisting of rocks exceptionally variant in hardness.

All these happenings are also very likely to cause burning to bits.

(4) In the drilling of biotite porphyry or exceedingly silicified mineralized zones, diamonds are subjected to heavy abrasion affecting bit life and drilling efficiency.

To cope with the abovementioned problems, the measures were taken as follows.

#### 2-2 Measures Taken for Drilling Method

- (1) Chromenite mud-fluid was used in the whole drilling for the protection of drill hole wall. Against the loss of mud-fluid or cavings occasioned from time to time, efforts were made to take appropriate steps depending on the quantity of loss or the degree of cavings such as selective use of chemicals for the prevention of mud-fluid loss, cementing measures or installation of casings.
- employed along with mud-fluid drilling as well as to stabilize the wall of drill hole and for smooth discharging of sludge. NQ size drilling was adhered to as far as practicable for the effective use of mud-fluid until the oxidized and leached zone was gone through. In addition, in the drilling of rocks with abundant cracks or soft portions interbedded, as these are the most difficult portions to recover cores therefrom, technical devices were cautiously made to keep the balance of mud-fluid supply and drilling speed.
- (3) The rocks to be drilled were classified into hard and soft rocks in order to select rightly diamond bits to be used accordingly. For soft rocks, in anticipation of hard rocks partially interbedded, bits were set with diamonds of medium particles (1/25 1/30 carat), using hard matrix (R. C. 35) for a

longer life and a better cutting effect.

Bits for hard rocks were designed mainly to improve the cutting effect with diamonds of fine particles (1/35 - 1/40 carat) set in matrix of R.C. 20 in hardness having 5-6 steps and 4-6 waterways same as in the previous years. Types and specifications of the drill are as shown in Table 1 (A, B and C).

#### CHAPTER 3 DRILLING OPERATIONS

#### 3-1 Preparatory Works

Various preparatory works were carried out according to the drilling program for this year with a view to commencing the drilling as from February 19.

On January 24, one drilling supervisor was first dispatched to take delivery of the previously forwarded equipment for transfer to Monywa and to make necessary preparations at the work site to accommodate drilling technicians coming to join him. Following the arrival at Monywa of two drilling technicians on February 9, works were further carried on such as examination of the drilling equipment stored at Monywa, inspection of the proposed drilling sites and repairs of the haulage roads to the sites until the start of transportation of two drills and supplies on February 11.

The first drilling sites, DHK-12/13-DE (JK-4) and DHK-12/13-EF (JK-7) are both located on the slope east of Kyisindaung Hill at the distance of 450 meters from the end of a truck road. To cover this 450 meter distance, a temporary road had to be constructed for the drilling equipment to be towed by bulldozer to the sites although up to the end of the existing road trucks were available for transportation of equipment and supplies other than drills.

Drilling water was supplied by installing a water pump at the reservoir in the Burmese Camp to raise water to the tank existing at the top of Kyisindaung Hill through iron pipes for about 450 meters and from the tank to each drilling site by use of polynite pipes.

#### 3-2 Moving Operations

The construction of haulage roads to move from site to site, ground-levelling of the sites and other preparatory works were conducted before the start of drilling

operations. Haulage or equipment was made by bulldozer.

Moving operations for each drilling site are shown in Table 4.

## 3-3 Withdrawing Operations

Immediately after the completion of the last drill hole DHK-13/14-EF(JK-8) on April 3, the dismantling works were carried out such as lifting of casing pipes, disassembling of drills, derricks, waterpipes, etc. Equipment and materials other than drills and pumps were carried by manpower for about 50 meters to the road, then by truck to the storage designated by the Burmese side. Drills and pumps were towed by bulldozer from the site to the designated storage.

After the haulage, all the equipment and materials were checked and arranged in order, then handed over to the Burmese side after inspection.

All the field works were completed on April 12.

#### 3-4 Drilling Works

Efforts were made to improve core recovery and drilling rates by establishing the drilling method suitably to work the fractured zone and soft formations, as well as to prevent the loss of mud-fluid, on the basis of the experiences in the first and second year phases of operation. The results turned out to be very successful, gaining a core recovery rate of 95.6 per cent averaged for the total drilling length of 5 holes of 1,505.30 meters and a drilling speed of 14.7 meters per shift for the total works conducted.

The conditions of drilling works in this year are summarized as follows.

The overburden of this area ranges between 1.50 and 3.00 meters in thickness, and 120 m/m tri-cone bits were used for drilling this portion. Then, 112 m/m and NX casing pipes were inserted, followed by NQ and BQ wire line method drilling.

Fractured zone continued to the depth of 170.00 meters with soft formations interbedded

therein, causing substantial losses of mud-fluid and caving during the drilling. The work, therefore, had to be carried on for this zone by taking such steps to recover these troubles as pouring of chemicals for the prevention of loss of mud-fluid, cementation and in some parts enlarging the drill hole by casing pipes to place them down to the required depths.

Rocks were good below the depth of 170.00 mters and drilling proceeded satisfactorily with a little core blocking. Neochromenite mud-fluid was used for the whole drilling to improve drilling speed and core recovery.

### 3-5 Drilling Conditions

The drilling conditions of each hole are as follows.

DHK-12/13-DE (JK-4)

Drilling commenced with 120 m/m tri-cone bit until the rock was reached at 1.50 meters, then 112 m/m casing pipe inserted to drill by 101 m/m diamond bit to the depth of 3.00 meters, thereupon NX casing pipe inserted. Drilled by NQ wire line method from 3.00 meters to 160.30 meters, during which there were heavy losses of mud-fluid and cavings becasue of the fractured zone with soft formations interbedded, and at 24.50 meters occurred the total loss of mud-fluid. Drilling continued with various measures taken to overcome these difficulties such as pouring of chemicals for the prevention of mud-fluid loss and cementation, but the drilling became difficult to proceed at the depth of 27.00 meters and the drill hole was enlarged by NX casing pipes to extend them down to this point. From this point downward, there were also losses of mud-fluid and cavings at several places, but they were overcome by use of loss prevention chemicals and mud-fluid.

The oxidized zone was gone through at 160.30 meters, and as rocks became stabilized causing core blocking to decrease, BX casing pipes were inserted.

Subsequently, drilled by BQ wire line method, but soft formations interbedded thereabout to the depth of 170.00 meters caused again loss of mud-fluid and cavings, necessitating the hole enlarged by BX casing pipes to extend them to 170.00 meters.

Below the said point, rocks were good and drilling satisfactory with only slight core blocking.

Completed drilling at 301.50 meters with the objective achieved. Neochormenite mud-fluid was used for the entire drilling.

DHK-12/13-EF (JK-7)

Used 120 m/m tricone bit in the start of drilling, placed 112 m/m casing pipe when the rock was reached at 1.50 meters and drilled by 101 m/m diamond bit to the depth of 3.00 meters, then inserted NX Casing Pipe. Drilled from the depth of 3.00 meters downward by NQ wire line method, but because of the fractured zone with soft formations interbedded and resultant heavy cavings and losses of mud-fluid, the drilling through to the depth of 70 meters required the pouring of chemicals for the prevention of mud-fluid loss and cementing operations. But, continued drilling becoming difficult with repeated cavings and losses of mud-fluid in mid course, the drill hole had to be enlarged by NX casing pipes to extend them to the point of 70 meters.

Rocks were good from 70 meters to 150 meters and the drilling proceeded satisfactorily with slight core blocking. At 150 meters inserted BX casing pipes and drilled by BQ wire line method.

Completed drilling at the depth of 301.40 meters with objective achieved.

Used neochormenite mud-fluid for the entire drilling and cutting oil as well for hard rocks.

## DHK-14/15-DE (JK-6)

Used 120 m/m tri-cone bit from the start of drilling to the depth of 3.00 meters where the rock was reached, then inserted 112 m/m and NX casing pipes to continue drilling by NQ wire line method.

As there were a total loss of mud-fluid and cavings at 30 meters, the NX casing pipes were withdrawn and the drill hole was enlarged by 101 m/m diamond bit to the depth of 30 meters to extend NX casing pipes to that point.

Rocks were stable from 30 meters downward and the drilling proceeded satisfactorily with slight core blocking. At 171.00 meters inserted BX casing pipes and drilled by BQ wire line method to the depth of 300.70 meters finishing the work with the objective achieved.

Used neochromenite mud-fluid for the entire drilling and also cutting oil in part.

### DHK-13/14-DE (JK-5)

Used 120 m/m tri-cone bit from the start of drilling to the depth of 1.50 meters where the rock was reached, then inserted 112 m/m casing pipes. After that drilled by 101 m/m diamond bit to the depth of 3.00 meters and NX caing pipes inserted. From 3.00 meters downward drilled by NQ wire line method, but as the drilling became difficult at the depth of 28.50 meters due to heavy losses of mudfluid and caving resulting from the soft formations, the NX casing pipes were withdrawn and the drill hole was enlarged with 101 m/m diamond bit to 28.50 meters to extend the NX casing pipes to the said depth. The subsequent drilling was still accompanied with a succession of mud-fluid losses and cavings to the depth of 140.00 meters, but they were overcome by use of chemicals for the prevention of mud-fluid loss and by cementation.

At 140.00 meters inserted BX casing pipes and continued drilling by BQ wire line method. The rocks contained quartz and were hard causing much wear to bits, but drilled smoothly without much of core blocking.

Completed drilling at the depth of 300.40 meters with the objective achieved.

Used neochromenite mud-fluid for the entire drilling and also cutting oil for hard rock portions.

DHK-13/14-EF (JK-8)

Commenced drilling with 120 m/m tri-cone bit. Reached the rock at the depth of 3.00 meters and inserted 112 m/m and NX casing pipes, thereafter drilled by NQ wire line method to the depth of 159.40 meters. During drilling this portion, there were cavings and losses of mud-fluid in part, but the drilling continued by use of chemicals for the prevention of mud-fluid loss and by additional input of mud-fluid for protection of drilled hole.

At 159.40 meters inserted BX casing pipes and drilled thereafter by BQ wire line method. The rocks were good and drilling proceeded satisfactorily with only slight core blocking.

Completed drilling at the depth of 301.30 meters with the objective achieved.

Used neochromenite mud-fluid for the entire drilling and also cutting oil in part.

- 3-6 Operational Records and Analysis
  - (1) Analysis of Drilling Work Time

As shown in Table 2-A, the percentage of Drilling Work Time stands at 70.6% of the Total Working Time, represented mainly by Drilling Time in the proportion of 66.1%. Proportion rates of the Drilling Time of each drill hole are approximately even in comparison.

Ancillary works account for 17.6% of the Total Working Time, most of them

being mud-fluid loss prevention work, drilling preparations and post-drilling works. Comparison of each hole operation shows that two holes of DHK-12/13-DE and DHK-12/13-EF occupied 70% of the total ancillary works because of so much time having been spent in these two holes for reaming and prevention of mud-fluid loss.

Moving operations were carried out mostly by bulldozer haulage except in part where manpower had to be employed in the haulage of equipment, and the time taken in the moving operations was 29.4% of the Total Working Time. Proportions of time by work category to the Total Working Time are as shown in Table 2-B.

## (2) Drilling Results

As shown in Table 3, the drilling length per shift was 14.07 meters for the total works conducted in drilling 5 holes aggregating 1,505.30 meters and 17.01 meters for the net drilling operations.

In the comparative operational results of these drill holes, the worst was DHK-12/13-EF showing 10.05 meters per shift for the total works and 14.35 meters per shift for the net drilling operations. This was because of unusually heavy losses of mud-fluid and cavings caused due to soft formations interbedded and abundant cracks in the rocks developing to the depth of 170.00 meters from the surface.

The best result was obtained in drilling DHK-13/14-EF with the drilling length of 21.52 meters per shift for the total works and of 22.36 meters per shift for the net drilling operations.

The drilling works for the 1974 fiscal year brought more favorable results than originally expected as a whole although in part there was an unavoidable

decline in drilling efficiency.

## (3) Core Recovery Rate

The overall average rate of core recovery reached 95.6 % excepting the overburden of 1.50 - 3.00 meters as shown in Table 3.

As regards the core recovery of each hole, there was unavoidable loss of cores in part owing to heavy mud-fluid losses and cavings caused in the drilling of two holes, DHK-12/13-DE and DHK-12/13-EF, because of the soft formations, resulting in the recovery rates of 90.4% and 93.8% respectively. However, others showed higher results than 96.4%, thus making the total average as high as aforesaid.

(4) Summary Records of Drilling Results

Summary records of drilling results for each drill hole are shown in Tables 5, 6, 7, 8, and 9.

Table 1-A Drilling Equipment (TEL - 3 B)

TEL - 3B (1)

Item	Туре	Specification	Quantity
Drilling Machine	TEL - 3B	Capacity (m) 800 m	1 set
	(TONE Boring Co., LTD.)	Dimensions Height 1,380 mm	1
		Length 2,820 mm	
		· Width 1,200 mm	
		Weight (Except Power Unit) 2,200 kg	
	Swivel Head	Spindle Speed	
		270, 540, 720, 1,200 r.p.m.	
		150, 300, 400, 670 r.p.m.	
	Hoist	Planetary Gear	
		Hoisting Capacity 4,500 kg	J
	Oil Pump	Automatic Variable Delivery Vane Type	1
		Capacity 0 ~ 100 ½/min	
		Pressure Max. 70 kg/cm <sup>2</sup>	
	<u> </u>	Pressure Regular Working 50 kg/cm <sup>2</sup>	
Motor	F4L.912	Diesel Engine	1 set
	(Mitsui Deuts, Co. )	Revolution 1,200 ~ 2,400 r.pm.	
		Related Power 22 ~43 p.s.	
Drilling Pump	NAS - 3	Duplex Cylinder Double Action	1 set
		Weight (Except Power Unit) 330 kg	
	}	Piston Diameter 75 mm	·
		Stroke 50 mm	
		Discharge Capacity 130 9/min.	
		Max. Pressure 70 kg/cm <sup>2</sup>	
Motor	NS - 110	Diesel Engine	l set
	(Yammer Diesel Co. )	Revolution 2,200 r.p.m.	
		Related Power 11 p.s.	
Mud Mixer	MCE - 100 A	Tankage 125 g	1 set
		Mixing Capacity 100 g	1
		Mixing Revolution 800 r.p.m.	
Motor	NS - 40	Diesel Engine	1 set
	(Yammer Diesel Co.)	Revolution 2,000 r.p.m.	1
		Related Power 4 p.s.	
Water Supply Pump	NAS - 3	Same as Drilling Pump	l set
Motor	NS - 110	Same as Drilling Pump's Motor	l set
Derrick	DR - 12	Height 12.5 m	l set
		Max. Road Capacity 20 ton	<u> </u>

TEL - 3B (2)

Item	Туре	Speci	fication	Quantity
Generator	YSG - 1.5 s	Capacity	1.5 kW, 15 kVA	1 set
		Voltage	100 V	
		Electric Current	15 A	
Motor	NS - 40	Revolution	2,000 r.p.m.	l set
	(Yammer Diesel Co. )	Related Power	4 p.s.	)
Drill Rod		NQ - 3 m		57 pcs.
		BQ - 3 m		101 pcs.
Casing Pipe		112 mm - 3 m		l pc.
		NX - 3 m		l pcs.
		BX - 3 m		57 pcs.
Wire Line Hoist		Attached to Drill		1 set
Rod Safty Clamps		RH 85		1 set
Water Swivel		DH Type		l set
Traveling Block				3 pcs.
Hoisting Swivel		В Туре		1 set

Table 1-B Drilling Equipment (TGM - 2 C)

TGM - 2C (1)

Item	Туре	Specification	<u> </u>	Quantity
Drilling Machine	TGM - 2C	Capacity (m)	550 m	1 set
	(TONE Boring Co., Ltd.)	Dimensions Height	1,520 mm	
		Length	2,430 mm	[
		Weight (Except Power Unit)	1,200 kg	
	Swivel Head	Spindle Speed		]
		200, 500, 770	, 1,000 r.p.m.	]
	Hoist	Planetary Gear		]
		Hoisting Capacity	2,000 kg	j
	Oil Pump	Automatic Variable Delivery	Vane Type	1
		Capacity	$0 \sim 100$ l/min.	
		Max. Pressure	70 kg/cm <sup>2</sup>	
Motor	F3L.912	Diesel Engine		1 set
	(Mitsui Deuts, Co. )	Revolution	2,000 r.p.m.	}
		Related Power	33~36 p.s.	
Drilling Pump	NAS - 3	Duplex Cylinder Double Actio	n	1 set
		Weight (Except Power Unit)	330 kg	
		Piston Diameter	75 mm	
		Stroke	50 mm	1
		Discharge Capacity	130 f/min.	}
<del></del>		Max. Pressure	70 kg/cm <sup>2</sup>	<u> </u>
Motor	NS - 110	Diesel Engine		1 set
	(Yammer Diesel Co. )	Revolution	2,200 r.p.m.	}
		Related Power	11 p.s.	
Mud Mixer	MCE - 100A	Tankage	125 Q	l set
		Mixing Capacity	100 g	
		Mixing Revolution	800 r.p.m.	<u> </u>
Motor	NS - 40	Diesel Engine		1 set
	(Yammer Diesel Co. )	Revolution	2,000 r.p.m.	ļ
	<u></u>	Related Power	4 p.s.	
Water Supply Pump	NAS - 4	Duplex Cylinder Double Action	on .	1 set
		Weight (Except Power Unit)	640 kg	
		Piston Diameter	85 mm	
		Stroke	90 mm	1
		Discharge Capacity	250 l/min.	}
		Max. Pressure	70 kg/cm <sup>2</sup>	1
Motor	F3L.912	Same as Drilling Machine		1 set
	(Mitsui Deuts, Co. )			

TGM - 2C (2)

Item	Туре	Specificat	ion	Quantity
Derrick	DRPQ - 5	Height	12.5 m	1 set
		Max. Road Capacity	20 ton	
Drill Rod		NQ - 3 m		34 pcs.
		BQ - 3 m		101 pcs.
Casing Pipe		112 mm - 3 m	· · · · · · · · · · · · · · · · · · ·	l pc.
		NX - 3 m		10 pcs.
		BX ~ 3 m		34 pcs.
Wire Line Hoist		Attached to drill		l set
Rod Safty Clamps		RH 85		l set
Traveling Blesk				3 pcs.
Water Swivel		DH Type		1 set
Hoisting Swivel		В Туре		1 set

Table 1-C Consumed Materials

			<del></del>		<del></del> ,	Quantity			
Description	Specification	Unit	DHK 12/13-DE	DHK 12/13-EF	DHK 13/14-DE	DHK 13/14-EF	DHK 14/15-DE	Com.	Total
Parts for Drilling Machine		pec.						8	8
Chuck piece		set						3	3
Chuck bolt		*/						2	2
V belt		pec.	3			2			5
Piston Packing	For Pump	5et						2	2
Piston rod	<u> </u>	pec.	<u> </u>		<b></b>			4	4
V packing	ļ	set	<b>}</b>		<u> </u>			2	2
Cylinder liner Valve ball			<del> </del>		ļ	<b></b> _		2	2
Valve seat	<del></del>	pec.	<del> </del>			<del></del>		16	16
Suction hose	<del> </del>	<del></del> _	├──-	<del></del> -	<del> </del> -	<del> </del>		16	16
Delivery hose		<del></del>	<del> </del>	<del></del> -		<u> </u>		3	3_
Water swivel packing	· · · · · · · · · · · · · · · · · · ·	Set	1	<del></del> -	<del> </del>			2	2 2
Spindle	<del></del>	pec.	<del>                                     </del>	1	<del> </del>	1	<u> </u>		3
Bearing		pec.	<del>                                     </del>	- i		† <u>†</u>	<del></del>		3
Wire rope	18 mm ø	m	30	30	30	<u>├</u>	<del> </del> [		90
"	5 mm ø	<del>- ;;;</del>	T	<del></del>	<del>                                     </del>	<u> </u>		900	900
Manila rope	20 mm ø	**	1				<del>                                     </del>	60	60
Wire	# 10	kg	15	15	10	10	15		65
Nail		77	3	3	3	3	3		15
Square timber		m <sup>3</sup>						10	10
Board								32	32
Core box		pec.	39	40	40	42	41		202
Rag		kg	8	12	10	10	10		50
Parts for motor	ļ <u></u>	pec.	<u> </u>					4	4
Casing pipe	112 mm	<u>"</u>	ļ	11		ļ	1		2
<del></del>	NX	<del>                                     </del>	2	<u> </u>	1	<del> </del>			4
<u></u>	BX	<del> -;;-</del> -	4	2	3	5	4		18
Drill rod	NQT, WL	<del> ;</del> '	<del> </del>	<u> </u>	ļ. ——	<u> </u>		17	17
3 cutter bit	BQT. WL	<del>                                     </del>	<del> </del>	<del> </del> -	<del></del>	<del> </del>	<u>  </u>	8	8
Gasoline	<del></del>	· ·	<del> </del>	<del> </del>		<b> </b> -	<u> </u>	3	3
Light oil	ļ	<del> ;;</del>	607	730	595	450		120	120
Heavy oil	<del></del>	<del> ,,</del> -	80	160	180	450 80	510 60	200	2,892 760
Mobil oil	Engine	<del> </del>	18	- 100	40	15	18	200	121
Mission oil	Gear	<del>,,</del>	8	10	15	13	7		53
Grease		kg	6	11	3	5	4	20	49
Turbine oil	Oil pressure	Q Q	80	60	30	40	60	20	270
Bentonite		kg	1,400	1,495	1,010	750	910		5,565
Chromenite		<del>                                     </del>	345	855	220	170	175		1,765
C.M.C		,,	97	50	59	54	55		315
Caustic soda			10	9	18	10	14		61
Tel-stop		"	30	25	15	~	5		75
Sea clay		"	50	40	10	5	10		115
Tel-seal	<b></b>		15	20	5	5	10		55
Cutting oil	<u> </u>	R	100	80	70_	60	60		370
Cement	101	kg	140	140	40	40	40		400
Single core tube	101 mm	set	<del> </del>	<del> </del>	<del> </del>	<del> </del>		2	2
Double core tube	101mm x 1.5m	<del>  ''-</del>	<del>                                     </del>	<del> </del>	<del> </del>	<del> </del>	<del> </del>	1	1
	NQT. WL x 3.0m BQT, WL x 3.0m	<del>                                     </del>	<del></del>	<del> </del>	<del> </del>	<del></del>	<del></del>	3	3
Inner tube	101mm x 1.5m	ļ	<del>                                     </del>	<del> </del>	<del>                                     </del>	<del></del>	<del> </del>	3 1	3
unter tube	NQT. WL x 3.0m	pec.	┼──	<del> </del>	<del> </del>	<del>                                     </del>		6	6
*1	BQT. WL x 3.0m	<del></del>	<del> </del>	<del> </del>	<del> </del>	<del>                                     </del>	<del> </del>	6	6
Core tube head	101 mm	<del> </del>	<del>                                     </del>	<del> </del>	<del> </del>	<del> </del>	<del>  -                                   </del>	1	- 1
**	NQT. WL		<del>                                     </del>	<del></del>	<del> </del>	<del>                                     </del>		4	4
<del></del>	BQT, WL	—	1	<del> </del>	<del>                                     </del>		<del>   </del>	4	4
			1	1	1	1	1		5
Metal shoe	112 mm	ı							
Metal shoe	112 mm NX		3	2	1	11	1		8
Metal shoe	NX BX	<del> </del>		2	1	1 1	1		5
Metal shoe	BX 101 mm	71	3				<del></del>	3_	
Metal shoe	NX BX	<del> </del>	3				<del></del>	3 24 30	5

Table 2-A Analysis of Working Time

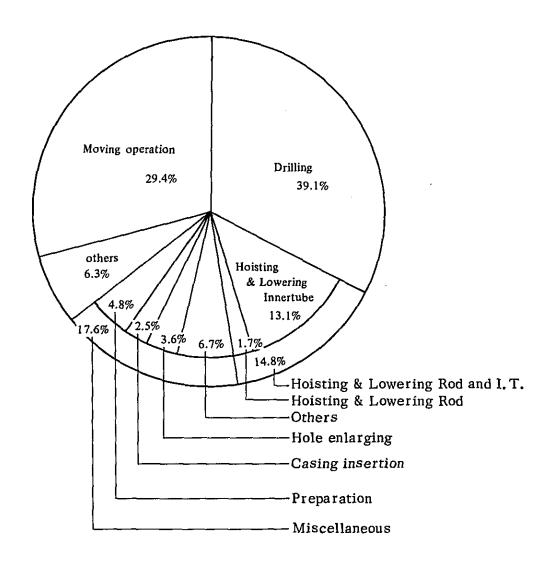


Table 2-B Analysis of Working time for Each Borehole

Borehole	Drilling	Hoisting & Rod an		N	liscellaneou	ıs		2.1	Moving	T-1-1	
- Bot effore	Diffung	Rod	Inner Tube	Casing Insertion	Hole Enlarging	Others	Repairs	Others	Operation	Total	
DHK-12/13-DE	88020	0040	41020'	<sub>60</sub> 30,	8 <sub>0</sub> 30,	41 <sup>0</sup> 00'		21°30'	77010'	288 <sup>0</sup> 00'	
DHK-12/13-EF	86 <sup>0</sup> 40'	4º30'	32 <sup>0</sup> 00°	30301	28 <sup>0</sup> 50'	59°00'	_	25 <sup>0</sup> 30'	80 <sub>0</sub> 00,	320°00'	
DHK-14/15-DE	66°00'	3 <sup>0</sup> 50'	30 <sub>0</sub> 30.	7030	2050	15 <sup>0</sup> 50'		<sub>60</sub> 30,	40°00'	176 <sup>0</sup> 00'	
DHK-13/14-DE	86 <sub>0</sub> 00.	7º00'	28040'	6 <sup>0</sup> 10'	3 <sup>0</sup> 40'	16 <sup>0</sup> 30'	_	12 <sup>0</sup> 00'	72 <sup>0</sup> 00'	232 <sup>0</sup> 00'	
DHK-13/14-EF	61°20'	5°00°	26°50°	4º10'		6 <sup>0</sup> 40'		8,00,	88000,	200°00'	
		21000	159 <sup>0</sup> 20'	30°50'	43°50'	139°00'					
Total	388020	182	20201		213 <sup>0</sup> 40'		] -	76 <sup>0</sup> 30'	357 <sup>0</sup> 10'	1,215°00'	
	31.9%	1.7%	13.1%	2.5%	3.6%	11.5%	-	6.3%	29.4%	100%	

drilling results Table 3

Drilling Speed	m/shift m/shift	m M Overburden	11.60 14.36 1.50 m	Overburden 10.05 14.35 1.50 m	Overburden 17.69 20.05 3.00 m	Overburden 15.02 16.69 1.50 m	Overburden
g Shift	Total	shift	26	30	17	20	
Number of Drilling Shift	Casing etc.	shift	5	6	2	2	ď
Number	Drilling	shift	21	21	15	81	13.5
ie.	Recovery	8%	90.4	93.8	0.66	96.4	6.86
Core	Length	E	271.30	281.30	294,70	288.10	294.90
Drilled	Length	п	301.50	301.40	300.70	300.40	301.30
	Drilling Period	Com. 19th Feb. 1975	Fin. 8th Mar. 1975	Com. 22nd Feb. 1975 Fin. 12th Mar. 1975	Com. 13th Mar. 1975 Fin. 21st Mar. 1975	Com. 15th Mar. 1975 Fin. 25th Mar. 1975	Com. 28th Mar. 1975 Fin. 3rdApr. 1975
Type of	Machine		TEL-3b	TGM-2c	TEL-3b	TGM-2c	TEL-3b
Drill	Hole No.	(IK-4)	DHK-12/13-DE	(JK-7) DHK-12/13-EF	(JK-6) DHK-14/15-DE	(JK-5) DHK-13/14-DE	(JK-8) DHK-13/14-EF

\* Drilled length per one shift covering total works conducted. \* \* Drilled length per one shift covering net drilling operations.

Table-4 Moving Operation

tal					Man-day	53	88	93	20		272	94	27	56	_	33	210	482
Total					Day	5.5	7.5	7	2	9	28	5.5	2	4.5	_	11	23	51
/14-EF	r. 1975	r. 1975	. 1975	. 1975	Man-day	9	13	20	_	1	39	26	7	20		21	74	113
DHK-13/14-EF	23rd Mar.	27th Mar.	4th Apr.	12th Apr.	Day	0.5	1	1.5	1	2	Ŋ	2	0.5	1.5		5	6	14
DHK-13/14-DE	r. 1975		г. 1975	r. 1975	Man-day	J	9	9	_	ļ	12	12	12	36	_	12	72	84
DHK-13	14th Mar.	•	26th Mar.	5th Apr.	Day	ŀ	0.5	5*0	-	_	1	1	1	3	_	9	11	12
DHK-14/15-DE	Mar. 1975	ır. 1975	т. 1975	_	Man-day	13	13	13	1	-	39	61	-	_	-	_	19	85
DHK-14	10th Ma	12th Mar.	22nd Mar.		Day	1	ī	1	_		3	1	=		_	1	1	4
/13-EF	5. 1975	b. 1975	r. 1975		Man-day	27	27	_ 22	11	10	26	12	-	,	_	-	12	109
DHK-12/13-EF	llth Feb.	21st Feb.	13th Mar.	1	Day	3	8	2	1	2	11	1			_		1	12
2/13-DE	b, 1975	b. 1975	r. 1975		Man-day	4	29	32	6	8	85	25	8	1	-	1	33	118
DHK-12/13	11th Feb.	18th Feb.	9th Mar.	,	Day	1	2	2	1	2	8	0.5	0.5			ı	1	9
Hole No.				Out		Access Road	ge	Installations	Pipe	Test Run. etc.	Total	Dismantling	Pipe Removal	ge	Road Reinstatement	s	Total	Grand Total
	: 	Moving	Operation			Acces	Haulage	Instal	Water Pipe	Test 1		Disma	Pipe F	Haulage	Road .	Others		Grand
Item		_					not	 a t a	də 1 d	r 				BVO		I		

Table 5 DHK-12/13-DE (JK-4)

	Item			Perio	ods			Number Days	of	W	ctual orking Days	Da	y Off	,	Total mber of Vorking
	Prepar	ration	11th Feb. 1	975 - 1	l8th Fe	b. 19	75	8			7		1		85
Drilling Periods	Drillin	ıg 📗	19th Feb. 19	975 -	8th Ma	ar. 19	75	18			16		2		184
Per	Remov	ing	9th Mar. 1	975				1			1		0		33
	To	tal	11th Feb. 19	975 -	9th M	ar. 19	75	27			24		3	"-	302
gth	Planr Leng		300.00 <sup>m</sup>		er- den	1.5	50 <sup>m</sup>		C	ore R	ecovery fo	r 100 r	n Sec	tion	
Drilling Length		ease or rease in th	1.50 <sup>m</sup>	Co	te igth	271.	30 <sup>th</sup>	Depth of Hole	Sec	tion	Total	Dep of H		Section	Total
Dri	Leng Drill	-	301.50 <sup>m</sup>	Co Reco	re	90.	10%	0-100	82	2.3%	82.3%	400-	500		
	Drill	ing	88 <sup>0</sup> 20'	.9 %	30.	7 %	100-200	88	3.8%	.8% 85.6%		600			
		ting & ering Rod	g & 0°40' 0.3 0.2 2							%	90.4%	600-	700		
9		ting & ering I.T.	41°20'	4	300-400				700-	800	\ <u>.</u>				
Working Time	Misc	ellaneous	59°00'	28	.0	20.	5	Effciency of Drilling							
ing	Repa	ring	-	_		_		301.5	Work			11.17	m/Day		
/ork	Othe	rs	21 <sup>0</sup> 30'	10	. 2	7.5	5	301.5	0 m/	Worki	ing Days			12.56	m/Day
-		Total	210 <sup>0</sup> 50'	100		73.3	3	301.5	0 m/	Drilli	ng Period	1		16.75	m/Day
	Remov- ing	Preparatio	эл 56 <sup>0</sup> 00'	_		19.	4	301.5	0 m/	Net Drilli	ng Days		_	18.84	m/Day
	S ii	Moving	21 <sup>0</sup> 10'	_		7.:	3	Total	Wor	kers/3	301.50 m			1.0	Shift
	G. T	otal	288 <sup>0</sup> 00'			100						ļ			
Casing Pipe Inserted		Pipe Size Length (%) Recover Drilling Length						Total Drilli	ng W	'orker	s/301 <b>.</b> 50 1	n		0.61	Shift
Pipe ]	112 m	/m 1.50m	0.5	%_	1	00	%	Hoisti Lowe			I Time		isting werin		ó2 Times
sing	NX	IX 27.00m 9.0 % 88.9					%	Remarks	3						
ပြီ	BX	170.00m	56.4	%		92.9	%		-						
			<u></u>	]											

Table 6 DHK-12/13-EF (JK-7)

	Iten			Perio	ods		Number Days	of	W	octual forking Days	Day	y Off	Nu	Total mber of orking
a	Prepa	ration	11th Feb.	1975	- 21th I	eb. 1975	11			9		2		97
Drilling Periods	Drill	ing	22th Feb.	1975	- 12th 1	Mar. 1975	19			16		3		187
	Remo	oving	13th Mar.	1975			1			1	,	_		12
	Т	otal	llth Feb.	1975	- 13th I	Mar. 1975	31			26		5		296
ıgth	Plan Len	nned gth	300.00 <sup>m</sup>		er- rden	1.50 <sup>m</sup>		С	ore F	lecovery fo	г 100 г	n Sectio	n	
Drilling Length	ı	rease or rease in gth	1.40 m	_	ore ngth	281.30 m	Depth of Hole	Seci	tion	Total	Dept of Ho	1 500	tion	Total
Dr	Len Dri	gth lled	301.40 m		ore overy	93.8 %	0-100	84	.1%	84.1%	400-5	00		
	Dri	lling	86 <sup>0</sup> 40'	36	.1 %	27.1 %	100-200	97	.6%	90.0%	500-6	00		
		sting & vering Rod	4º30'	1.9		1.4	200-300	99	.7%	93.8%	600-7	00		
_ 		sting & vering I.T.	32°00'	13	.3	10.0	300-400				700-8	00		
Time	Mis	cellaneous	91°20'	38	.1	28.5	Effciency of Drilling							
ing	Rep	airing		_	-	_	301.40 m/Work Period 9.72					72 n	n/Day	
Working	Oth	ers	25 <sup>0</sup> 30'	10	.6	8.0	301.	40 m,	/Worl	ding Days		11.	59 n	n/Day
~		Total	240 <sup>0</sup> 00'	100	l	75.0	301.	40 m,	/Drill	ing Perio	d	15.	86 n	n/Day
	Remov-	Preparatio	72 <sup>0</sup> 00'	-	•	22.5	301.	40 <sup>m</sup>	/Net Dril	ling Days		18.	84 n	n/Day
	Ren	Moving	8 <sub>0</sub> 00,	_	-	2.5	Tota	l Wor	kers/	301.40 m	İ	0.	98 S	hift
	G.	Total	320 <sup>0</sup> 00'	_	-	100								
Casing Pipe Inserted	Pipe Size  & Meterage  Drilling Length			(%)		overy of ng Pipe	Tota Drill		Vorke	rs/301.40	m	0.	62 S	hift
Pipe 1	112 m	/m 1.50m	0.5	%	10	00 %	II.	ting & ering		5 Time		isting & wering l	т. 1	34 Times
sing	NX 70.00m 23.2 % 100						Remark	s						
្ន	BX 150.00m 49.8 % 96.0 5					96.0 %								
<u></u>	<u> </u>													

Table 7 DHK-14/15-DE (JK-6)

	I	em			_	Perio	ods				Number Days	of	V	Actual forking Days	D	ay Oi	f	Nu	Total mber of orking
<u>va</u>	Pr	epa	ration	10t	th Mar. 1	975 -	12th M	ar. 19	75		3			3		_			39
lling Periods	D	rill	ing	13t	th Mar. 19	975 -	21th M	ar. 19	75		9		-	9	_	_			111
Drilling Perio	R	emo	oving	22t	h Mar. 19	975				1	1			1					19
^	Г	To	otal	10t	h Mar. 19	975 -	22th M	ar. 19	75		. 13			13		_			169
ngth	- ·	ann eng		3	300.00 <sup>m</sup>		er- den	3.	00 <sup>m</sup>		···	Co	re R	ecovery fo	100	m Se	ction		
Drilling Length	De	Length 200 70 m Core							70 <sup>m</sup>		Depth of Hole	Sect	ion	Total	De of H	pth ole	Sect	ion	Total
ă	1	engi		3	300.70 <sup>m</sup>		re very	99.	0 %		0-100	98.	.5%	98.5%	400	-500			
	Di	1111	ing		66 <sup>0</sup> 00'	48	.5 %	37.	5 5	8	100-200	98.	.5%	98.5%	500-	600			
			ing & ring Rod		3 <sup>0</sup> 50'	2	. 8	2.	2		200-300	100	%	99.0%	600-	700			
je je		Lowering Rod  Hoisting & Lowering I. T.  30030				22.4 17.3				300-400				700-	800				
Time	M	isc	ellaneous		26 <sup>0</sup> 10'	19.3 14.9					Effciency of D								
Working	Re	pai	iring		- "	- 19.3				7	300.70 m/Work Period						23.13	m/	Day
Wor	Ot	her	s		9 <sup>0</sup> 30'	7	.0	5.	4		300.70	) m/V	Vorki	ng Days		23.13 m/Day			Day
		7	Total	1	136 <sup>0</sup> 00'	100		77.	3	Ť	300.70	m/E	rilli	ng Period			33.41		
	Remov-		Preparatio	n	24 <sup>0</sup> 00'	_		13.	5		300,70	m/N 1	let Filli:	ng Days			33.41	m/	Day
	Re .	Ē [	Moving		16 <sup>0</sup> 00'			9.	1		Total 1	Work	ers/3	00.70 m			0.56	Shi	ft
	G.	T	otal	1	176 <sup>0</sup> 00'	_	•	100			. Otal	,,,,,,	,				0,00	5	
Casing Pipe Inserted	1		Inserted Length Drilling Length	(%)		overy ing Pi			Total Drillir	ıg Wo	rkers	s/300, 70 m	ı		0.37	Shi	ft		
Fipe 1	112	m/	m 3.00m		1.0	%	1	00	%		Hoisti Lower	•	od	3 Times	1	isting werin	•	. 144	Times
  sing	NX	NX 30.00m 10.0 % 100					%		Remarks										
ပီ	BX		171.00m		56.9	%		93.0	%										
				<u> </u>				_											

Table 8 DHK-13/14-DE (JK-5)

	It	em			Period	ds .			Number Days	of	W	ictual orking Days	D	ay Of	f	Nu	Total mber of orking	
<sub>10</sub>	Pre	paration	14	lth Mar 197	5			_	1			1		_			12	
Illing Periods	Dri	lling	15	ith Mar. 19	75 - 25	th Ma	r. 19	75	11			10		l			144	
Drilling Perioc	Rei	noving	26	ith Mar. 19	75 - 5	th Ap	r. 19	75	11			8		3			72	
		Total	14	kh Mar. 19	75 - 5	th Ap	r. 19	75	23			19		4			228	
gth		nned igth		300.00 <sup>m</sup>	Ove Burd		1.	50 <sup>m</sup>		С	ore R	lecovery fo	r 100	m Se	ection		***	
Drilling Length	De	rease or crease in ngth		0.40 <sup>m</sup>	Cor Leng	_	288.	10 m	Depth of Hole	Sect	tion	Total	De <sub>l</sub> of H		Sect	ion	Total	
Dri		ngth Hed		300.40 <sup>m</sup>	Cor Recov		96.	40 <sup>m</sup>	0-100	89.	.9%	89.9%	400-	500				
	Dr	illing		86°00'	53.1	8 %	37.	0 %	100-200	99	. 2%	94.6%	500-	600			i	
		isting & wering Rod		7 <sup>0</sup> 00'	4.4	4	3.	.0	200-300 100 % 96.49			96.4%	600-	700				
le le	Hoisting & 28°40'				17.9	9	12.	.4	300-400				700-	800				
Ē	Mi	scellaneous		26 <sup>0</sup> 20'	16.4	4	11.	.3	Efficiency of Drilling									
Working Time	Re	pairing		J –	-		-	_	300.4	300.40 m/Work Period					13.06	m,	'Day	
Wor	Otl	iers		12 <sup>0</sup> 00'	7.5	5	5.	. 2	300.4	0 m/1	Vorki	ng Days			15.81	5.81 m/Day		
1		Total		160°00'	100		69.	.0	300.4	0 m/I	Orilli	ng Period	1		27.31 m/Day			
, 	Remov-	Preparat	ion	8000,	_		3.	.4	300.4	o m/l	Vet Orilli	ng Days			30.04	m,	/Day	
1 .	Ren	Moving		64000'	_		27.	.6	Total	Wark	ors/	300.40 m	_		O 76	Sh		
	G.	Total		232 <sup>0</sup> 00'		•	100			1,012						- Dij.		
Casing Pipe Inserted	Pipe Size Leng & Meterage Drill Leng				%)		overy ing Pi		Total Drilli	ng Wo	orker	s/300.40 n	n		0.48	8 Sh	lft	
g Pipe 1	112	m/m 1.50n	n	0.5	%	10	00	%	Hoisti Lower	_		5 Times		istin weri		Γ. 12	9 Times	
Sing	NX 28.50m 9.5 % 100					%	Remarks											
၂ ပီ	BX 140.00m 46.6 % 93.6					%_												
L									L									

Table 9 DHK-13/14-EF (JK-8)

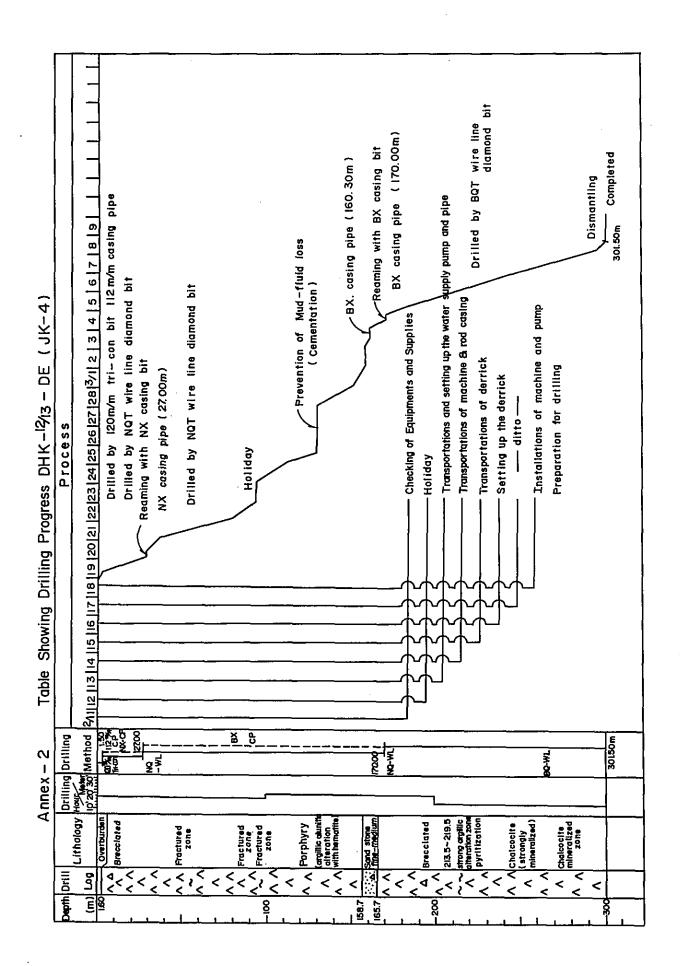
	Ite	m		Peri	ods		Number Days	of	W	ctual orking Days	Da	y Off		Nur	Fotal nber of orking
s	Prep	aration	23th Mar.	1975 -	27th M	lar. 1975	5			3	-	2			39
Drilling Periods	Dril	ling	28th Mar.	1975 -	3th A	pr. 1975	7			7		_	1		91
Pe III	Rem	oving	4th Apr.	1975 •	12th A	pr. 1975	9			8		1			74
ă	T	otal	23th Mar.	1975 -	12th A	pr. 1975	21			18		3	j		204
ngth	Plan Len		300.00 n		er- rden	3.00 <sup>m</sup>		С	ore R	ecovery fo	r 100 :	m Se	ction		_
Drilling Length		ease or rease in gth	1.30 <sup>n</sup>		ore ngth	294.90 <sup>m</sup>	Depth of Hole	Sec	tion	Total	Dep of H		Sect	ion	Total
ū	Leng Dril	-	301.30 <sup>n</sup>	•	re overy	98.9 %	0-100	91	8.5%	98.5%	400-	500			
	Dril	ling	61 <sup>0</sup> 20'	54	.7 %	30.7 %	100-200	9:	8.1%	98.3%	500-	600			
		ting & ering Rod	5000'	4	.5	2.5	200-200	100	0 %	98.9%	600-	700			
ne		ting & ering L.T.	26 <sup>0</sup> 50'	24	.0	13.4	300-400				700-	800			
Ė	Mis	cellaneous	10 <sup>0</sup> 50'	9	.7	5.4			E	Effciency o	f Drill	ing			·
Working Time	Repa	iring	-	-	-	_	301.	30 m	/Worl	Period			14.35	m/	'Day
Wor	Othe	rs	8000'	7	. 1	4.0	301.	30 m	/Worl	king Days	s	_	16.74	m	/Day
1 1		Total	112 <sup>0</sup> 00'	100		56.0	301.	30 m	/Drill	ing Perio	od		43.04	m/	'Day
	Remov- ing	Preparati	on 24°00'	-	-	12.,0	301.	30 <sup>m</sup>	/Net Drill	ling Days			43.04	m	/Day
1 1	Reing	Moving	64°00'	-	-	32.0	Tota	1 Was	rkore	/301.30 m			0.68	Sh	ift
	G.	Total	200 <sup>0</sup> 00'	-	_	100	1012	1 110	i KCI 5/			_	0.00		
Casing Pipe Inserted		e Size Ieterage	Inserted Length Drilling Length			overy of ing Pipe	Tota Dril	-	Worke	rs/301.30	m		0.30	Sh	ift
r Pipe I	112 n	n/m 3.00m	1.0	%	1	00 %		ting ering		4 Times	2 I	sting Verir	-	. 11	8 Times
sing	NX	3.00m	1.0	_%	1	00 %	Remark	<u> </u>							
၂ ပီ	BX	159.40m	52.9	%		90.6 %									
		· .			<u> </u>		<u></u>								

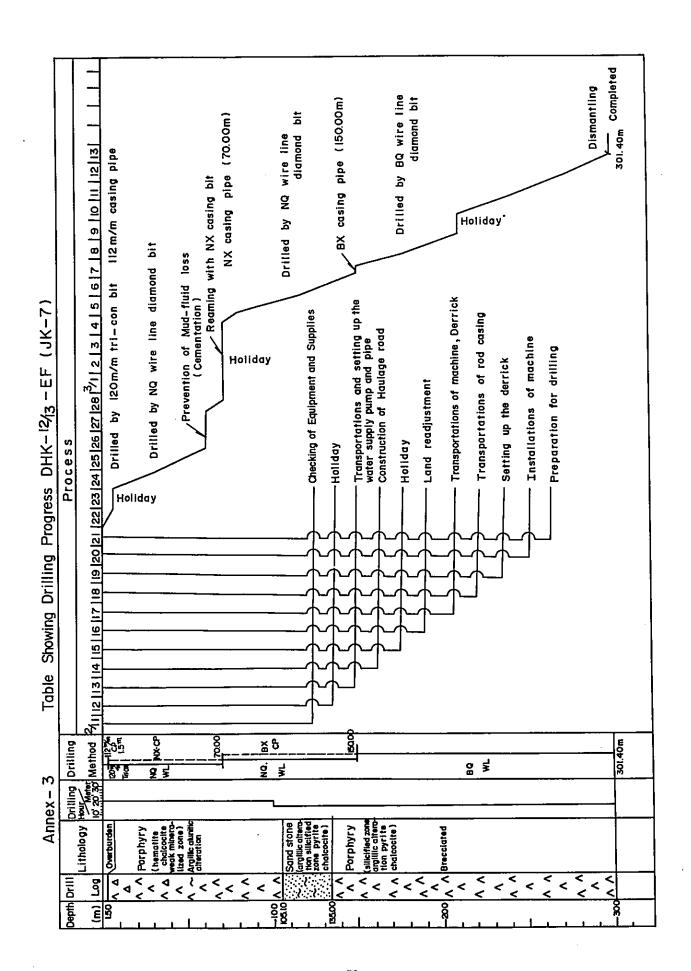
	ις	ទី <del>រ</del> ិ	0		ñῦ				<del></del>	<u> </u>	
Remarks	ZZ = R.C.35	Z = R.C.30 ZZ = R.C.35	Z = R.C.30		ZZ = R.C. 35	#	=				
Quantity (pc.)	ស	16	23	44	2	9	10	18			62
Water way	9	9	4		9	9	4				
Size (diamond)	1/20 ct	1/25-1/30	1/35-1/40		1/15-1/20	1/15-1/20	1/15-1/20				
Matrix	ZZ	ZZ .Z	Z		ZZ	ZZ	ZZ				
Carat	150 ct	480	460	1,090	16	48	02	134			1,224
Туре	D-10	NQT-WL	BQT-WL		D-10	NQT-WL	BQT-WL				
Size	101 m/m	ÒN	BQ	Total	101 m/m	NQ	BQ	Total			Grand Total
Item	Diamond Bit				Reaming Shell						

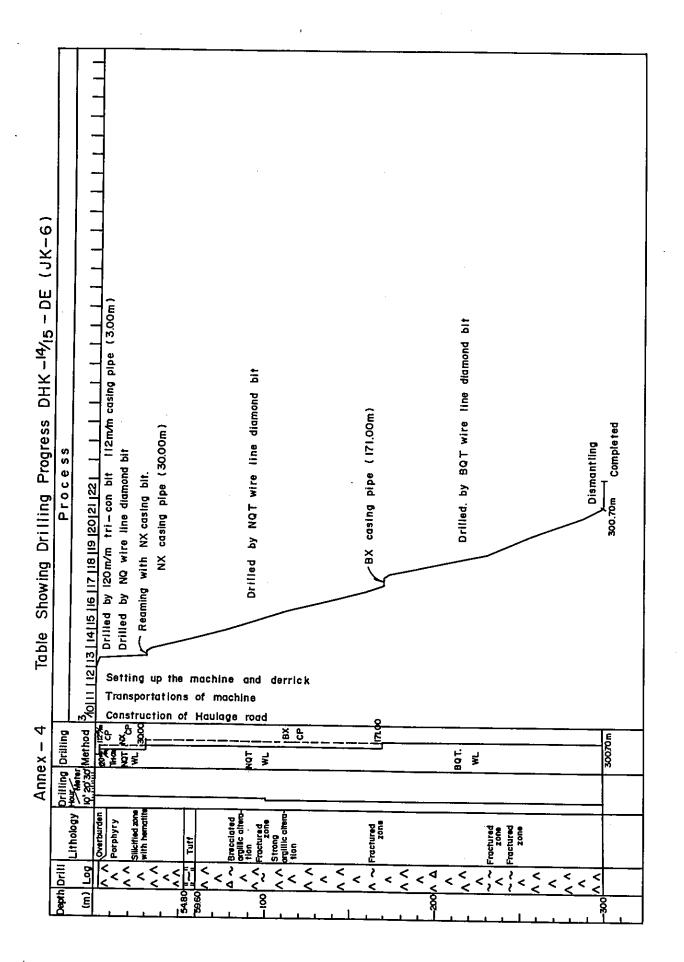
R.C = Rockwell C scale

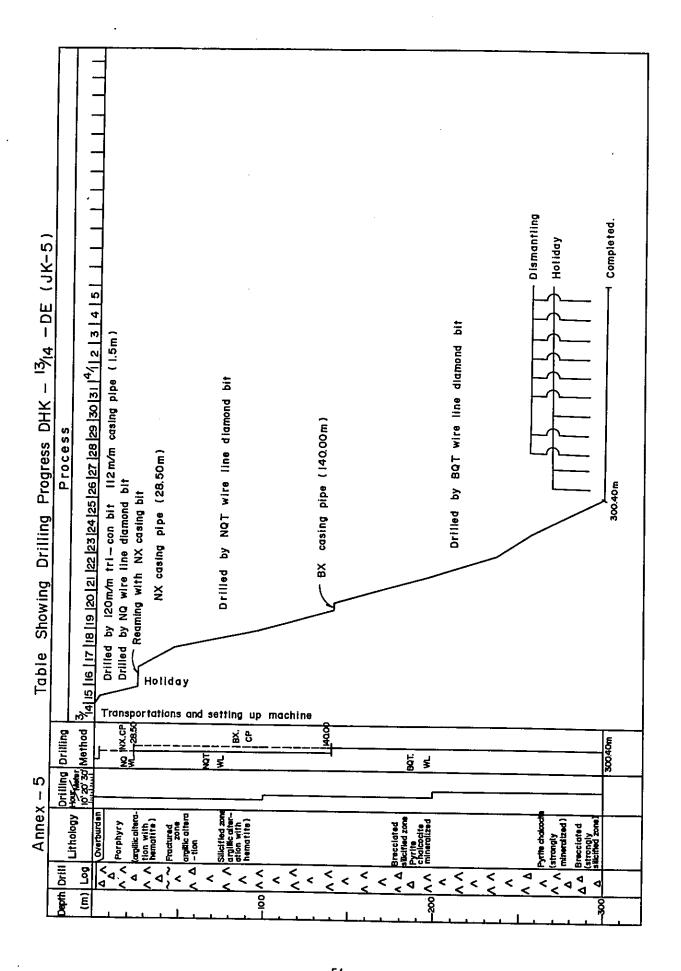
Table-11 Drilling Meterage by Diamond Bit and Reaming shell

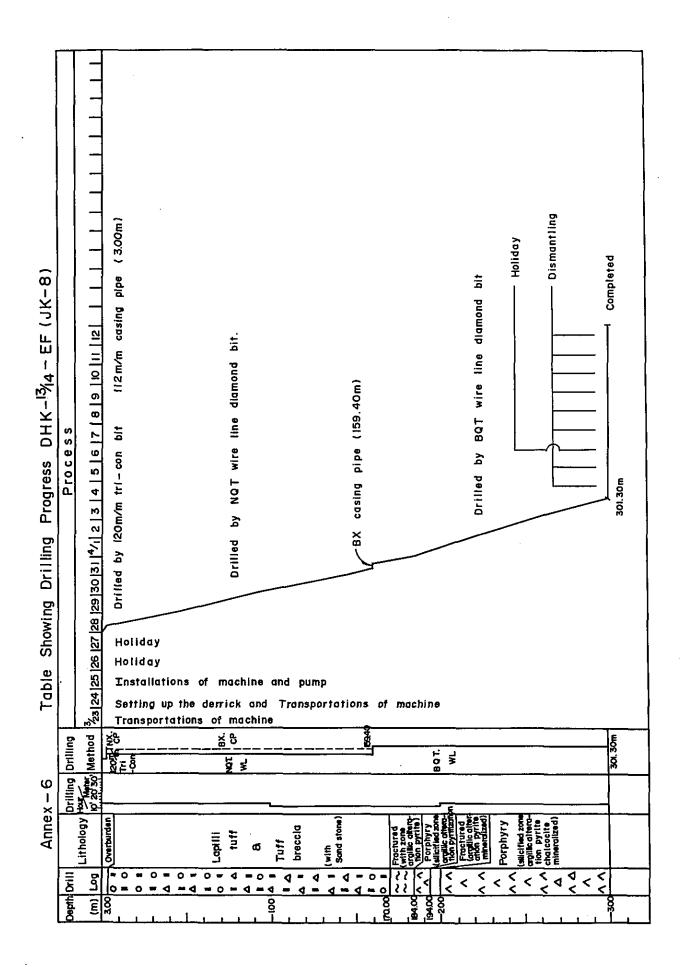
					Dri	illing Meters	ige by Boreh	ole	-		Remarks	
Item	Size	Type	Bit No.	DHK 12/13-DE	DHK 12/13-EF	DHK 14/15-DE	DHK 13/14-DE	DHK 13/14-EF	Total	Used	Unused	Total
Blt	101 mm	D-10	U 8692			(27.00)	10,11 01	15, 12 21	(27.00)	0		
		**	" 8693						enlarging		٥	
		"	" 8694 " 6865		<u> </u>	ļ					0	
			" 6865 " 6866	1.50	1.50		1.50		4.50	0	0	
	••		- 5555	- 1100			1100		7.00		<del>                                     </del>	
Bit	NX	NQT.WL	V 4755		56.90				56,90	0		
	**	,	" 4756	36.10					36, 10	0		
	**		" 4757 " 4759	44 40	40.70				40,70	0		
	**	"	" 4758 " 4759	66.40	49.40	ļ			66.40 49.40	٥	<del> </del>	
		' "	" 4760		- 47.40	99.40			99,40	- 0	<del> </del> -	
	**	***	A 5666			68.60			68.60	o	<b></b>	
	"		" 5667	30,80					30,80	0		-
	**		" 5668		<u> </u>		94.30		94.30	. 0		
			N 6874		<del> </del>		42.70	42 20	42.70	٥	<del> </del>	
	P	***	" 8696	24.00	<del> </del>			63.30	63.30 24.00	0	<del> </del>	
			W 8347		<del>                                     </del>			25,70	25.70			
	11	"	" 8348			<del></del>						
	**	"	" 8349		ļ						0	
		- "	" 8350		<u> </u>			67.40	67.40	0		
Blt	BX	BQT,WL	A 5671	93.50	<del>                                     </del>				93.50	0	<del> </del>	
		"	" 5672		42.00			i	42.00	0		
	H	**	" 5673				23,10		23,10	_ 0		
	**	"	" 5674 " 5675		60,60	<u> </u>			60,60	0	ļ	
··· -		. ,,	" 5675 " 5676	47.70			52.10	ļ <u> </u>	52,10	•		
	11		" 5677	47.70		<del></del>	27.00	<del> </del>	47.70 27.00	_ 0	-	
	**		" 5678			46,60	27.00		46,60	- 6	<del> </del>	
	**		" 5679			43.00			43.00	- 0	<del>                                     </del>	
		**	" 5680					45.00	45,00	٥	1	
	"	11	" 5681		<u> </u>	40.10			40.10	. 0		
	41	- 11	3002				37.10		37.10	0		
	- 11	**	" 5683 " 5702					55.10	55.10		0	
	**	**	" 5703		<del></del>			33,10	33.10		0	
		, H	" 5704				21,10		21.10	0	<del> </del>	
	**	**	" 5705		48.80				48,80	0		
		*	" 5706								0	
			" 5707 " 222			ļ		<u> </u>	<b>!</b> :		0	
	11	P1	" 222 U 8712		ļ			41.80	41.80		0	
		**	32-1		<del></del>			41,00	41.50		0	
	**		U 8715								0	
				200.00	222.00	207.70						
			44	300.00	299,90	297.70	298.90	298,30	1,494.80	32	12	44
Tri-Cone Bit	120 mm		2	1.50	1,50	3,00	1.50	3,00	10,50	0		
Bit	Total		46	301.50	301.40	300.70	300,40		1,505.30			
			<u> </u>									
Peaming Shell	101 mm	D-10	UG 8695	1.50	1,50		1.50		4.50	O		
	**	<u> </u>	2940	*****	1	(27.00)	1,50		(27.00)		1	
<u> </u>	NX II	NQT.WL			147.00				147,00	۰		
<del></del> -	H	**	" 5670	157.30	<u> </u>	140.00			157.30	0		
	11		UG 8709 NR 4		<del> </del>	168.00		156.40	168.00 156.40	-	ļ	
		.,	WG 8351		<del> </del>	<del> </del>	137.00	130.40	137,00	0	<del> </del>	
	**	**	" 8352				-0.100		72.100		0	
	BX	BQT, WL	AG 5684				160,40		160.40			
<del></del> -	- 0	- "	" 5685 " 5686		<del> </del>		<del></del>	ļ		-	0	
			" 5687	<del> </del>	<del> </del>			45.00	45.00	0	°	
	4,		" 5688		<del> </del>	129.70		-20.00	129.70	0	<del> </del>	
		**	" 5689								0	
			R 2429	141.20				L	141,20	0		
		и.	"_8428		<del></del>			96.90	96,90	. 0		
			UG 8717	<del></del>	151.40				151,40	۰	1	
			" 8718		<u> </u>	<del>                                     </del>					-	
Reaming Shell	Total		18	300,00	299.90	297.70	298.90	298,30	1,494.80	13	5	18
i			L							I		











# APPENDICES

## Appendices

Table 1-1	List of Rock Samples	
	Part 1	A-2
	Part 2	A-3
	Part 3	A-4
Table 1-2	Core Sample Photographs	A-5
Table 1-3	Microphotographs	A-16
Table 1-4	Chart of X-ray Diffractive Analysis	A-24

Table 1-1 List of Rock Samples

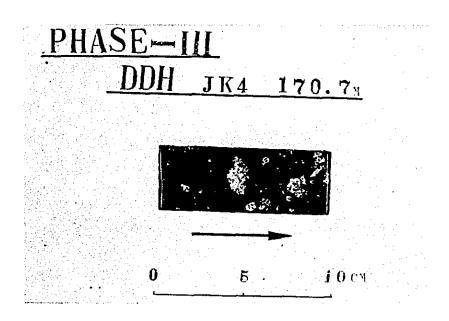
part 1

	Remarks		Medium grained biotite porphyry, strong alunitized. Fale brownish violet colored	Porcus textured biotite porphyry, reddesh brown colored.	Strong silicified silstonexenolithsize	of focm'. Fale violet colored.  Brecciated blotite porphyry . Preccia size Scm-5cm. Matrix sandy part are come rock with honorin	Strong milicified biotite porphyry with chalcocite brearing pyrite veinlet	Precciated biotite porphyry, breccia size: 5mm-2mm, with dissemination pyrite and chalcocite	Gray colored brecciated and silicified biotite porphyry breccia cize: 3cm-5cm with chalcocite pyrite discenination	Chalcccite veinlet and dissemination ore sample, wall rocks, strong silicified small grained hiotite porphyry	Fine grained ovarts aggregation part with drusy chalcocite and quarts mixed vein	Fyrite vain and pyrite discemination part in well mocks. Gray colored strong silicited	pyrite discemination part , wall rocks change to gray colored fine grained quartz aggregation	Brocciated textured pyrite and chalccoite quartz mixed vein width 5cm	Ditto width 1,2cm
<u> </u>		aralysis											<del></del>		
Policy Control	2012	section					0			0	0				0
1	:	section		· · ·	······································										0
	<u>,</u>	Alu	‡			+							-		
1140000	lerati	Sili	<u>‡</u>	‡	+	<u>‡</u>		‡	‡	‡	‡	+	ŧ	- <u>+</u>	‡
Ŀ	!	Argi		‡	‡				+			‡			
	Rock name		biotite porphyry	biotite porphyry	siltetone	brecciated biotite porphyry	pyrite veinlet	pyrite veir	brecciated biotite porphyry	biotite porphyry (with chalcocite)	chalcocite vein	pyrite vein	pyrite and chalcocite vein	ditto	ditto
	Depth		31.6	93.7	145.3	170.7	182.3	194.3	149.2	154.B	175.6	202.6	232.3	271.3	272.8
Location	Ā		Kyishindaung	r	r	r	ŧ.	±	£	t	:	ŧ	r		£
	Sample No		-	N	n	4	in.	vo	7	ω	<b>G</b> )	01	£	12	13
	Hole No		¥.	£	ŧ		r		JK-5	t		F		E	£

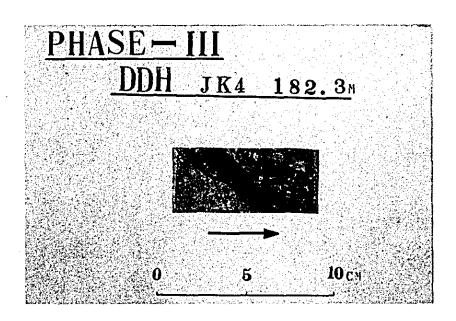
A Section 1	Remarks	analysis	Fale gray colored medium argillized fine grained biotite porphyry biotite relict; 2mm foldspar: 3mm	Gray colored medium grained biotite porphyry. Redium argillized Peldespar change white clay minerals.	Graynish white colored strong argillized part, feldspar and groundmass, all changed into clay minerals	Medium grained biotite porphyry with pyrite and chalcocite veinlet	White colored, brecciated biotite porphyry breccia size: 2cm-4cm, strong silicified Matrix dark gray colored fine grained biotite porphyry, strong silicified	Brecciated biotite porphyry with chalco- cite network	With chalcocite vein, and pyrite dissemination, pale gray colored silicified biotite porphyry	with chalcocite networks part , grayfah white colored silioified, medium grained biotite porphyry	yellowish white colored silicified fine grained and compact sandstone with pyrite veinlet networks	Yellowish white colored silicified sand- stone and silstone alternation part sand- stone part is strong pyrite dissemination	With 2cm width calcite vein, pyrite strong dissemination part and medium grained grayish silicified sandstone
Poliabed		section				0							
1	 	section		0						0		0	
Ulterntion		Sili Alu	‡	‡		‡	‡	‡	‡	<b>‡</b>	‡	+	‡
L		Argi	+	+	‡	‡	+	+	+	+	+	+	+
	Rock name		biotite porphyry	biotite porphyry	clay	biotite porphyry	brecciated biotite porphyry	disseminated chalcocite ore	chalcocite ore	chalcocite ore network texture	sundstone	sandstone & siltstone	disseminated pyrite
	Depth		140.2	149.2	159.5	200.0	83.2	9.9	93.6	104.6	106.7	108,5	272.0
Location		kyishindaurg	Kyishindaung	E	E			*	ī		Ŧ.	•	E
	Sample No		4.	15	91	11	8	6	20	21	8	53	24
	Hole No		JK-6	*	*	ŧ	JK-7	r	E	£	*	ź	r

	,	:	4	1 - 2	Alte	Alteration	Thin	Polished		Romerks
Hole Fo	Sample no	Location	Depth	лоск пипе	Argi	Sili Alu	u section	section		
JK-7	25	Kyishindaung	287.0	Pyrite & chalcocite		Ŧ				chalcocite bearing pyrite network
E	56	t	296.3	biotite porphyry	+	‡				Pale gray colored strong milicified and alumitized small grained biotite porphyry ( felderar change to alumite biotite
		·						•		change to pyrite )
JK-8	2.7	21	7.1	lapilli tuff	‡					Weathered and argillized lapilli tuff reddish brown colored with green copper stain(oxidized and hematized zone)
	28	2	7.7	lapilli tuff	<b>‡</b>	<del></del> .				Brownish, yellow colored lapilli tuff pyrite changed to limorite (lapilli size: 3mm-5mm)
t	29	E	55.2	lapilli tuff	+		0			Gray colored lapilli tuff, fragment size: imm-icm. sandstone and hornblend biotite porphyry
E.	02/	E	77.9	fuff breccia (fine grained part)	+		··· ···		. "	Gray colored weak argillized tuff breccia breccia maximum size: 5cm brecciated fragment: sandatone and hornblendt biotite porphyry
	ŗ.	t	8.3	lepilli tuff	+					yellowish gray colored lapilli tuff, weak silicified and argillized (lapilli:biotite porphyry, sandstore, mudstone) with weak pyrite dissemination
:	32	ŧ	126.2	horblende biotite porphyry(xenolith)	+	+				horblendebtotite porphyry xenclith in the tuff breccia , size maximum: '5cm
. •	8	ŧ	146.0	ditto	+					Size: Som small grained weathered torblench biolite porphyry zenolith, in the tuff breecia
E	34	ŧ	150.7	tuff broccia	‡				•	yellowish gray colored tuff breccia, cample lapilli part( medium silicified gone)
I.	35	•	176.3	tuff breceia	‡				0	Grayish white fault clay in round and sufficiond fault breedla. Precia size:5mm-2cm with weak pyrite dissemination
E	36		221.0	biotite porphyry	Ī	•				Gray colored, silicified, coarse grained blottite purnyry, with weak pyrite disse-
<u>.</u>	37 38 39	r r	257.9 278.9 295.9	biotite porphyry biotite porphyry biotite porphyry	‡ ‡	+ +	00			clay minerals size: 2mm - 7mm Ditto

Table 1-2 Core Sample Photographs
22 photos

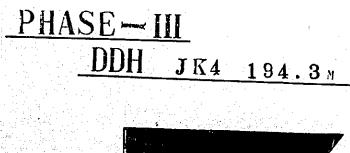


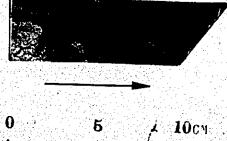
Chalcocite dissemination in brecciated biotite porphyry



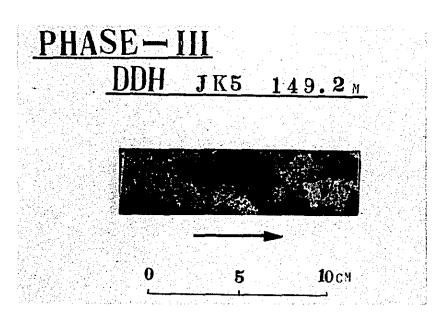
Chalcocite vein (black) in biotite porphyry

shows a deep side of drill hole

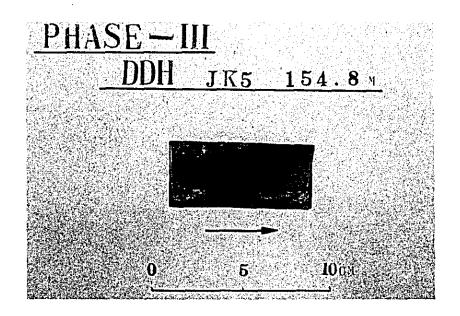




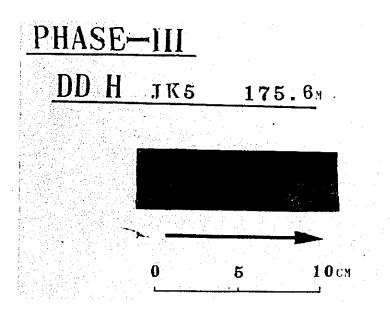
Chalcocite rich part:
chalcocite into parallel veinlet
and dissemination



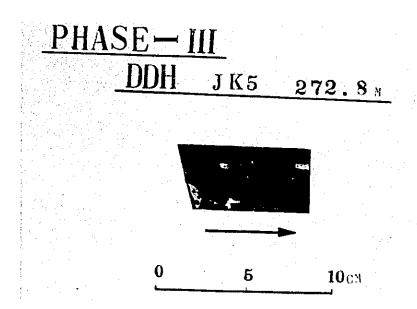
Chalcocite high grade part in brecciated biotite porphyry



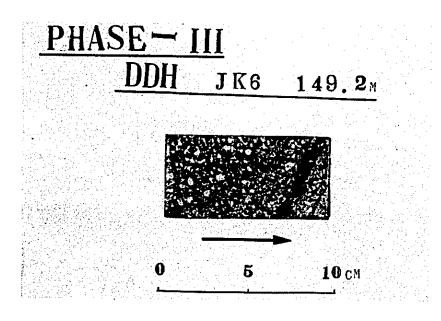
Pyrite and Chalcocite veinlet



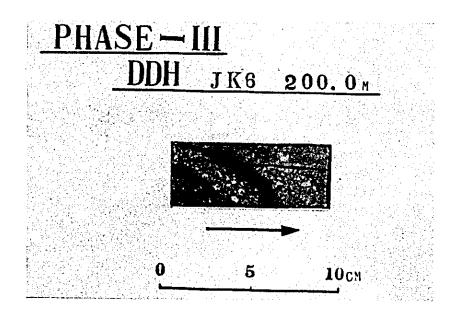
Horizontal: pyrite veinlet
Intersected:chalcocite and quartz



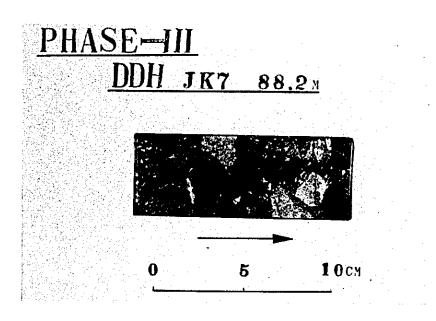
Pyrite vein withchalcocite and quartz



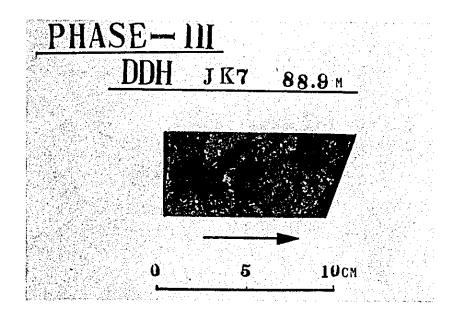
Chalcocite stringer in coarse grained biotite porphyry



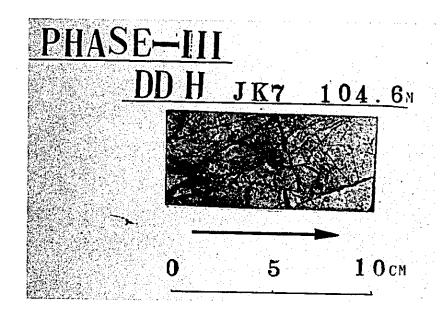
Chalcocite stringer (black) in biotite porphyry



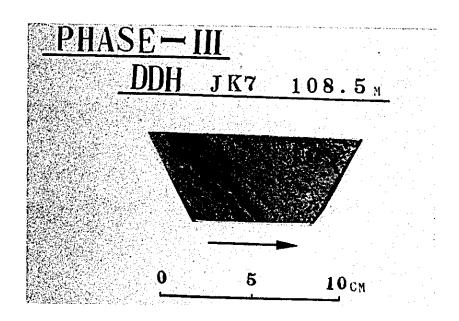
Chalcocite zone in brecciated biotite porphyry



Chalcocite disseminated ore

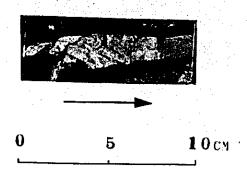


Chalcocite veinlet in silicified biotite porphyry

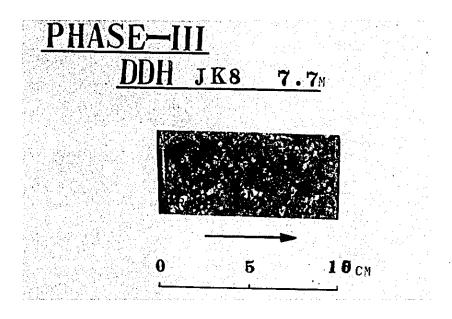


Banding part with sandstone, siltstone

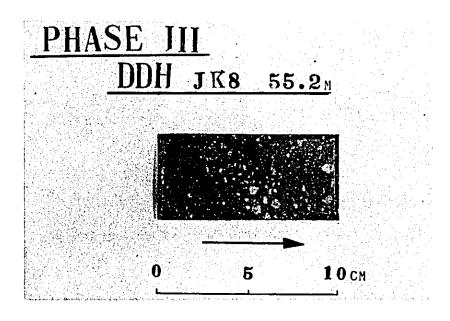
# PHASE-III DDH JK7 272.0



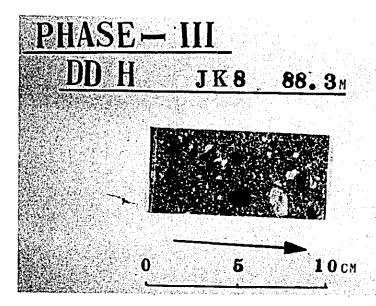
Chalcocite-calcite vein



Lapilli tuff



Banding part with fine tuff and lapilli tuff

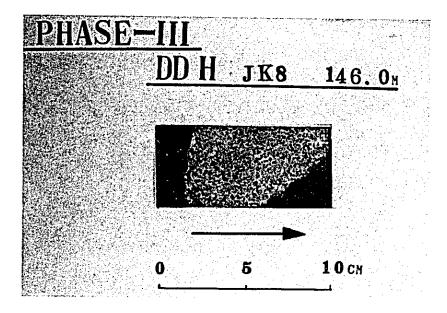


Lapilli tuff

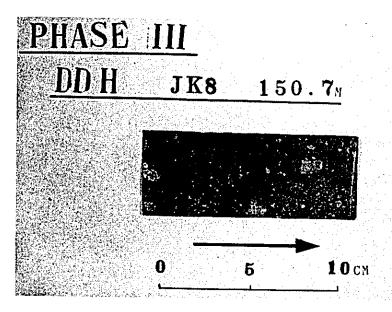
black spot: sandstone

white spot: hornblende biotite

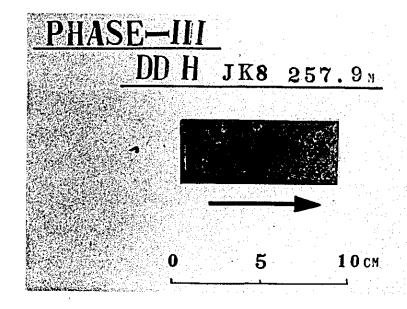
porphyry



Hornblende biotite porphyry xenolith in tuff breccia

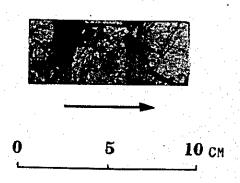


Tuff breccia
black part: hornblende biotite
porphyry

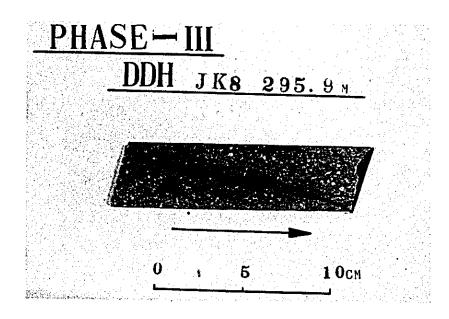


Coarse grained biotite porphyry

# PHASE-III DDH JK8 278.9M



Biotite porphyry black part: chalcocite



Chalcocite network stringer in biotite porphyry

Table 1-3 Microphotographs

Sample No.5 Locality: JK-4 (12/13 DE) 182.3 PRock Name: pyrite veinlet

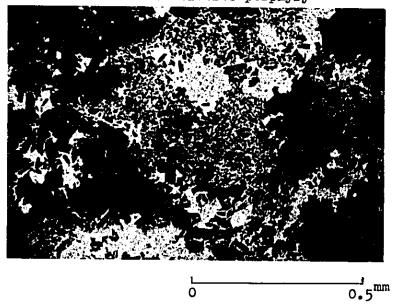
Py

Cc: chalcocite
Py: pyrite

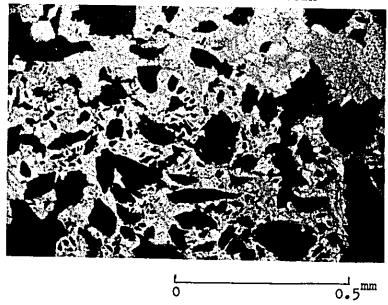
O

O.5 mm

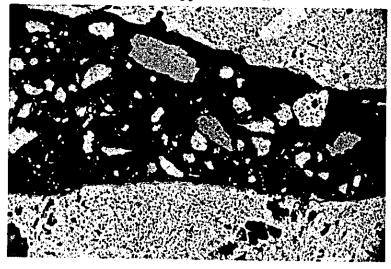
Sample No.8 Locality: JK-5 13 JK-5 (13/14 DE) 154.8<sup>m</sup> Rock Name: biotite porphyry



Sample No.9 Locality: JK-5 (13/14 DE) 175.6<sup>m</sup>
Rock Name: chalcocite vein

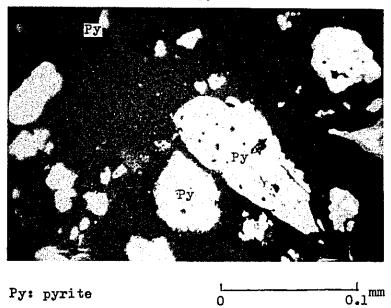


Sample No.13 Locality: JK-5 (13/14 DE) 27 X2.8<sup>m</sup>
Rock Name: pyrite vein

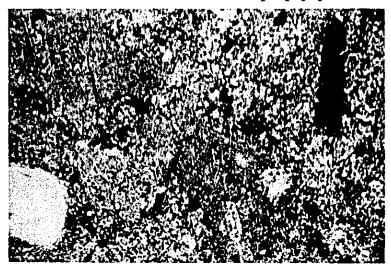


opened nicol O O.5 1 mm

Sample No.13 Locality: JK-5 (13/14 DF) 272.8<sup>m</sup>
Rock Name: pyrite vein



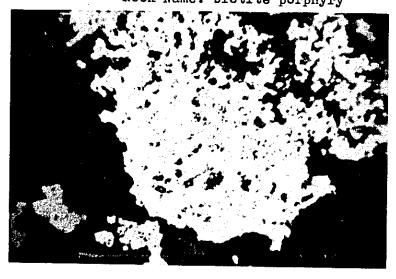
Sample No.15 Locality: Jk-6 (14/15 DE) 149.2<sup>m</sup>
Rock Name: biotite porphyry



opened nicol 0 0.5 1 mm

Sample No.17

Locality: JK-6 (14/15 DE) 200<sup>m</sup>
Rock Name: biotite porphyry

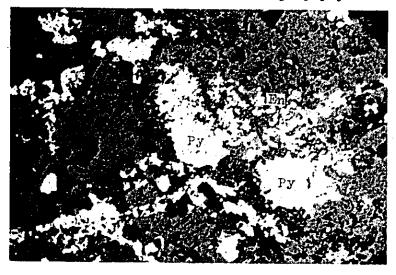


chalcopyrite dots in pyrite



Sample No.17

Locality: JK-6 (14/15 DE) 200<sup>m</sup>
Rock Name: biotite porphyry

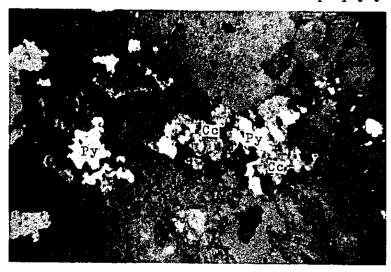


En: enargite Py: pyrite

0 0.5<sup>mm</sup>

Sample No.17

Locality: JK-6 (14/15 DE)
Rock Name: biotite porphyry

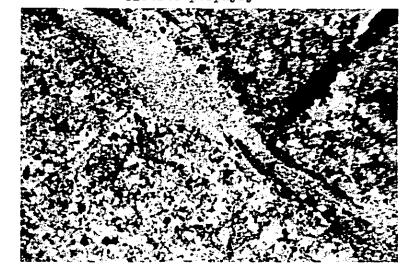


Cc: chalcocite
Py: pyrite

0 0.1 mm

Sample No.21

Locality: JK-7 (12/13 EF) 104.6<sup>m</sup> Rock Name: chalcocite veinlet into biotite porphyry



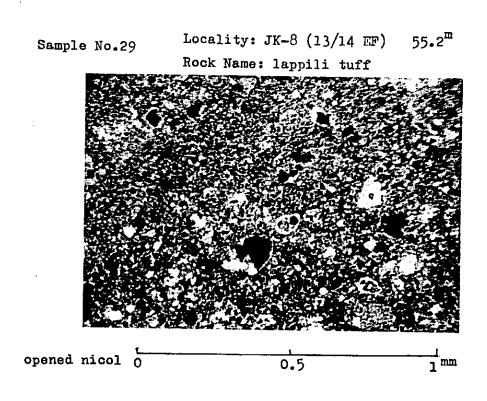
opened nicol 0 0.5 1 mm

Sample No.23

Locality: JK-7 (12/13 EF) 108.5

Rock Name: sandstone & siltstone

crossed nicols 0



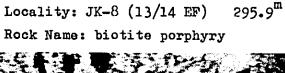
Sample No.38

Locality: JK-8 (13/14 EF) 278.9<sup>m</sup> Rock Name: biotite porphyry



opened nicol 0 l<sup>mm</sup> 0.5

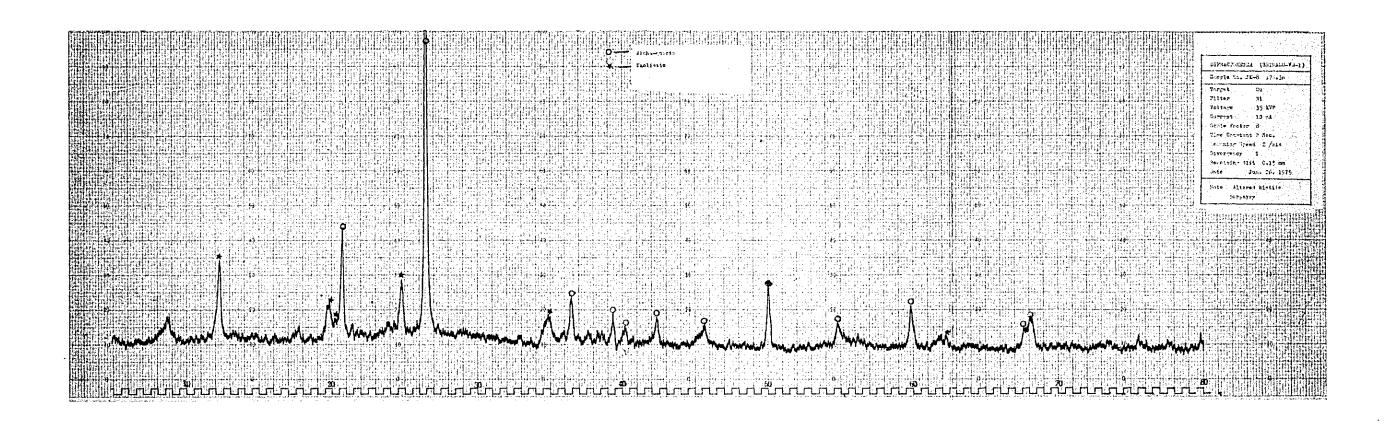
Sample No.39

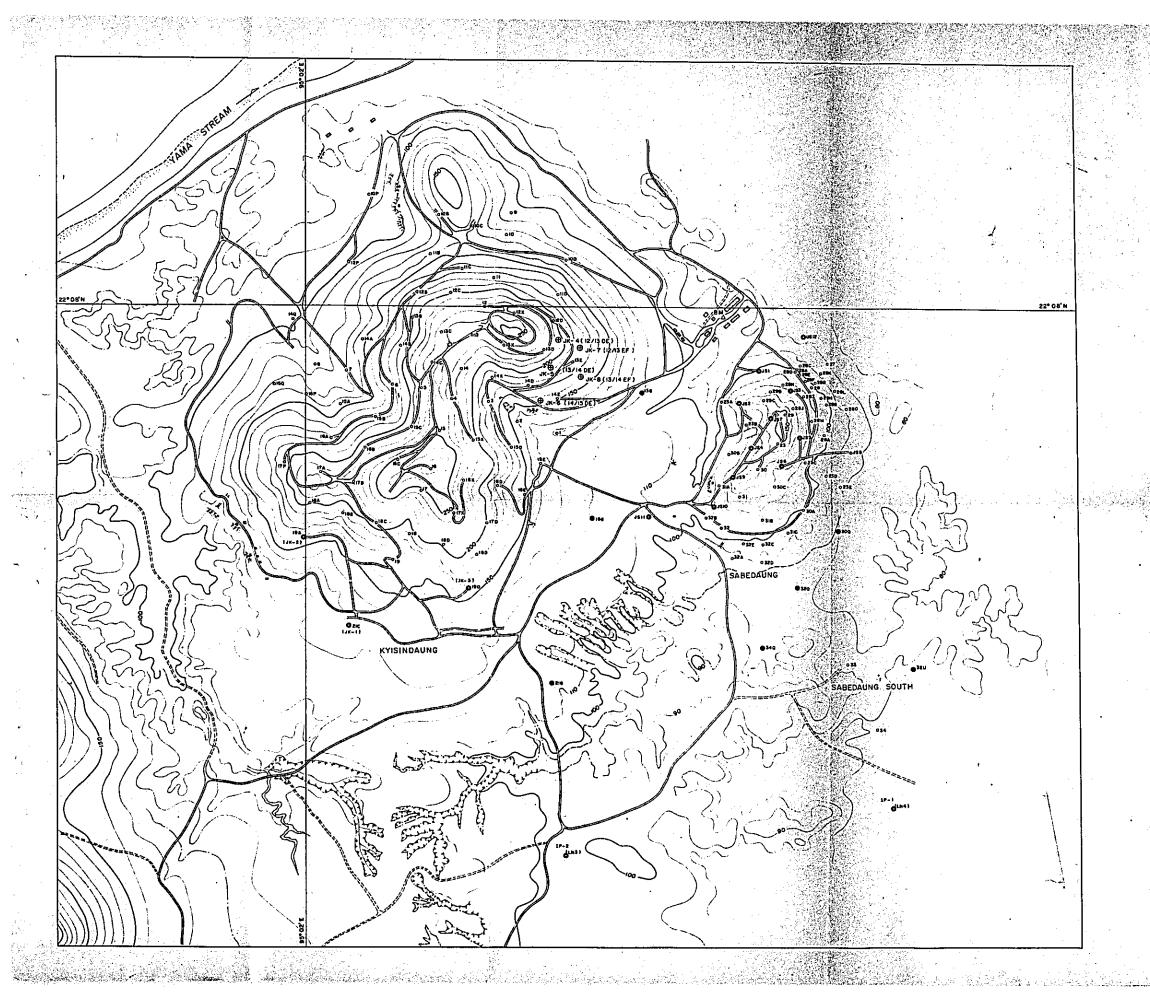


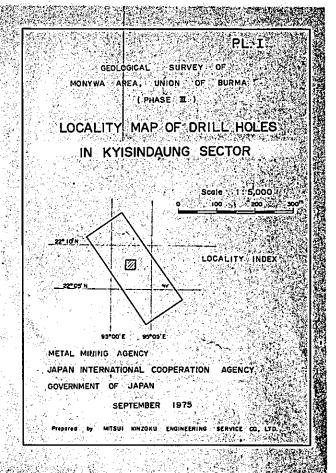


1<sup>mm</sup> opened nicol 0 0.5

Table 1-4 Chart of X-ray Diffractive Analysis







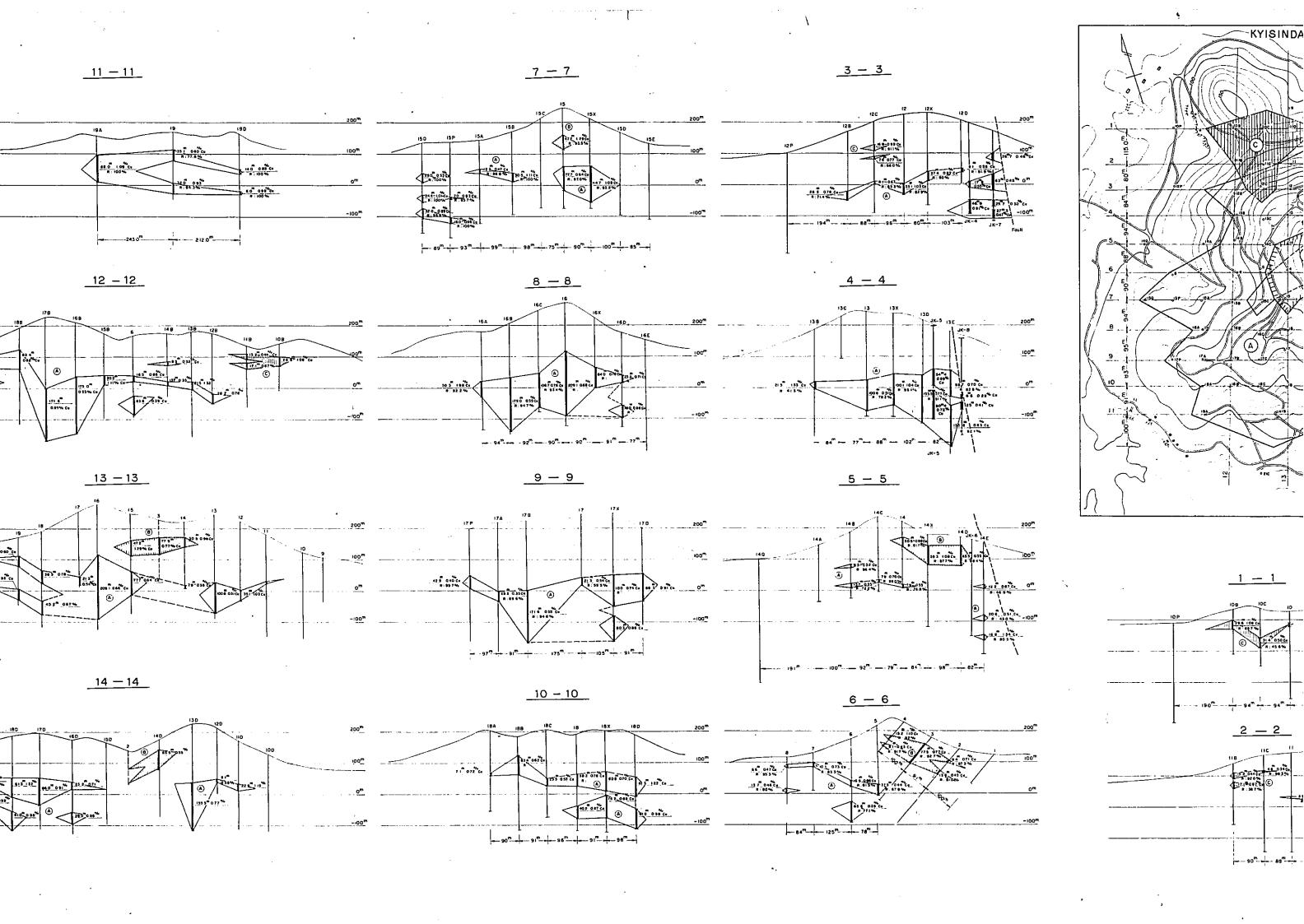
## LEGEND

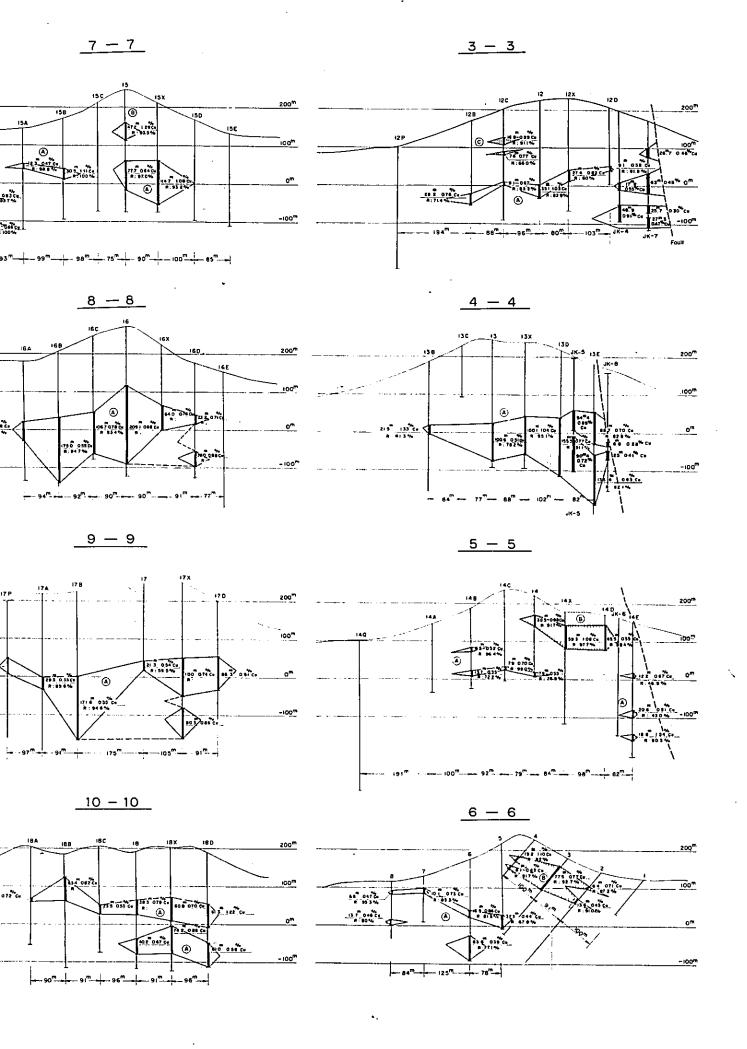
O JK8 | Drill Hole by Japanese Survey Team |
O 1972, PHASE I O 1973, PHASE II |
Drill Hole by M.M.D.C.

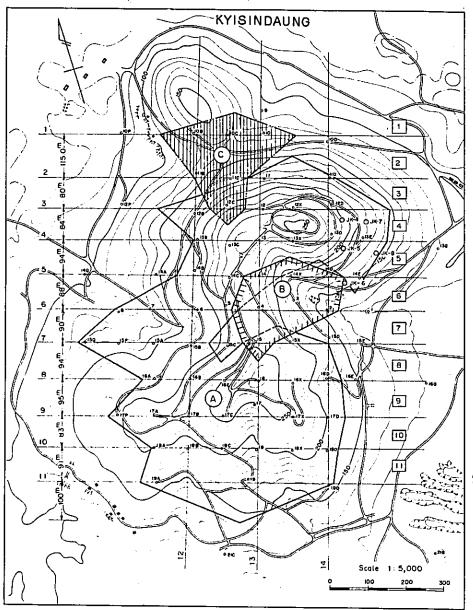
Jeepable Road

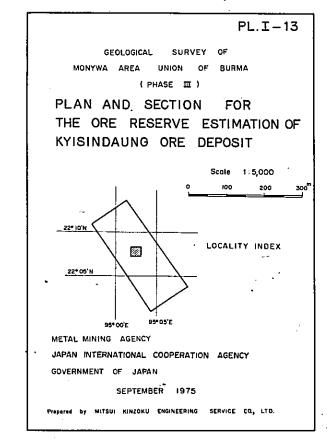
Contours (Interval 10<sup>m</sup>)

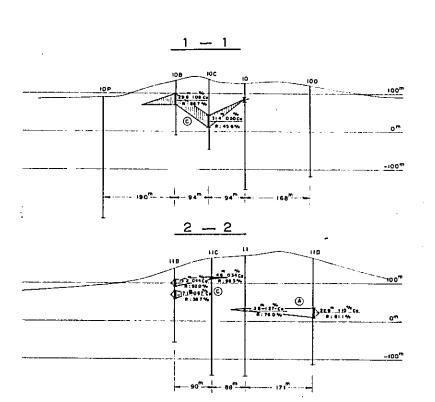
Old Working

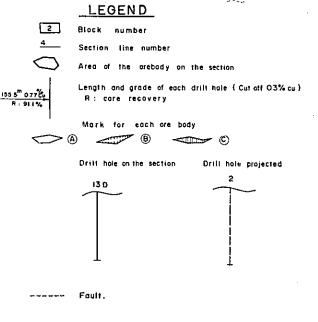












_	1.3	<u> </u>	!			er.				<u> </u>	. Waste 174		્ં ફે		A Sec.	A. O			
'	pth 1) (m)	Columnar Section		Particulars	Alfo		. в		lization cu	50	Result of ( Imple Depth No (m)	$\overline{}$	Sample						PL.T
	1.6			non core	<u> </u>	. 1.	(3) 		4	45			1						GEOLOGICAL SURVEY OF
	3.7			weathered biotite porphyry with hematite veinlet			Ŭ.		. 17 .			(17.1) (	;	-			10	1	MONYWA AREA UNION OF BURMA
				breceiated biotite perphyry medium milicified and argillized				, ,		İ	· · · · · · · · · · · · · · · · · · ·			:					(PHASE III)
	10 Q	~~	3.	breccia size: 0.5cm - 3.0cm  strong argillization zone clay minerals knoline and caricite	ال	11	-		<b></b>		1	1	•		ŧ		4	[.	
		<u>^~</u>	∕enì	13.6n clay sample	·					1	•						1 3	ľ	CORE LOG and ASSAY
50	15.	ΔΛ		hematite voinlet wide: 1cm 13.6m - 19.5m breceinted part		J	Ĭ.	<i>.</i>				ļ		:			el el		
١.	-	~^~	<b>/</b> 07	15.5m - 23.6m shearing zone quarts veinlet width: tem medium argillized and silicified biotite			JI:		i					٠			· }:		DDH No JK-4 (12/13DE) Sheet 1
	200			porphyry feldspar change to alumite	ĬV		()	•		ŀ	•							•	Total Lauth 2018 m Core Parquery Si
	23.	<u>^</u>	40	23.6m - 25.1m treccia part treccia mime: 3cm - 5cm	$  \  $														Total Length 301.5 m Core Recovery 85
ŀ		^ _		silicified and medium grained, weathored biotite porphyry alumitization		, t.,					1			',					Location Kyishindaung Elevation 2276
ioc	0,300	\^\		strong blotite relict: 4mm - 7mm		:	V	÷			· • ,	i	;	,			1 (		Direction O Inclination - 90
	52.	T.	40	feldspar · phenocryst: 5mm - 7mm brecciated part with hematite network		) 1							i			٠,	: .	1	Date_of_Loggingfrom 6.4.75'_ to_10.4.75'
	35.		70	take 31.6m. alunite sample hematite veinlet width: 2mm 2mm hematite veinlet		!					٠,		į					[.	
1	37.	<u> </u>	20	silleification and argillization medium									, i		:				Logged by S. MONONOBE
	400	^ <u>_</u>	<b>-</b> 5	groundmass change to fine grained quartz aggregation with hematite networ 41.0m - 48.3m brecciated and strong	1	٠.	-	•	٠		r	. !							
	44.	<u>^"</u>	20	hematization some					•			• •	:				į		****
150	20 77	^	Γ.	reddish brown colored strong exidation zone							1.	11	į				÷		METAL MINING AGENCY
	46,	~	<b>/</b> 10	hematite voinlet network hematite voinlet width: 12mm	$\  \ $			•				.	. '				1		JAPAN INTERNATIONAL COOPERATION AGENCY
	1	~~		rodium argillized and obsaring part partly porous texture				-				. i			i	!	-		GOVERNMENT OF JAPAN
	54.	<u>^~</u>	70	arcillization and cilicification medium					٠										SEPTEMBER 1975
	Į	^		homatite veinlet width: 5mm silicified and crushed part with benati te notwork and weak alumitisation	<del> </del>				-									P	apared by MITSUI KINZOKU ENGINEERING SERVICE CO. LTD.
200	60 61 .	· <u>^</u>	295	5mm - 7mm width heratite veinlet porcus biotite perphyry													į,	L	
	1	^_	,	biotite relict: 5mm hematite voinlet width: 5mm															•
].	64.	<u>~</u>	10	hard compact and medium alumitized some feldspar phenocryst change to alumite			$\ $			.  -			-			on in			till het till till som en en en en en en en en en en en en en
	` ¢9,	<u>  ^</u>	<b>1</b> 70	hematite voinlet width: 4mm small grained biotite porphyry	$ \cdot $	ļ.												•	* Burmese Hole No.
	700		1	71.9s strong silicified and medium					-										. Outliese livie MA
	:	_^	]	alunițite sone 74.9m - 75.2m sludge															,
25	00	~^	1	porous texture and strong exidation zone															
	. ; <b>80</b>	~ ^	<u>'</u>	75.2m - 80.2m shearing zone															
	81	Δ~	:]	80.9m - 81.5m sludgo percus biotite perphyry, shearing part	<u>.</u>														
	84	~_^	<b>L</b> 55	hematite veinlet width: 2mm silicified biotite porphyry			$\ $									]			• ,
	. 89.	_^	1.75	blotite relict: 5mm quartz and limenite veinlet	$  \  $											1			
30	10 - 91 10 - 91	ΛÌ.	∫ ".	_medium_alunitization part biotite relict: 5mm										•					LEGEND
		~ ^	]	93.7m alunite sample shearing zone with hematite veinlet					;							1			l
	95	. 6	1	network *													¥ .		Mudstone
	96	. ├^	75	alunitization medium part homatite veinlet width: 3cm			Д		j	-		,				}		1 325	Sandstone
		۸ ا	:	medium grained biotite porphyry strong silicified some biotite relict: 5mm	1				* 1				,	:				معدنا	Tuff Lapilli tuff Tuff Breccia.
	104	I'' A	<b>1</b> 0	feldspar phenocryst: 5mm 5mm width hematite voinlet		Ì	$\  \ $								* .			<u> </u>	Rhyolite
35	QQ	\\^^	1	strong silicified biotite porphyry with	h		$\  \ $		Ţ									```	homblende-biotite porphyry biotite porphyry quartz-biotite porphyry
	ļuo	•	75	hematite rich brecciated part argillized and milicified porphyry with	h		Υ		. }			1						7 2	Brecciaton
	1	_^	` .	hematite network and dissemination alumitization weak	11		V					}	•	:				△30	Inclination of plane structures
	:		1	115.0m - 115.3m sluge								:	•	1					{ bedding plane intrusive boundary etc.}
	ļ	<u></u>		strong alumitization zone partly porous part strong silicified								1		1					
40	120 122			zone with alunitization 122.4m - 125.3m strong alunitized part		•	Ų.	-	i				,						
1	- 1	<b>.</b>	1,_	123.5m alunity sample medium grained sandatone xenolith:3.5cm								•	:	1				· C	EGREE OF ALTERATION AND MINERALIZATION
	125		75	medium silicified and argillized part		ļ.												•	argillization silicification pyritization mineraliza
ļ	133		175	boundary of breceiated massive part		١.	儿			.		1					•	i	SIO2 FeS2
	131	٠٢٠	35	heratite veinlet width: 5mm hard compact atrong ellicified and								!		!	•	<b>₹</b> **			fresh < 55 % < 1 % < 0.2
	!	_^^	1	medium elumitized part biotite relict: 5mm			$\  \ $					ŧ				1.	. '		weak 55 ~ 65% i ~ 5 % 0.3 ~ 0.
4:	00,136	<u> </u>	<u> </u>  65	hematite vein width: 1.5cm silicified and porous texture part			U					-	İ	İ	:	\ \frac{1}{3}			medium 65 ~ 80% 5 ~ 10 % 0.6 ~ 0.
	41.025	»  <u>~</u>	1	hermitite network and dissemination		100	$\parallel$				يشيرونا والمناسب		1		Ĺ.	\	A STA	1 1	
8	14.	1,	-	medium argillised biotite porphyry with weak alumitized		\$1.50	े\ <b>।</b>	alphae L	No here	ā.Ş	upa 3 (186)			1405	146.000	133	, t <sub>errelini</sub>		strong > 80 % > 10 % >>1
1	14	. <u>                                    </u>	₩,	quartz veinlet with pyrite redium argillized and wook alunitized					1.79				ľ	-					
				shearing and blecciation zone				1							1 .			*	fresh : unaltered
	150 200	<b>"</b> ^^	Ţ	medium argillized and weak alumitized				••		١	*		1	į	· ·				weak - parts of feldspor phenocrysts changed into clay minerals
12		/_	]	152.6m - 158.7m medium argillized and weak silicified zone with alumitizatio	n	1	Λ								:	] ,			medium : almost all the feldspar phenocr
1	İ	1.	4	biotite relict: 5em				}	*	-		1	į .	1	1				changed into clay minerals
١,	15		<b>\</b>	158.7m - 165.7m			.  .				i,		1; 1	į					strong: not only feldspar phenocrysts but also groumass changed into day minerals
		À		grained sandatons mixed part with graded texture sampling of siltatone	•			1	٠.		1			ĺ		1		-	( by field abservation
	۸،	<u> </u>	<u> </u>	graded texture sampling of siltatore the 7m = 170.7			1	į	. :		164	1.	<u> </u>	<u> </u>	1	1. 24			1 M2 Hall Application

adding of a

89.98%

-;	 argillization *	silicification	-pyritization	mineralization	
	fresh	sio2 < 55 %	FeS2 <   %	cu < 0.2 %	[C
	weak	55 ~ 65%	1~5%	0.3 ~ 0.5%	
	medium	65 ~ BO%	5~10%	0.6 ~ 0.9%	
gal.	strong	> 80 %	> 10 %		carrier and

	69.d	270	feldspar phenocryst change to alunit hematite veinlet width: 4mm small grained biotite porphyry		300					4	<b>≫</b> Buri	nese Hole Na	
			71.9m strong silicified and medium slunktite zone							100 d V			
2000			74.9m - 75.2m sludge i porous texture and strong oxidation	新原	製								
		]	zone 75,2m - 80.2m shearing zone										
	80. B1.		80.9m - 81.5m sludgo porous blotite porphyry, shearing pa	rt									
	B4. ~	65	hematite veinlet width: 2mm silicified blotite porphyry biotite relict: 5mm	なる。								and in	
	89.		quartz and limonite voinlet, medium alunitization part				respondent der der				LEGE	ND.	
3000	91.	$\exists$	biotite relict: 5mm 93.7m alunite sample	終 [3]	Utilia Valoria								
	95.	<b>~</b> ]	shearing some with hematite veinlot		in die.						Mudston		
	96. A	<u>^                                    </u>	alumitization medium part hematite weinlet width: 3cm medium grained biotite porphyry								Sandston		
] - 이 (4) [22 - 12 [3]	-  ,		strong milicified come biotite relict: 5mm								Rhyolite	Lapilli tuff Tuff 8	reccio.
350	∵.  <u>\</u>	<b>.</b>	feldspar phenocryst: 5mm 5mm width hematite veinlet strong silicified biotite porphyry(wi	Lth							Porphyr	tomblende-biatite biotite porphyry quartz-biotife porp	porphyry
	1100	- /75	hematite rich brecciated part			/ ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (					Δ Δ Brecciate	quartz - biotite porp	<b>'yry'</b>
		$\geq$	argillized and silicified perpayry with hematite network and dissemination slunitization week	i en	<b>1</b>						∠30 Inclinati	on of plane structure	300 (1995) - 1995 (1995) - 1995 18
			115.0m - 115.3m sluge								( bedo	ling plane Intrusive	boundary etc )
	1200	<u>^</u>	partly porous part strong silicified some with alumitization	,				Mi					
400	] 	싁	122.4m - 125.3m strong alumitized par 123.5m alumita sample								• DEGREE OF	ALTERATION AND A	INERALIZATION
	125.	<u>^ / 7</u> 5	medium grained sandstone xenolith: 3.5 medium silicified and argillized par	•							argilliz	ation sllicification	pyritization mineralization
	360		boundary of breceinted massive part. hematite veinlet width: 5mm		у. т. . З	<b>\</b>					frest	sioz < 55 %	F s2 Cu Cu Cu Cu Cu Cu Cu Cu Cu Cu Cu Cu Cu
	" ~		hard compact strong silicified and modium alumitized part								weak	55 ~ 65%	1 ~ 5 % 0.3 ~ 0.5%
450	2 136. 🛆		hematite vein width: 1.5cm silicified and porous texture part		s . Ži		100			1 ( )	1 1		9 (m. 1. o. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
	1280 ~	4	heratite network and dissemination		(3.5) YES						medi	um 65 – 60%	5 ~ 10 % 0.6 ~ 0.9%
	<b> </b>   ^		sedium argillised biotite porphyry with weak alunitized quartz veinlet with pyrite		1883 1883		34 19 45		* <b>*</b> * * * * * * * * * * * * * * * * *		stro.	ng > 80 %	> 10 %
-	145.	<u> </u>	medium argillized and weak alunitized shearing and birecintion zone	đ		1					* fresh :	unaltered	•
	150.0	<b>-</b>	medium argillized and weak alunitized	a	:				1		weak :	parts of feldspor phe	
500		^	152.6m - 158.7m medium orgillized an weak silicified some with alumitizat	4 1	∥ .	Λ.				<b>`</b>	medium :	•	ne feldspar phenocrysts
1	_	^	biotite rolict: 5mm			1		'   	1 '		strong :	changed into a	clay minerals inocrysts but also ground—
·	1520		158.7m - 16".7m  fine compact siltatone and nedium  grained annostone mixed part with				-					mass changed into	clay minerals
,	165.	A	graded texture sampling of siltstore	e		•	164						( by field observation )
560			medium argillized and silicified par 170.0m bettom of exidized zone	٠			1851 166 1852 168	1	2.0   0.05 2.0   0.01		Д	BBREVIATIONS	
	1700		170.7m sampling of the breccin part	١.			1853 170	1 '	2.0 0.26		arg :	Argillization	
	/***		2mm pyrite and chalcocite veinlet take sample of strong silicified porphyry				1855 174 1856 176	2.0	2.0 0.26		sil.	Siticification	•
1	76.7	^ 15	chalcocite and pyrite veinlet 4mm medium grained biotite porphyry strong silicified zone				1857 178	2.0	2.0 0.18		ру. :	Pyritization	
	1800		groundmens, change to fine grained quartz aggregation pyrite and chalco	cite .	\	╣ .	1858 180 1859, 182,	2.0	2.0 0.09		· kao :	Kaolinization •	
100	20 ES. 12		veinlet ( sample ) brecciated pyrits vein width: 10cm chalcocite veinlet width: 1mm				1860 184		2.0 0.16		ser. :	Sericitization	
		$\lambda$	pyrite network and dissemination par medium grained biotite perphyry	. i	} .		1862 188 1863 190	2.0	2.0 0.32 2.0 0.25		ch :	Chloritization Alunitization	<del></del>
	1900	<b>→</b> "	quarts veinlet with pyrite & chalcoc medium argillized and pilicified par pyrite and chalcocite veinlet 2mm		<b>\</b>		1864 192 1865 194	2.0	2.0 0.23		c.c.p.	Chalcopyrite	
	94.3		strong silicified and brecciation ac broccia fragment: 5mm - 2cm	ne	1	$\bigcap_{i \in \mathcal{A}_i} A_i \downarrow$	1866 196	2.0	2.0 0.43		en. :	Chalcocite  Engraite,	• •
65	-1 F	<u> </u>	take samples 195.7m spotted epidote				1867 198 1868 200	2.0	2.0 0.30 2.0 0.41		ds. :	Dissemination	
		<u></u>	200.7m - 201.7m strong silicified an chalcocite rich part 4mm width pyrite and chalcocite vein	· 1		Y:       []	1869 202 1870 204	2.0	2.0 0.30 2.0 0.55		V ;	Veinlet Width	
	206.0		204.7s - 207.2m chalcocite rich parchalcocite rich strong silicified as	٠/ L		人们占	1871 206	2.0	2.0 1.17		***		
	210.0		weak sericitization part				1872 208 1873 210	2.0	2.0 0.56				
],o	210.1	240 255 270	icm width pyrite and chalcocite vein pyrite and chalcocite bearing quarte			Y [ ] [ ()	1874 212 1875 214	2.0	2.0 0.82			,	
	215.	~	veinlet width: 7mm 213,5m - 219.5m strong argillized		<b>     </b>	Y          X	1876 216	2.0	2.0 0.20	281			
	العبد	~ /7º	part with pyrite discomination chalcocite veinlet width: 4mm			;	1877 218 1878 220		2.0 0.16			strategiesensenskie stat set septen	t springe about the Marie on Attitude growing the fight
	220.	\	coarse grained biotite porphyry biotite relict; 5mm				1879 222 1880 224	2.0	2.0 0.13		en en en en en en en en en en en en en e		
	224.	<u> </u>	strong argillized pyrite voinlet with	đih:		$A \mid A \mid i$	1881 226 1882 228	2.0	2.0 0.32 2.0 0.56				•
75	227.1—	<b></b>	224.7m - 227.0m shearing part 270.0m - 228.8m pyrite network 230.0m - 234.0m coarse grained bist	110	$  \cdot  $		1582 230	5.0	2.0 0.29				
		^	porphyry biotite religt: 5rm - 6mm				1884 232 1885 234	2.0	2.0 0.34	, .		Sec.	
	234.4.		pyrite veinlet width: 2mm	- 1	11 1		1	10.00	1 * !	1		** . •	

ै।	500	17.5		242	medium argillized and silicified part		7	-	F	13			1851	166	2.0	- 1	0.05	HAME I
		1700	^	201	170.0m bottom of oxidized some	:∥.	4	Д.		i, śr	2.00		1852 (* 1853 (*	168 170 \$	2.0	2.0	0.01	
	55)	70.7	255	22.5	170.7m sampling of the brecois part	.  \	;	4	1	$\parallel$		12.1	1854	172	2.0	2.0	0.25	
ી		73.2	4	<b>∠</b> 50 ∶	2mm pyrite and chalcocite veinlet take sample of strong silicified		1	٠,٠	1	Y	1.0	1	B55	174	2.0	2.0	0.26	
٠	12	74.6	Z-Sik	125	porphyry chalcocite and pyrite veinlet 4mm	Ų	1		4	7 8	1	19	1856	76	2.0	2,0	0.25	(\$23)
3				250.0	medium grainei biotite porphyry		3,	1. 2			11	Ş	1857	178	2.0	2.0	O. 18	
16 11.7 2.7		1800	<u>^_</u>	45 K	strong silicified some groundness; change to fine grained			Š,				氫	1850	180 7	2.0	2.0	0.09	3
7	6000	82 5		مدا	quartz aggregation pyrite and chalcocite	9 9		YC.				¥	1859	162	2.0.	2.0	0.18	3
3	- 8	183.7	<b>~</b>	Z55	brecciated pyrite vein width: 10cm; chalcocite, weihlet, width: 1mm		5	*	ŧ,				1860	184	2.0	2.0	0.16	14.37
	3	185.4			pyrite network and dissemination part			11:3		1.			1861 j	186 -	2.0	2.0.	0.39	
ી	7.		<b>√</b> , ∧	\$ 8	medium grained biotite porphyry	٦,	γr	118	Še.	21%	· .			188	2.0	3.1	0.32	18 O.
		190.0	^-	55.,	quariz veinlet with pyrite & chalcocite medium argillized and cilicified part		ļa	-	-		-124		1864	190 192	2.0		0.25	
			S.		pyrite and chalcocite veinlet 2mm	Y.	40		1.		4.2		1865	194	2.0	1.18 mg " 1	0.22	
		94.3	^_	<b>~</b> 0	strong silicified and brecciation some		11	¥	j	Į,		ु	1666	196	2.0	11.64	0.43	
	6500	10.00			breccia fragment: 5mm - 2cm take samples 195.7m spotted epidote		*				୍ର″ /		1867	198	2.0		0.50	
	438	200.0	$\overline{\lambda}$	<b>2</b> 60				4		$\ \cdot\ $	"[]	Ê	1868	200	2.0	2.0	0.41	
3			44	15.00	200,7m - 201,7m strong silicified and chalcocite rich part			V	1	Ш	41	(*)	1869	202	2.0	2.0	0.30	
6		$\{\lambda_i\}$	<b> </b> ^^		4mm width pyrite and chalcocite veinlet		1		40	][	! \		1870	204	2.0	2.0	0.55	
		.04.	4	60 85	204.7m - 207.2m chalcocite rich part	\$1.00		ርት			IJ	č	1871	206 🚶	2.0	2.0	1.17	
1	2	506*0		ا ت	Weak sericitization part			*		5	<u>ا (</u>		1872	208	2.0	2.0	0.64	
		210.0	2%	/40	1cm width pyrite and chalcocite wein			14.		V	1)		1873	210	2.0	2.0	0.36	
	700,0	210.		<b>Z</b> 55	lyrite and chalcocite bearing quarts			Y		Ш		10	1874	212	2.0	2.0	0.82	3.5
	- 31	213.		<b>Z</b> 70	veinlet width: 7mm	<b>У</b> А.		γ.	١.	1	1		1875	214	2.0	2.0	0.48	
į.	12	33	<u>~</u>	W.	213.5m - 219.5m strong argillized part with pyrite discemination	(1)	1			11			1876	216	2.0	2.0	0.20	
:	Z	210	13"	Z70	Province and the contract of t	17		Ų.		$\{ \} $			1B7	218	2.0	E 31274	0.16	344
	***	220.°	~^	Z70°	chalcocite veinlet width: 4mm	2 5	1	H		ľ	1	7	1879	220	2.0	2.0	0.15 0.13	100
-1			^_		biotite relict: 5mm			1	1	á [ ]			1880	224	2.0	2.0	0.13	
		224.	· ^	<b></b>	strong argillized pyrite voinlet width:	3 3		Ţ				Del Del	1881	226	2.0	2.0	0.32	
	<b>**</b> ***	227.	<u>  ^                                   </u>		224.7m - 227.0m shearing part	4		$\parallel$		Ŋ.		45.	1882	228	2.0	2.0	0.56	
Z + _	7500	238 t	ightharpoons	<b>1</b> 60	270.0m - 228.8m pyrite network	W		$\parallel$	$\cdot   \cdot  $	$\parallel$			1682	230	2.0	2.0	0.29	
2			^		230.0m - 234.0m coarse grained biotite			$\  \cdot \ $					1884	232	2.0	2.0	0.34	2
		234.	<u>^</u>	70	biotite relict: 5cm - 6mm pyrite veinlet width: 2mm	Ш	1		+	∥			1885	234	2.0	2.0	0,28	
		催	^		medium argillized and silicified part			Ш	ş lê	1	ૄા	13	1886	236	2.0	2.0	0.20	
	1	238.	<u> </u>	<b>∠</b> 60.	with weak alunitization  4mm width pyrite veinlet in spotted		ł	$\parallel$		1			1687	238 -	2.0	2.0	0.21	
		348.°	<u> </u>	<b>L</b> 85	chalcocite			.  .	-	٠		7.7	1609	240	2.0	2.0	0.17	
	•		<b> ^</b> .	ار ا	chalcocite veinlet with pyrite medium millioified and argillized part	Ш		$\parallel$	ું.			Ĭ,	1869	242	2.0	2.0	0.34	
	8000	243.	╁	<del> </del> 65	Sum width pyrite veinlet in chalcoofte biotite change to muscovite		.	$\parallel$	4	Т	ultija.		1290	244	2.0	2.0	0.12	
- 1		346:	===		shearing and argillized part		Ų.	Ш	셑.		1	,	1891	246	5.0	100	0,10	
		248.	┵	40	pyrite veinlet width: 7mm	$\  \ $	di.	1	1	,	di in a		1892	248	2.0	100	C.06	1 1
			<b>1</b> ^_		weak argillized and strong silicified	ΙĪ	1	][	~ <b>)</b> •		-	-	1893 1894	250	2.0	2.0	0.14	4 1
			^	1	small grained biotite porphyry			$\Pi$		- [].	1	١.	1895	252 254	2.0	2.0	0.19	
		254.	<b>—</b>	<b>/</b> 60	chalcocite veinlot width: 2=m chalcocite network and discomination	. !	1	П	4	Ш	.17	1	1895	256	2.0	1.75	0.60	
	#50r	257.		65	chalcocite veinlet width: 5mm			IJ	1	- 11			1877	258	2.0	2.0		
		260	<b> </b> ^		course grained biotite porphyry	!_	1	11	1	_   :		_ _	1898	260	2.0	2.0	1.97	
		263.	۱, ^	60	feldpar phenocryst: 7mm - 1cm biotite relict: 7mm	;		11	1	Ή			1899	262	2.0	2.0	1.81	
		264.		<b>₹</b> 70	3mm pyrite veinlet with chalcocite	į.		1					1900	264	2.0	2.0	0.82	
			^		2m chalcocite and pyrite veinlet 254.6m - 264.6m chalcocite rich zone	!	1	Д			ो	f.	1901	266	2.0	2.0	0.84	
	\$ 1, 1 2	268.	┟╌	ٔ وتک	setwork and dissemination	lі		U				260	1902	268	2.0	2.0		
	Ī	2700			268.im_6mm-pyrite and chalcocite vein chalcocite dissemination zone	- -	+	-  -	+	-ነ/		7	1903 1904	270 272	2.0	2.0	0.35	
• [	9000	273.		270	chalcocite veinlet width: 1cm					Щ	<u>`</u> j-'		1905	274	2.0	2.0	0.29	
j			18.A	1	chalcocite dissemination part pyrite and chalcodite veinlet			1		4		1	1906	276	2.0	100	1.64	
+2.		278.		285	strong silicified and pyrite dissering-	l !'	1	Λ		1			1907	278	2.0	2.0	0.88	
÷	,	280	<u>^</u> ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ		tion and network some	ا ا	$\cdot \bot$	Ш		$\cdot (\cdot)$		ľ	1908	280	2.0		1.02	
	i.		<b>^</b> :		chalcocite wein width: 1cm	1						X	1909	282	2.0	2.0	0.49	
÷		283.	┯	55.	medium grained biotite purphyry							k:	1910	264	2.0	2.0	0.37	
÷	16.5		10,	17	feldspar prenocryst: 3.mm - 4mm biotite relict: 2mm - 3mm					)(		1	1911	286	2.0	3.500	0.76	1'
	950		^	1,,,	chalcocite veinlet width: 5mm	i	i	1		Ш			1912	288	2.0	100	0.41	.
	- 44	290.	1	200	medium grained biotite porphyry	1-		- -	4	-		-د	1913	290	2.0	2.0		
	11 3	1	^		pyrite and chalcocite veinlet width:5mm			U		-		:	1914	292	2.0	2.0		
		2954	1_^	65	biotite pienocryst: 5mm	1						3	1916		2.0	1	0.42	
	١.	1	广,	.1	feldspar . phenocryst: 7mm - 9mm								1917		2.0	1 .	2.12	
		300	محا	4	298.tn - 298.7m treccia part	li	-		1	ا  ۵	Į	il .	1916		2,0	2.0	i	1.
		301		-	701.2m = 301.5m phearing part	Li	-+	-1				L	- I ` -	501.5	1.5	1	0.42	1
	000		[	]		·	1	_		_			1	ľ				
٠	1		1	.[					-				١.		1			
	{	1	'	1			Ì				1		1			-		
		310.0	·				-			<del></del>			1 .				}	
	_	1	ــــــــــــــــــــــــــــــــــــــ	1		1			_				Щ.	<u> </u>	<u> </u>	!	1	

#### ABBREVIATIONS

arg : Argillization

ser. Sericitization

ch : Chloritization

clu : Alunitization

ccp : Chalcopyrite

c.c. : Chalcocite

en. : Engrate

w. : : Width

	) No.											
	pth	Į, į	· • · · · · · · · · · · · · · · · · · ·	Alterati	on B A	ineralization	Ret	uir of	Chemical	Anglysi	1 1 1 m	
i ta	it} (m	. 5	Particulars	org.	# II.	py cu.	Sampl	Depth	Core S	omple T-		PL. I – 14
-	1.	5	non core	-	<u> </u>	0 0	No.	(m)	Langth L	ength	%	GEOLOGICAL SURVEY OF
1	3		75. icm width quarts hamatite veinlet									GEOLUGICAL SURVEY OF
		7			$\parallel \parallel \parallel$				17.	Ì		MONYWA AREA , UNION OF BURMA
	7.	5 4	weak alunitization zone		V	i			Ì		. 1	( PHASE III )
İ	10.	익수,	medium grained biotite porphyr	_			_ :		!	Ì		
			biotite relict: Jmm. feldsper phenocryst: 3-5mm							1.	. !	TO SEE TO
,50	o 14	*	. strong alunitization sono			.					. 1	CORE LOG and ASSAY
1	16	: <u>~</u>	△ brecciation part reddish colored				1					
	20.	. △_	quartz hematite veinlet width; 1cm	Yı						7	1	DD.H. No. JK-5(13/14DE) Sheet 1
٠.	23		fine grained hiotite porphyry biotite: 1-2mm foldspar: 2mm				7			Ĥ,		
1		Δ	23. On to 28.3m brecciate zone	1			1		;	1 1	İ	Jotal Length 3.0.0.4m Core Recovery 95,91%
	27		So bematite veinlet width: Sum	į.			İ			!		Location Kylshindauna Elevation 198,8 m
	o <sup>-</sup> 30		brecciate and strong alumitization		•		7				1	Location Kylstinadung Elevation 198,8 m
ive		^	sandstone xenolith bearing biotite	1		<del>  </del>	7				:	Direction 0 Inclination 90°
1		^	porphyry sandstone xenolith: 2cm-4cm		Д.						1	Data of Lossian from U. 47-11 to 47-1
	35	A :		ለ√⊦	U	į	1 _			Ì	i	Date of Logging from 11,4,75' to 17,4,75'
	37.	[ A	clay and fragmental porphyry mixture	Y:	Υ	i		ĺĺ			į.	Logged by S. MONONOBE
	1	~^	biotite change into nuscovite						•	i	1	
	42.	<b></b>	42.3m - 50.0m medium argillization zono			i				!	٠	
150	0.	· ^	biotite porphyry partly porous texture		<b>k</b> :						1	
		^	felderer phenocryst change to alunite groundmans change small graind		'	!				ĺ		METAL MINING AGENCY
	50,0	ا م نے	quarts aggregation	-	<u>  </u>		.		1		į	JAPAN INTERNATIONAL COOPERATION AGENCY
		<u> </u> ~ ∆	shearing and breceiation zone	i		1		1		1		GOVERNMENT OF JAPAN
	54.	<b>1</b> ~^	medium alumitization, silicification,					i	1	i	1	SEPTEMBER 1976
	j 58.	ماد	and argillization zone			i		-	i	į		
200	600	, _	quartz veinlet width: 1 - 2mm							!	· .	Prepared by MITSUI KINZOKU ENGINEERING SERVICE CO. LTD.
	63.	4_	strong alunitization zone / // hematite veinlet width: Jmm					į	į			
İ		_	medium grained biotite porphyry foldspar change to alunite	$\parallel$								
	66.	1	quarta veinlet width: 5mm	:	<b> </b>   -					the state of	İ	
	700		medium argillized and weak alunitized			-		-	1	į		★ Burmese Hole No
	72.	<u> </u>	70 hematite veinlet width: 5mm	1 7	Д		]	:	1			X. Dullinese Hole MB
250		^	strong siliticified and limonite gossan zone with hematite network	1 1		!						
250	ì	^	hematite veinlet width:5mm	V il		:				Ι,		
	78.	, 	strong silicified part	$  \cdot  $	J		1					
	81.	┢	60 hematite veinlet width: 7mm		ľ		1	;				
		一	modium grained biotite porphyry			!	li	:		:		
	ł	F.,	biotite relict: 3mm felderer phenocryst: 5mm	1 (	<u>ገ</u>	1	. 1	:		1		
	9ât	<u>.</u>	on quertz veinlet with hometites Jam	; !(	J		1		1			
3000	-	~	98.7m - 97.8m	1-1-1	:	+-		,		!		LEGEND
	Í	^	weak argillized and medium silicified zone with hematite veinlet network and	¦ .	il .			:	:	ł		
		<b>├</b> ^	dissemination		'	•						Mudstone
	99. 1880	<u> </u> ^_	reddish gray colored, werthered biotito porphyry	1			;	:	1	1		Sandstone
ĺ	100.		100.3m - 103.6m silicified and porous	<u>i</u> -		•	1		•			Tuff Lopilli tuff Tuff Breccio.
	103.4	μ,	texture part	; , ]					1	į.		Tuff Lopilli tuff Tuff Breccio.
3501	į	I. ^	biotite phenocryst: 5mm - 6mm  feldspar phenocryst: 6mm	: 1	1		1	;	1			Rhyolite  Por phyry  biolite porphyry  do A  Brecciation  30 Inclination of plane structures
	188.4	^_	109.4m sampling to altered biotite	į l			1	ļ	ĺ	1	:	Por phyry biotite porphyry biotite porphyry quartz - biotite porphyry
	10.0		on colitic texture hematite veinlet	; ; l			i	4		1	į	Quartz - Diotitie porphyty  Brecciaton
ŀ		^	strong alunitized and silicified	<b>ا</b> ا	)		'	;			1	30 Inclination of plane structures
	14.5	_^	hematite veinlet width: 3mm					!	-	ŀ		Inclination of plane structures
	119.4		strong silicified zone with hematite network and discemination	; 1	1			1	;	1		( bedding plane intrusive boundary etc )
400.0	200	^.	reddish brown colored	'. 	÷		1	3	į.	i		•
	122.	<u> </u> ^	strong hematite ration and milicified zone 20 hematite is network and dissemination 2mm width hematite veinlet	it-	1	,				!	,	Bronce on Albanana
		^ ]	strong silicified and weak alumitized part									DEGREE OF ALTERATION AND MINERALIZATION
.	128.		biotite relict: 7mm	¦			:	:	•	•		argillization silicification pyritization mineralization
	130.9	<u>^</u>	pyrite and hematite mixed some	<u>.</u>			] :	2 1	:	1		Gramization   Silicification   pyritization   mineralization
İ	,	├ <b>~</b> ┤	130.5m - 139.6m atrong silicified biotite porphyry with				[		į	i I	1 1	fresh < 55 % < 1 % < 0.2 %
		^-	strong alunitization	: I			;	,	1	1	<i>'</i>	
1500		[ ^[	biotite reliat : Zmm-4mm, feldspar: phenocryst : Smm-7mm oxidized zone	; [		٠.	1767		2.0 2.	0 .0.0	2 ;	weak - 55 ~ 65%   1 ~ 5 %   0.3 ~ 0.5%
	100		oxidized zone  20chalcocite voinlet width: 5mm:		1_	:	1768	100	2.0 2.		1	medium 65 ~ 80% 5 ~ 10 % 0.6 ~ 0.9%
	44.3		eminglination wertical t 5m lang		7		1769 1770	. // 1	2.0 2. 2.0 2.		1	
90		<u></u>	chalcocite and pyrite voinlet: 4sm	20.00			1771	144	2.0 2.	100	.d 2.3 1	strong > 80 % > 10 % > 1 %
	ا ی		strong silicified biotito porphyry with pyrite and chalcocite network				1772	146	2.0 2,	2004 L. 100 G		
	49.1 48.6	ΔÂ	brecciation and silicified part	le te le Le te le	[	]			2.0 2.	0 0.73		* fresh : unaltered
5000		~	strong silicified and porous part	· · · · ·	1	JY			2.0 2.	1		weak : parts of feldspar phenocrysts changed
	_ [		weak pyritization and chalcocite dissemination			, [	1775		2.0 2. 2.0 2.	1	) [	into clay minerals
	154.€ 157.€		75 chalcocite veinlet width: 5m - 7nm					: <u> </u>	2.0 2.			medium: almost all the feldspar phenocrysts
		~	sandstone renolity pole gray colored strong silicified part			1	1778	- 1	2.0 2.			changed into clay minerals
	1.15	<u> </u>	chalcogite veinlet width: San	-+ -			1779	. 1	2,0 2,	1	}	strong : not only feldspar phenocrysts but also ground- mass changed into clay minerals
. "	· •	-n · / !	• Company of the state of the s	<i>a</i>	4 7 %	350 F #17 1	- rinh			- 1	** 1	The second of th

morning in the

managaran ayada 🖠	জনতি । জন্ম	quas ès vesses d'a man aus d'anne plus propriées des les		المنابعة المنابعة	- বিশ্বস্থান	50133715	**************************************		T.
	700	medium argillized and weak slunitized  hematite voinlet width: 3mm						数 Burmese Hole No	
	500	strong siliticified and limonite gossan zone with hematite network							
	78.	hematite veinlat width:3mm  85 strong silicified part	<u> 1441</u>						
	81.	60 bomatito veinlet width: 7mm							1
		biotite relict: Jum: folderer: phonocryst: Jum;							A CAN
	mo. 680 A	on quartz veinlet with hematite: 3mm 98.7m - 99.6m 98.8 argillized and medium cilicified						LEGEND	
	^ ^	zone with hematite veinlet network and dissemination						Mudstone Market	
	88.	reddish gray colored, werthered bictite porphyry 87 hematite reinlet with: 3mm 100.3m - 103.8m silicified and porous		1-1				Sondstone  Tuff Loplii tuff Tuff Breccia	
		texture part biotite phenocryst: 5mm - 6mm						Rhyolite homblende - biolite porphyry	
	3500	foldspar phenocryst: Cam 109.4m sampling to mitered biotite						Porphyry blottle porphyry quartz – biotife porphyry	
		m colitic texture hematite veinlet percent alumitized and cilicified weak argulized						230 Inclination of plans structures	
		homatite veinlet width: 3mm atrong silicified zone with hematite						( bedding plane intrusive boundary etc )	
	1200 A	network and dissemination reddish brown colored strong hematitesation and silicified some						OCCUPATION AND MINISTER IZATION	
	22.1_^	20 hematite is network and dissemination  2mm width hematite veinlet.  atrong silicified and weak alunitized part blotte relict; 3mm						DEGREE OF ALTERATION AND MINERALIZATION  orgilization silicification pyrifization mineralization	
	128.				對對			orgillization silicification pyrifization mineralization  sio2 Fes2 cu  fresh < 55 % < 1 % < 0.2 %	
		130.5m = 139.6m strong silicified biotite porphyry with						weak - 55 ~ 65%   ~ 5 %   0.3 ~ 0.5%	
	1500	atrong alunitization biotite reliet : Zem-4mm feldspar_phonocryst : 5mm-7mm oxidized zone			1767 136 1768: 138	1 (2 to 1 to 1 to 1 to 1 to 1 to 1 to 1 to	0.02 0.02	medium 65 90% 5 10 % 0.6 0.9%	
		Ochalcocite veinlet width: 5mm			1770 142	2.0 2.0	0.01 0.33	strong >80 % > 10 % > 1.%	遊技
	^	strong silicified biotite porphyry with pyrite and chalcocite network	The second second			2.0 2.0	0.59	* fresh : uncitered	
	149.5	brecciation and silicified part strong silicified and porous part		] - }-	1773 148 1774 150 1775 152	2.0 2.0	0.75	weak : parts of feldspar phenocrysts changed	
	54.6	weak pyritization and chalcocite dissemination 75 chalcocite veinlet width: 5rn - 7nn			1776 154 1777 156	2.0 2.0	0.61	medium aimost all the feldspar phenocrysts changed into ally minerals	
	157.	30 157. Se to 10cm medium grained sandstone zenolith pale gray colored atrong silicified part	1		1779 158 1779 160	2.0 2.0	0.46	strong : not only feldspar phenocrysts but also ground- mass changed into clay minerals	
	189.9	chalcocite veinlet width: 3mm			1760 162 1781 164	2,0 2,0	0.75	( by field abservation)	· ·
	2000167.	biotite relict: 2mm - 4mm  conclusion and pyrite veinlet: 2mm  chalcogite network and dissemination		V	1762 166 1783 168	2.0 2.0	0.28	ABBREVIATIONS	
	1789	os pyrite and chalcoolte veinlet		-	1764 170 1785 172	2.0 2.0		arg : Argillization	
	-	ofte     strong silicified and chalcoofte disse-		1 11 1	1786 174 1787 176	2.0 2.0	1.35	sil : Silicification py. Pyritization	
	189.9	50 2cm width pyrite chalcocite vein strong silicified part 180.3m - 185.7m			1789 180	2.0 2.0			
	6000	ailicified and brecciation part  pyrite and chalcocite discomination			1790 182 1791 184	2.0 2.0	2.53 . 1.48 :	kao : Kaolinization ser. : Sericitization	
a.,	185.	modium grained biotito perphyty		<b> </b>	1792 186 1793 188	2.0 2.0	1.33	ch : Chloritization  glu : Alumitization	
	190.	169.7m 2mm width chalcobite vain			1794 190 1795 192	2.0 2.0	0.15	c c Chalcopyrite	
	195.	width; under imm veinlet  medium silicified biotite porphyry biotite change to phlogopite			1796 194 1797 196	2.0 2.0	0.10	en. : Enargite	
*	2000	oize to: 5mm feldspar, phenocryst: 7mm - 8mm		$\Diamond \parallel$	1798 198 1799 200 1800 202	2.0 2.0 2.0 2.0 2.0 2.0	0.07 0.14 0.32	ds. : Dissemination v. : Veinlet	
	202.	75 chalcocite breccieted vein vidth: 2mm			1800 202 1801 204 1802 206	2.0 2.0	0.09	w. : Width	
	219.9	with chalcocite dissemination weak chalcocite zone  55 pyrite vointet with chalcocite: 5mm			1803 . 208 1804 . 210	2.0 2.0	0.17		
,	1 1	nedium argillized part 2mm width chalcocite voinlet strong silicified and chalcocite	14 1	Ň	1805 212 1806 214	2.0 2.0	0.39		
-	216.	chalcocite veinlet width: 2mm			1807 216 1808 218	2.0 2.0	0.95 0.93		
and the second	228.9 <u>^</u>	chalcocite notwork and dissemination chalcocite veinlet width: 2mm			1809 220 1810 222	*	i s s		
e de de de de de de de de de de de de de	1 1 1	75 strong alunitization zone chalcocite veinlet with pyrite: fram biotite relict: 5mm		a 8 to	1811 224 1812 226	2.0 2.0	0.19		
	2500 2500	ohalcocité and pyrite vein width: tom ntrong silicified zone with pyrite and chalcocite dissemination			1813 228	2.0 2.0	0.23		
14 1. <u>.</u>		obalquoite veinlot width; 2mm medium grained biotite porphyry biotite; 3mm, foldspar:: 5mm			1815 232 1816 234	2.0 2.0	0.15		
		chalcocite bearing quartz voinlet width tem 234.4m-235.5m strong pyrite disseminati and milicified zone	on \		1817 236 1818 238	2.0 2.0	1 3		142
j sa u	241.	nedium alunite zono chalcocite bearing pyrite voin wide: So			-1819 240 1820 242	1	1 1.36	Land to the second	

• '

chalcocite network and dissemination  700	1785 168 2.0 2.0 0.79   1784 170 2.0 2.0 0.72   1795 172 2.0 2.0 1244   1786 174 2.0 2.0 125   1787 1788 1788 2.0 2.0 126   126   1788 178 2.0 2.0 1.68   1788 178 2.0 2.0 1.68   1789 180 2.0 2.0 1.66	ABBREVIATIONS  arg : Argilization  sil : Silicification  py : Pyritization
stilcified and brecolation part  pyrite and chalcocite dissemination  50. 2cm width pyrite vein with chalcocite adding graindd blictite porphyry  and the chalcocite within 5mm  187. 2cm width chalcocite fain  190. 2cm width chalcocite fain  190. 2cm width chalcocite part  192.2cm-195.2cm chalcocite perwork part  width under inm veinlet  195. medium cilicited blotite porphyry	1790 182 2.0 2.0 2.53 1791 184 2.0 2.0 1.48 1792 166 2.0 2.0 1.35 1793 188 2.0 2.0 1.20 1794 190 2.0 2.0 0.15 1795 192 2.0 2.0 0.24 1796 194 2.0 2.0 0.28	kao Kasintzation  ser. Serkitization  ch : Chlorifization  alu : Alunifization  ccp : Chalcopyrite  c.c. : Chalcocite
biotite change to phlogopite  size to: 5mm  feldapar: phenocryst: 7mm - 5mm  202.	1797   196   2.0   2.0   0.10     1798   198   2.0   2.0   0.07     1799   200   2.0   2.0   0.14     1800   202   2.0   2.0   0.32     1601   204   2.0   2.0   0.09     1802   206   2.0   2.0   0.18     1803   206   2.0   2.0   0.17	en : Enargite : dis : Dissemination v. : Veintes w. : Width
medium argillised part  2mm width chalcoolie veinlet  strong silicified and chalcoolite  216.  70 dissemination part chalcoole veinlet width 2mm strong silicified and weak pyritization chalcoole notwork and dissemination chalcoole veinlet width 2mm strong silicified and weak pyritization chalcoole veinlet width 2mm  220.  75 strong silunitization sone  224.  75 strong silunitization sone  224.  76 strong silunitization sone	1805 212 2.0 2.0 0.39 1806 214 2.0 2.0 0.95 1807 216 2.0 2.0 0.95 1808 218 2.0 2.0 0.93 1809 220 2.0 2.0 0.48 1810 222 7.0 2.0 0.16 1811 224 2.0 2.0 0.19 1811 224 2.0 2.0 0.19 1811	
biotite relict: 5mm  / chalcocite and pyrite vein width; (cm strong siliotited zone with pyrite and chalcocite dissemination  / chalcocite dissemination  / medium grained biotite porphyry  / biotite: 5mm , foldspar.: 5mm  chalcocite bearing querts veinlet width:  ten  234.4m-235.5m strong pyrite dissemination  ord silicted cone.	1812 226 2.0 2.0 0.27 1813 228 2.0 2.0 0.23 1814 230 2.0 2.0 0.13 1815 232 2.0 2.0 0.15 1816 234 2.0 2.0 0.33 1817 236 2.0 2.0 0.78 1818 238 2.0 2.0 0.27	
241	1821 244 2.0 2.0 0.21 1822 246 2.0 2.0 0.23 1823 248 2.0 2.0 0.17 1824 250 2.0 2.0 0.07 1825 252 2.0 2.0 0.07	
breccia size: Jes - Jes  Jostrong silicified bounary of, the breccia part and measive part bittle porphyry  256,0a - 268.3a strong pyrite dissemina- tion some  Dysite and chalcocite veinlet  Shearing and brecciated zone  breccia is very strong silicified chalcocite bearing pyrite vein width: Ser  strong pyrite dissemination part  medium grained biotite porphyry	1826   254   2.0   2.0   0.33   1827   256   2.0   2.0   0.40   1828   258   2.0   2.0   0.06   1829   260   2.0   2.0   0.57   1831   264   2.0   2.0   0.11   1832   266   2.0   2.0   0.26   1833   268   2.0   2.0   0.18	
chalcocite vainlet width 5mm prite voin with chalcocite width; 5cm 274:5 - 274:5m prite and chalcocite high grade zone (notwork and dissemination) chalcocite vainlet width; 5mm strong silicified and chalcocite and prite riched zone small grained biotite porpry; chalcocite winlet with chalcocite width; 2800 281.0 5 6mm chalcocite and prite veinlet width; 5mm	1854 270 2.0 2.0 0.28 1855 272 2.0 2.0 1.78 1856 274 2.0 2.0 5.24 1857 276 2.0 2.0 2.66 1858 278 2.0 2.0 1.16 1859 280 2.0 2.0 0.94 1840 282 2.0 2.0 2.00	
282.7m - 286.4m breediated some  strong silicified pyrite and chalcocite  pyrite and chalcocite network and disse- mination  291.  chalcocite weinlet with quartz fragment strong silicified biotite porphyzy biotite phenocryst; 5mm  294.7m - 294.5m 294.5m 20cm width medium grain- ed sandstone xendiith  stilicified biotite porphyzy biotite phenocryst; 5mm  294.7m - 294.5m 294.5m 20cm width medium grain- ed sandstone xendiith	1841 284 2.0 2.0 0.45 1842 286 2.0 2.0 0.50 1845 288 2.0 2.0 0.63 1844 290 2.0 2.0 0.63 1845 292 2.0 2.0 0.63 1846 294 2.0 2.0 1.49 1847 296 2.0 2.0 0.60	
3880 pyrite chalcorite veinlet width; 4mm bettue grained biotite porphyry bottom 500.4s	848 298 2.0 2.0 0.62 (849 300 2.0 2.0 0.75 (850 300.4 2.0 2.0 0.64	

mon corporate weather some allicities and aluminises Mentite prophyry design in the control weather some allicities and aluminises Mentite in the control weather some allicities and aluminises Mentite prophyry design in the control weather corporate grant segments of the control of the cont	<del></del>			<u> </u>				
William   Property	Depth	100	Porticulars	Alteration & Mineralizatio				PL. I-14
Country   Coun	feet) (m)	8 %		org sil py cu				
## A Common and the c	į					-	* : : *	GEOLOGICAL SURVEY OF
A	1		<ul> <li>A projective to a part of the projection of the proje</li></ul>	hyrr				MONYWA AREA, UNION OF BURMA
CORE LOG and ASSAY	:	~^	biotite relict; 4mm - 5mm			•		( PHASE III )
CORE LOG and ASSAY	,10 O	^ ^	strong hematite network					
A			nation network veinlet width: fcm	1 11 11				CORF LOG and ASSAY
### 1997   1997	500;	٠,	gation and strong milicified zone	"       [ ] ·				OOKE EOO diid ASSAT
### STATE OF THE PROPERTY AND STATE OF THE P	16.3 17.7			,				*
Sept.   Sept	200	^ <u>,</u>						DUH. No JK-6(17/5DE) Sheet 1
Section   Committee   Commit	24.0	^^	biotito change to limonite, weak alun	ы_				Total Length 300.7 m Core Recovery 98,00%
Part   Part		^	10cm width hematite riched part bloti	, ]				
Company   Comp	27.6		25.9m - 27.8m width: 1mm under, hemat	te				Location Kylshindaung Elevation 156,7 m
10   10   10   10   10   10   10   10			e, atrong arcillization and shearing par			:		Direction O Inclination 90°
Main		٨	31.3m - 34.0m strong cilicitied part.					Date of Lossins, from 17 4 75' to 20 4 75
Additional content of the content	,4.0	^	34.0m - 42.5m argillized and weak alu	Ŀ-				Date of Lugging 170% 17, 4,73 % 20, 4,75
20		٨	feldspar phenocrynt: 5mm	YFY				Logged by S. MONONOBE
		^,	A STATE OF THE STA					
1986		-,	AO hemitite fissure with green copper st	in ] []				
A	1500,44.4 4€.∀	<u> </u>	argillized and crushed weathered biot	to.	1920	46 2.0 2.0	6.10	METAL MINING AGENCY
### A	49.0	^ ^	biotite relict: 3mm - 4mm oxidation	=	- 1			
1.1   1.2					1			
Compare Vision Statistics was at 11 of 200 colds   197	IA.A	~~	The state of the s		- 1			
A	,4.0	1,	The state of the s		i	-		SEPTEMBER 1975
Section angli] limited and stilled resident should be properly: changing given and stilled resident should be should be stilled and stilled resident should be shoul	59.6	-	cm width pyrite vein with chalcocite			re 2.0 2.0	0.11	Propored by MITSUI KINZOKU ENGINEERING SERVICE CO. LTD.
1999   1   100	:000 E 6.4	${\lambda \cdot \lambda}$	VP5 .	te				
Section   Sect	65.2	~ ^	_ T75414	.	-1			
### Section stiticified on angitized with it, is mediations to distribute purply with protey mail grained el wylides and width it, is mediations to dispute the control of	56,5	^_	o biotite corpryry with 2mm width chalo		1930			I wante to the second of the s
Marie   Property with pertry mail preside	. 700	^.	1		- [			
Machine   Mach		_^			1		- · · •	★ Burmese Hole No
A								
## Common	250 <u>0</u> 76.8	1 . 1		na⊷	1935	76 2.0 2.0	0.10	
19.5   A		727	argilization zone, clay minerals kao	in	•	<del>-</del>		
1970   100	•		brecciated part, biotite porrhyry		. I			
200   A   A   Common extraction that the perspaying value   1946   60   7.0			<b>■</b> 199 :	_	I I			
collocatic wast compared to the control of the collocation and an approximate the collocation and approximate the collocation	69.7	^	coarse grained biotite porphyry, biot	to	1 -			· ·
1945   32   2.0   2.0   0.05	.900		relict: 5mm, feldspar phenocryst: 7					, some
Section   Sect	0010,	<u>ر</u>						LEGEND
10.0		~^	coprer secondary enrichement weak		1 '			Mudstone
					1.			
10.5   10.5			/m		1			
190	101,0	۸	■ Control of the Con		1		0,15	Tuff Lapilli tuff Tuff Breccio.
No	105.	^ ^	dissemination part		· I · ·			
114,	35QQ	^ .	argillization and milicification medi	<u>.              </u>				Porphyry biotite porphyry
114.   A   Chalcosite and syrite discensination and network, chalcosite virginitist in an observer, inclination of plane structures   1955 116 2.0 2.0 0.09	1000	_^	- Cimitodisa digodisada vola anti-		1952	110 2.0 2.0	0,08	A = A + A + A + A + A + A + A + A + A +
117.   A		^ ^	chalcocite and pyrite dissemination a	a				\ 30 Inclination of plane structures
17.0	114.1	^_	medium argillized and weak silicified		)			
100.0		<u>^</u>	170.0m - 120.0m breceiated some fragm	ռե	1956	118 2.0 2.0	0.06	1 Designing press contrasts over 1
123	-	^	120.0m - 123.0m shearing part		1958	122 2.0 2.0	0.09	
100   100			pyrite network with chalcocite	1 11 11 11		124 2.0 2.0	0.09	DEGREE OF ALTERATION AND MINERALIZATION
100   A   Calcocite ins senil venilet fem   1962   190   2.0   2.0   0.12					I I '			
130.   A		^	porphyry, biotite relict: fmm.		1562	130 2.0 2.0		argillization efficification pyritization inheralization
135.   A			1 F 640 32 or 1		- 1			
### ### ##############################	132.1	Λ.	ed part	<u> </u>				
1880		^	small grained chalcocite, impregnation				•	wedk 55 ~ 65%   1 ~ 5 %   0.3 ~ 0.5%
1894		٨	biotite replaced by pyrite small grain	ed ba				medium 65 - 80% 5 - 10 % 05 - 09%
143.11	129.9		partry amethyst aggregation quarts veiglet with chalcogite silled		100	复合的 植头 经证券	Market Land	30.00
fine grained biotite porphyry copper mineralization poor so: 149.:  A copper mineralization poor so: 150.0  A copper mineralization poor so: 150.0  Copper mineralization poor so: 1972 150/ 2.0 2.0 0.08  1973 152 2.0 2.0 0.09  Copper mineralization poor so: 1973 152 2.0 2.0 0.09  Copper mineralization poor so: 1973 152 2.0 2.0 0.09  Media principal poor so: 1974 154 2.0 2.0 0.09  Social poor phenocrysts changed 1975 156 2.0 2.0 0.10  Copper mineralization poor so: 1973 152 2.0 2.0 0.09  Weak : parts of feldspor phenocrysts changed into clay minerals 1975 156 2.0 2.0 0.11  Changed into clay minerals 1977 158 2.0 2.0 0.13  Strong: 1978 162 2.0 2.0 0.10  Copper mineralization poor so: 1978 152 2.0 2.0 0.09  Weak : parts of feldspor phenocrysts changed into clay minerals 1978 158 2.0 2.0 0.11  Changed into clay minerals 1977 160 2.0 2.0 0.13  Strong: 1978 162 2.0 2.0 0.10  Mass changed into clay minerals 1979 164 2.0 2.0 0.09	······································		75 coarse grained blotite porphyry	rito		atta in ar i ar i ar i ar i ar i ar i ar i	1.11.2000 医水黄色红色	strong > 80 % > 10 % > 1 %
149.: A coarse grained biatite perplyry  coarse grained biatite perplyry  feldspar phenocryst 7mm 8mm  1972 150/ 2.0 2.0 0.09  coarse grained biatite perplyry  feldspar phenocryst 7mm 8mm  1973 152 2.0 2.0 0.09  weak : parts of feldspar phenocrysts changed  into clay minerals  1975 156 2.0 2.0 0.10  medium : almost all the feldspar phenocrysts  biotitic porplyry medium grained part  1976 158 2.0 2.0 0.11  1977 160 2.0 2.0 0.13  strong : not only feldspar phenocrysts but also ground—  mass changed into clay minerals  1978 162 2.0 2.0 0.10  mass changed into clay minerals  1979 164 2.0 2.0 0.09			fine grained biotite porphyry		1.0		1 ' Y	
coarse grained biatite porphyry feldspar phenocryst 7mm 8mm    1974 154 2.0 2.0 0.09	149.:					* · · · · · · · · · · · · · · · · · · ·	0.08	* fresh : unaltered
feldapar phenocryst 7mm 2mm 2mm 1975 156 2.0 2.0 0.10 medium : almost all the feldapar phenocrysts biotite vointet; 2mm biotite vointet; 2mm biotite porphyry medium grained part 1976 158 2.0 2.0 0.11 changed into clay minerals vointied and mediate zone 1977 160 2.0 2.0 0.13 strong : not only feldapar phenocrysts but also ground—madium grained angulitized and silleticid, 1978 162 2.0 2.0 0.10 mass changed into clay minerals biotite porphyry quartz veintet with 1979 164 2.0 2.0 0.09	1		coarse grained biotite porphyry				3	
biotite rollet: Jess   1976   158   2.0   2.0   0.11	-بيو ا			-  N	- 1		i i	• • • • • • • • • • • • • • • • • • • •
veak chloritized and newlatte zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone veak chloritized zone v			▶ biotite voinlet: 2xx x x x		1		1	
modium grained airgillized and billectical, mass changed into clay minerals bietite perphyry quartz veinlet with 1979 164 2.0 2.0 0.09		_		. <b>                                    </b>	- I '		1 1	# 14 miles
(hy field observation)	168.3	Λ.,	modium grained argillized and silicif		- 1	1		mass changed into clay minerals
	12.	۸	No matte delbutta danta Asimor Atta		1,213	2.0   2.0	10.09	( hv field observation)

15.   A   Section for the property of the pr		1700	۸	te veinlet medium silicified and argillized		1	3 10 3 1	ŶĄ	1931	1.0	新洲的过去式	2.0 (	and the second	12.77	
10   10   10   10   10   10   10   10		71.7	1	/95 blotite perphyry with partry small grain-		(4) (1)			1932 1933	A	1000	6			───────────────────────────────────
Company   Comp	3 S	250 <u>0</u>	۸	veinlet				2 X	C. 196.9	500	C. Names	market by			
Column		12.30	~,~	tion gone, grain size: 0.5mm under argillization gone, clay minerals kaolin	9 8 18 6	94.4 72.4 42.4			27 AL 68	150,800.	2.0	2.0 (	0.26	A AMERICAN	
Column   C				brecciated part, biotite porphyry	7 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1				[ No. 10   10   10   10   10   10   10   10	3.684		こしがりかり	시기하였다		
Column   C			^ À	∠60 quarts, pyrite, chalcocite veinlet :4mm	¥ .			938 <b>(</b> 38.37	[31] (314)		and the same	وأراء مقوماني			
Section   Sect	,/ <u></u>	L900	<u>^</u> ^							Parties.		State War	1000		LECEND
Second Column   Second Colum		3000	۲.	shearing and strong argillized part				N X	1943	92	2.0	2.0	0.06		LEGEND
10			# N . 1	zedium silicified and coarse grained		1			1945	96	5.0	2.0 (	0.11		Mudstone
Company   Comp		1000	۸	medium silicified and argillized					1.00		1. 12 (1)	production and	21000	474	
A		101.0	<b>^</b>	medium silicified, chalcocite and pyrite.					100	4 44,25	100 may 10	经债券 表面 化	er je i		· [10] 최근 (20), <del>(1), (1),</del> (2) (2) (2) (2) (2) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2
15.5	1 1 1 X	350 <b>Q</b>	^ ^	chalcocite and pyrite dissemination					1950	106	2.0	2.0	0.06		homblende-biotite porphyry
15		168.4	^	∠60 chalcoolte brecciated vein width: 2cm	30				[13] - C.3	elia in la	79				quartz - biotlife "porphyry
1		114.1	^^	chalcocite and pyrite dissemination and		\ \disp\{			L 1971 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.0		agent and a con-	N.		(2) Inclination of plane structures
100   20	4		^^	medium argillized and weak silicified part		١			7.54			1 77 %		english Till	( bedding plane' Intrusive boundary etc.)
12.5			^ ^	size 0.3mm - 1cm 120.0m - 123.0m shearing part			V		1957	120	2.0	2.0	0.06		
A		123.1	: A	pyrite network with chalcocite	1. 11.				n		and the second				DEGREE OF ALTERATION AND MINERALIZATION
A		1.1	^	strong silicified coarse grained biotite	** <sub>E</sub>		7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	/ \	r 1				-		orgilization slicification pyritization mineralization
1.5		1000	Λ.	chalcocite imm small veinlet network part			]		1963	132	2.0	2.0	0.12		
Comparison   Com			^^	ed part fine grained biotite porphyry							- 1	4 L 18			week 55 ~ 65%   1 ~ 5 % 03 ~ 05%
### 1.5			^ ^	strong silicified part						1.74	î .	t. 1 . j.,	2 T. C. E.		
1.   1.   1.   1.   1.   1.   1.   1.		S & Make 2001		partry amethyst approgration quartz veinlet with chalcocite silicified		i sa Çi Cisal Si			1968	142	2.0	2.0	0.12	edy s	medium 65 80% 5 10.% 0.6 0.9%
100   100			<b>^</b> /	t. mm drusy quartz veln. with chalcopyrit	1	(3%)	5435	ne des	***   ******	146	2.0	2.0	0.11		
1970   1971   1972		140.1	Λ.	copper mineralization poor gove		.			1 1		1	1			* fresh : unaltered .
Collapse		,150,0	^					٠	1 I						
1906   A		يوسد							1975	156	2.0	2.0	0, 10		medium : almost all the feldspar phenocrysts
1970   16   2.0			_	biotite perphyry medium grained part weak chloritized and mericite zone							1				
1900   16   20   20   20   20   20   20   20   2		168.0	~^	modium grained argillized and cilicitied,	()		•		: 1	¥	1		- :		mass changed into clay minerals
1700   A	,	164.		∠60 pyrite	Ш	ŀ			1980	166	2.0	2.0	0.08		[ by field observation]
Control   Cont		!		part coarse grained biotite perphyry					1982	170	2.0	2.0	0.68		ABBREVIATIONS
1.5.		,1700	^	- day v		'		1	: 1						arg : Argillization
### chalcolle chalcolle #### chalcolle ###################################				5mm with chalcocite bearing quartz vointe	•				'   '					•	
Second Second			^	argillization and silicification medium				! !	i di						py. Pyritization
167.   A   25   25   25   2.0   2.		,	۱٬۲	shearing part argillization medium and		•			: 1					•	kao : Kadinization
1975   1987								!	ı I		1				
1974   194   2.0   2.0   0.09   c.c.p   Chalcopyrite   1975   196   2.0   2.0   0.09   c.c.p   Chalcopyrite   1975   197   2.0   2.0   0.10   c.c.p   Chalcopyrite   1975   197   2.0   2.0   0.10   c.c.p   Chalcopyrite   1975   197   2.0   2.0   0.10   c.c.p   Chalcopyrite   1977   2.0   2.0   0.10   c.c.p   Chalcopyrite   1977   2.0   2.0   0.10   c.c.p   Chalcopyrite   1977   2.0   2.0   0.10   c.c.p   Chalcopyrite   1977   2.0   2.0   0.10   c.c.p   Chalcopyrite   1977   2.0   2.0   0.10   c.c.p   Chalcopyrite   1977   2.0									<b>U</b> I						alu : Alunitization
1996   190   2.0   2.0   0.10			<u>۱</u> ۲.۰	silicification weak mineralization poor	∥			 	1994	194	. 2.0	2.0	0.09		<u> </u>
1998   200   2.0   2.0   0.11   0.66   Ulsemments   1998   200   2.0   2.0   0.12   v.   Veirlet   1998   200   2.0   2.0   0.12   v.   Veirlet   2001   200   2.0   2.0   0.12   v.   Veirlet   2001   2.0   2.0   0.12   v.   Veirlet   2001   2.0   2.0   0.12   v.   Veirlet   2001   2.0   2.0   0.15   v.   Veirlet   2001   2.0   2.0   0.15   v.   Veirlet   2001   2.0   2.0   0.15   v.   Veirlet   2001   2.0   2		196.8	l''.	medium grained biotite porphyry biotite relict: 4mm		. ,	l r	ነ በ	1996	198	2.0	2.0	0.26		
1999   200   2.0		i	1 A A	orecciated part, strong pyritization			} . {	<i>)</i> .	1998	202	2.0	2.0			
206.   A   O prily chalcocite dissemination and not-   210.   A   O prily chalcocite dissemination and not-   210.   A   O prily chalcocite dissemination and not-   210.   A   O prily chalcocite dissemination and not-   210.   A   O prily chalcocite dissemination and not-   210.   A   O prily chalcocite dissemination and not-   210.   A   O prily chalcocite dissemination and not-   210.   A   O   O   O   O   O     210.   O   O   O   O   O     200.   O   O   O   O     200.   O   O   O			۸,	argillized and silicifeed medium zone			´			:	!	1			
210.0   A   Solid mark constraints   2003   212   2.0   2.0   0.06		206.	<u> ^</u>	pyrite veinlet width: 3mm 70 partly chalcocite discomination and net-					2001	208	2.0	2.0	0.19		
Roop   12	•	210.0	^ ^	work argitlization and silicification medium zone		.	:		2003	212	2.0	2.0	0.08		
2006   216   2.0   2.0   0.07		1000 <sup>212</sup>		medium grained biotite porphyry					2005	216	2.0	2.0	0.12		
225. A codium gene chalcocite and Pyrite disserting for ministed 225. A codium grained blotte value to medium arginized and medium arginized part week pyrite and chalcocite value to medium grained blottie porphyry 2012 230 2.0 2.0 0.06 226 2.0 2.0 0.06 227 2.0 0.06 228 2.0 2.0 0.06 228 2.0 2.0 0.08 2010 228 2.0 2.0 0.06 2011 228 2.0 2.0 0.06 2012 230 2.0 0.06 2013 232 2.0 2.0 0.06 2013 232 2.0 2.0 0.06 2014 234 2.0 2.0 0.06 2014 234 2.0 2.0 0.06 2015 236 2.0 2.0 0.06 2015 236 2.0 2.0 0.06 2015 236 2.0 2.0 0.06 2015 236 2.0 2.0 0.06 2015 236 2.0 2.0 0.09 2017 240 2.0 2.0 0.09 241 2.0 2.0 0.09 244 2.0 2.0 0.09 244 2.0 2.0 0.09 244 2.0 2.0 0.08 2019 244 2			^	3cm cubic. fine grained sandstone xeneli	1	/ <u> </u>			1 1		1	3			
223.	ताब दशकार <b>गर</b> ीक दशक	220.0	<b>7</b>	medium gone chalcomite and pyrite disse-	Į. Į	74 (Y.	15	172.57	77 97	10 V	1 300	i T	The same	ξε),( <u>) [</u> 7.7.3	
2012 230 2.0 2.0 0.06		223.	_^	minated Imm width pyrite and chalcocite velillet medium silicified and weak altered part				:	2010	226	2.0	2.0	0.08		19879 1987 1987 1987
2300 \ medium grained biotite porphyry   2013 232 2.0 2.0 0.06   2014 234 2.0 2.0 0.06   2015 236 2.0 2.0 0.20   2015 236 2.0 2.0 0.20   2016 238 2.0 2.0 0.20   2016 238 2.0 2.0 0.09   2017 240 2.0 2.0 0.09   2018 242 2.0 2.0 0.09   2018 242 2.0 2.0 0.07   2018 242 2.0 2.0 0.08   2019 244 2.0		7500	_^	veak pyrite and chalcocite disceminated		. ,			! !		i	1 1			
argilized and shearing part  argilized and silicified medium zone  argilized and silicified medium zone  2015 236 2.0 2.0 0.20  2016 238 2.0 2.0 0.09  2017 240 2.0 2.0 0.09  2018 242 2.0 2.0 0.07  2018 242 2.0 2.0 0.07  2019 244 2.0 2.0 0.08	•			weak alunitized and medium argillized					1 1 1		1			•	
A medium grained biotite phorphyry.    2017   240   2.0   2.0   2.0   0.09			2-	argillized and shearing part	$\ $				2015	236	2.0	2.0	0.20		
241. pyrite inprognation poor 2018 242 2.0 2.0 0.07  Pat. pyrite inprognation poor 2019 244 2.0 2.0 0.08	1		^^	medium grained biotite phorphyry .		-				1		- E			
			<u> </u> ^_	pyrite imprognation poor		• •	) :		1 1		i	1 1			
	<u> </u>	8000 <sup>P42</sup>	<u> </u>	nate party party contract to dissent	<u> </u>			<u>.</u>	1 1 1	1, .	ł	j I		<u> </u>	La de la carda de la carda de la carda de la carda de la carda de la carda de la carda de la carda de la carda

Y   0		6.0	20.27	زې	IMM CCA.	icopyrit	and py	rite ve	Inlot	42		4	9.00		3 137	اور چ	7/ 2.0	1 2.0	)   <b>.</b>	<b>5</b> (1)	1. 7.4	2/3	Partie.	்^ fre
54	000	^	_			grained 1					1				197		- City - 15 -	1.		44.50				we
		^		Ann	biotito	r phenod rolist:	5mm	n – Sens				1		S. C.	197	· Warrier		2.0	41.00	- 1 - 1 'S				me
5	15		Λ.	_0,		veinlet porphyr loritize		graiced	port.		1				197	5 (6) No. 10	5 (2 April	2.0	0.11					
			Δ		argiliz	ed and al	earing :	zone 🐔			Д.	# 3 4			197	. 147	1,000	2.0	a Laken	1 1 43			第7年 第6章	str
γ. 7		^	`		biotite	porphyry				ا:"	Ų				197	1 30.00	S 20 52	2.0	18.	A 70. 1				1960美
	6	.   <u>`</u>	.4	<u></u>	pyrite argiliza	tion and	Bilicif	ication	medium		1 34				198	0 166	2.0	2.0	10.00	1	11 2M 200		200 X24 200 X	
×	<u> </u>		۸	aryn Ar s	part con	irse grai	ned blot	lte, por	Phyry		1				198	1-11-19/82	30 15 No. 70	2.0	$L_{\rm L}(z_{\rm c},z_{\rm c})$				12 182 13 182	
	LT	20	$\frac{1}{2}$	د نید	CONTRA .	rained m	3 53 64	海拔和		4					198: 198	100 100 100		2.0	. 1		√ .26			
T		٨			silicifi	ed porph	yry		医炎 5					27 THE	195/	San San San		دو نره ۱۹۰	1100 870	March M		1 (1)		ar(
	17	- A	쓔	<b>4</b> 80	5mm with 5mm quar	ts and p	ite bear yrite ve	ing qua inlet w	rte vein ith	10				<u>,</u> , ,,,	198	tig (Barbina	1000	2.0	0.07	riggiografia			11. 1 2 m	: Sil
	177	·   —	7	<b>-50</b>	chalcoci	te	- 4.46	590	是数字		1		, I,		1986			2.0						py.
	184	ା 🏥	Œ.	100	pyrite a	ation an	ocite ve	ak part	NO. L						1986	1 w 1.01(8)	int Secret	2.0	0.12	7. 1				
60	<b>72</b> 182	.,	싓	144	Shearing	part ar	gillizat	lon med	itum and	ž l					1989	- 1 Cal. 1	2:0	2.0	0.08			杨溪		ko
	*	^-			pyritiza	tion and	chalcoc	ite veal		// 			) (P)		1990		100	2.0	4.7	17				581
. 3	18	•		45 45	pyrite w	ith chal	cocita v	einlet		<u>ا</u> ا		Ϋ́		Ì	1 992	and the same		2.0	0.06 0.06	150,000				ch
	190	^:	- 3   3	707	crusing	part. ar.	rillizat	ion mad	Limi	1				:. Y	1993	192	2.0	2.0		417 p. 116	1		ë.	i alu
	193	-4-	⊹	-′-	DEED PYT.		Let 37 34	10 Table 1	ton poor	ş İ ĝ					1994	1799 1 11 11	1.1	7.00						CC
			۸	-	medium g biotite	relict:						Ţ	人	γ	1996	100	00 m (44.5	2.0	0.10					C C
65	200 00	11.	٨	, F.	2mm widt breccint	h pyrite ed murt.				•			IJ		1997	200	7. 1.	2.0	0.20		$\mathbf{I}$	34		en.
1	ſ		ď	· .	7ma vid:	h chalco	ite pyr	Lte veir	let				Ϋ́	··↓	1996	3873 A	2.0	2.0	0.11		100		1 125	ds. v.
1		^,	ç/		argilliza minerali:			i medium	zono		-			857 <b>1</b> 847 <b>1</b>	2000	\$ 57.0	2.0	2.0	0.12	e ig				i i i i i i i i i i i i i i i i i i i
	506	<u>.  ^:</u>		· .	pyrite ve partly of	einlet wi	dth: 3m	Ingtion	and not		]				2001	208	100 100 2	2.0	0.19	*				
	210	91		9 1	vork ergi medium ge	illizatio	n and si	liairio	ntion	11				İ	2002	1 14.5	2.0	2.0	0.12	L .	.			
	211 20212	<u>.</u>		7	strong an medium gr	rgillized	and she	aring p	art		1	110			2003		2.0	2.0	30.0	1				2 -
	2		ل	<u>-</u>	calcite v	vein widt	h: 2mm v	ith cha							2005		2.0	2.0	0,12					•
ŀ	[	<u>^</u>			3cm cubic					* - \	1				2006	1	5.0	2.0	0.07				1.5	
	220	ر ا		والمراشع	ailicitio	60 %	1 4 2 MAR	-24-3504	41.3 12	) 		1		44	2007	4 2 2	2.0	2.0	0.06		- 22			4 3 4 4 C
	223		<u>\</u>	100 1	medium zo minated	1. 19 5. 15 75.	3 C. C.	10 15 2 1	1 1 1 1 1 1 1 1	3 100					2009	14.7	2.0	2.0	0.08			75.7	govern	
		<b>\</b>	1	. 1	Jam widtl medium si	ilicified	a d vea	k alter	ed part						2010	226	2.0	2.0	0.08					
730	20	1	半		weak pyri Smm pyrit				BILLETOO			$\parallel$			2011	4 77	2.0	2.0	0,12	15.5	.  -			
	230	아^,			medium gr weak alun		. 1 2 . 1 . 7 . 2	. C. 42 25 1	(1/4) (1/4)	Ш	26 4	γļ	1.		2013	1	2.0	2.0	0.06		]			
	232	42	-	1.51	part argillizo			经少数数	11200	$\ \cdot\ $			-   -		2014	234	2.0	2.0	0.06	unioni. T	-	1.7		1
	240.	۱	1		argillize	A 20 A 14	14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	E	zone			1			2015	4 5	2.0	2.0	0.20	:	2			
.	1.	1.1			cedium gr	100 100 100 100 100 100 100 100 100 100	the state of the state of	1 19 A 18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				1	ľ		2016	100	2.0	2.0	0.09	17				
-	240 241	. 1	_		feldspor pyrite im	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	100				i	ή.		, İ.	2018	1	2.0	2.0	0.07		· .	3		
eα	242		4		chearing Die	T. 6.4	and Care	ALC: 1880	Sec. 1	-		1			2019	244	2.0	2.0	0.08	 			1	
``	244	1	半	-	medium gr em quart	z veimle	t with c	porphy: halcoci	to .	$\  \ $					2020	246	2.0	5.0	C.09		1		V T	
	240	~ ~	4		porous bi learing	and argi	llized p	art	<b>N</b>						2022	250	2.0	2.0	0.07		1			
	251	<u>~</u>	半	70 7	oarse gr pyrite ve	ained bid inlet wi	tite por	rphyry						J.  -	2023	252	2.0	2.0	0.21			\	ď.	
.	1	<u> </u>	屮		halcocit									: [	2024	254 256	5.0	2.0	0.16		1			
		<b> </b> ^,	ď	Þ	odium gr	ained por	phyry mm-4mm		ADIT I	$\mathbf{I}$				1	2026	258	5.0	2.0	0.13					
851	260	٨		. fo	eldspor p illicifie	phenocryn d and are	t : 6mm	med lum	part				.		2027	260	2.0	2.0	0.14				vi	
2		^	上	•	recciate							$\parallel$	- -	+-i-	2028	262 264	2.0	2.0	0.11	5, 5,	٠.,		.a.e 1.6.	
	1	<b> </b> ^:			yrite and issoring	744		c retwor	k and	*		<b>Y</b>	· [.	$\prod$	2030	266	2.0	2.0	0.10			. ý	 	
1	266. 267.	<b>}</b>	4	8	rgillized	d and she	aring go	200 100	À.	∤∦			].	!	2031	268	2.0	2.0	0.10	l	'			
: -	2700		.]	*** . * . * . * . * . * . * . * . * . *	eak aluni		d medius								2032	270	2.0	2.0	0.08			•		1.1° .
		.^			ilicifica inoraliza		lum	: 10			A P		- -	7	2034	274	2.0	2.0	0.07		A 1.			
900	0 274.	<u> ^                                    </u>	¥		nn chalco		100 100 100 100 100 100 100 100 100 100		Ş.N.				-		2035	276	2.0	2.0	0.11				i e	
	278.	^_	1		yrite dis halcocite		on and n	etvork	Ecne (					į į	2036	278 280	2.0	2.0	0.08					- 1
	280		<u> </u>	,C	oppor mir	erulizat									2038	282	2.0	2.0	0.09					
	282. 282.	╠╱	╡.		rgillizat rgillizat	l and sh	caring p	art.	region	Ň					2039	284	2,0	2.0	C. 11					
1.	284.	<b> </b> \( \)	۲	2	yrita vei rgillizat	ij di wale sa	- No. 2 (20.3)	- F.					ì		2040	286 288	2.0	2.0	0.10	*			*	
950	<u></u>	W 1		Y	eak aluni eldapur	lization	1 ZODO	3.	.uu, and	). 3.				jarja Tarja	2042	290	5.0	2.0	0.09					- 23
	283	1	Ť	~ <b>-</b> 21	yrite.vei odium arg	niet wid	th 3mm _	4.2				/	. _	-  -	2045	292	2.0	2.0	0.11					
		ر م	1	or	dahed pa	rt pyrit	mousib e	iration							2044	294	2.0	2.0	0.09	1	95 P			
	1	٨	1		rgillized carse gra	1112	· · · · · · · · · · · · · · · · · · ·	52 a	MEG 3		14	۱ I	1		2045	296	2.0	2.0	0.12			73. 12.	12 72	
		^		bi	iotite po	rphyry	1.5	4.4			:	$ \cdot $			2047,	300	2.0	2.0	0.07			!		
	3000	1=	+		th pyrit	e 01550E	ING BINI	L DEWOI	r <b>ic</b>	Ш		<u> -  </u> .			2048	300.7	2.0	2.0	0.07					
000	[ ¤	[.	1						٠.							-	. ]							
		ļ.							٠	'		Ì				.		Ì					•	
	310,0	ŀ	1				. (1.3) 1.3)			Ī	İ						-	j						
		<u> </u>	Γ.			······································	***	N/A			+-			ļ ·			İ	. ]	.	1				
								- (5) - 60	1 -					<del></del>						<del>,</del> –				

fresh unattered

weak parts of feldspor phenocrysts changed

Into clay minerals

medium dimost all the feldspor phenocrysts

changed into clay minerals

strong not only feldspar phenocrysts but also groundmass changed into clay minerals

(by field observation)

arg Argillization
sil. Sitialfication
py. Pyritization
kao Kaolinization
ser Serialization

ser : Sericitization
ch : Chloritization
alu : Alunifization
ccp : Chalcopyrite
cc : Chalcocite
en : Enargite
ds : Dissemination
v : Veintet
v : Width

. .

		7 1			1. 14.50	1.15.5	7.7	100	在本 學問	4.7		September 1			1. 0.	9999	o bean diamental
	,	,		, 17	ereties.	B. Mine	ralization	.i (i)	ult of	Chemico	35 45	a og ga		3		1000	an 一种 <b>的</b> 的形式。
Dept	h, ,	Ę	Particulors			ां हर	11011261101		Depth	Core	Sample		15g	10 mg	W S	r priemi	
feet)	(m)	Se S		or		, P1	. CU	No	(m)	1 1 1500	Length	10.0	O. Sec.				
	1.5		Taring 1000 1000 1000 1000 1000 1000 1000 10	17		-10-11	1		1, 24	11.5		1363	1. 11.	3		3	GEOLOG
. !	3.0	Δ.Δ.	235 silicified and weathered brecciated por-		35 (			31 5 <sup>V</sup>	100					*	(C)		No. 24 (84)
1	1	A	phyry with ics width limonity weinlet	70					1: 4				100	Ž.P.	4	Mary 1	MONYWA ARE
-	Ţ	ΔΛ	port limonite veinlet width; 4mm	y i	\   	<b>}</b>								1 1 1			
		<b>⊼</b> ⊼	ma width limonito veinlet,	140	7 1 5		. 25 c				2.5				4		[ <del>(</del> ) ]
Ì	10 C	~	medium grained weatherd biotite perphyry	- 4	÷+				ţ		1		14	1		\$ 3	
	12.6		50 biotite relict: 3cm foldspury: 3 - 5mm	] <sup>©</sup> [		*11				i air			- 22.4	- 0	XI .		CORE
50.0	7.7	$^{\circ}$	12.6m - 17.5m breccinted and strong veath-				•	٠. ا			1. 1	1					
Ì	17.5	$\overline{\wedge}_{\Delta}$	10 ered part tem width liminate wein frag- 20 ment 0.5mm - 4cm breceinted biotite por-	1		<u> </u>		100				ì					
- 1			phyry mm width hematite veinlot porous part			1.1			1 .5.			.		100		1	DDH. No JK
- 1	20.9		phenograph reached out groundwass change	-	/	<del>\</del>						l	100		10		
1		^ `	very fine grained quarts, aggregation	1. 3.			, -					$\pm i \gamma'$			3	1.	Total Length
			20.6m = 34.6m shearing some	IJ		(	,	- T	1 11 -	100		•	100				
1	26.0		gedium grained biotite porphyry	Ľſ.	] [				i.				되었다.		3; 186-		Location Kyls
		~_	26.0m - 30.2m strong argillized, partly	I١	$L_{ij}$		. •	de la	1						90 730 9		
00.0	300		in slage	П	Sa	4.			17			!		F 1 7:			Direction (
· ]		<u> </u>	30.2 - 34.7 m porous biotite porphyry groundmass is very fine, grained, quartz		1.14	÷ .	ι .							11			
	34.7		/70 aggregation	П					1			14		-4			Date of Loggin
!		$\overline{}$	limonite weinlet width: 5mm	i l			1		<u> </u>		, .	. '	9.0	, e,	•	Te-	
ĺ		_ ^	medium argillized and silicified, weak	Ы					Ì		-			£.	4		Logged by
ļ	40.0	$\hat{\Delta}$	hematite veinlet 3mm; width breceinted am	1					1	]	] `			. 1		2	
•	41.3		hematite veinlet 5mm: width	IJ	)				4				,		ğ	1	San San San San San San San San San San
1		1	medium grained biotite porphyry biotite changed to hematite						i					٠.	4	1.	1.5
500	45.8	$\vdash$	0.5 - 1cm width hematite and limonito					1.	Ï	·	[ . j			"	.j	1 4	WETAL MINING AG
ļ		<b> </b> ^~	mixed veinlet strong hematite goscan zone with weak										ì		10	- [	1.786
	500	^`	alunitized	J l				] .	1		,				Ŵ.	1 '	APAN INTERNA
:		~ ^	50 - 55.80 sheard and silicified part with strong hematite gossan weak alumitized	1		· , ì			1	! !	! ;				•		SOVERNMENT OF
į		^~	100 Park 100			· I		.	i	;	;				A.		
	55.8	<u>~ ^</u>	porous biotite porphyry argillized part	1	) ' .	, ,			1	:	:	-			4.	.]	SEPTI
- 1		^	with hematite dissemination and network	Н		į i			Ĭ	· .	i :				Š.	Pre	pared by MITSUI K
į	.ego,	. ~		П	21 *		1					•		[ •}	\$	.   •	
:00 C	61.4	$\overline{\Delta} \wedge \overline{\Delta}$	brecciated and coarse biotite porphyry	Ιì		[			1		1		•		1	٠	
			with hematite grossan		[		1				i :		,				
. i	64.8	<del></del>	o silicified and percus part	1.7		<b>ا</b> ا		-			!			1.42	VAG.	221	
ļ	66,2	_	hematite veinlet width: 2mm	]	74 ~ 1	777		1 10 1-	1			reneral to		,	a a special region	er gering de en en Gran	
ļ	70,0	$\triangle$	medium argillized and silicified part wit	1.1	N.I				•		:	,				*	Burmese Hole
		^	3cm width hematite breccie vein medium grained biotite porp yry with	ľì	· · · · · · · · · · · · · · · · · · ·	~ <u>_</u> *					· · · · ·				1.5	~~	1
	73.8	^	hematite network and dissemination	П				l		٠.		•					i i
2500		$\overline{}$	hematite veinlet width: 2mm foldspar phenocryst 4 - 5mm	Ш				İ		;	· !						
<u></u> ,	76.7		∠65 hematite veinlet 3mm width	Ш	- {			- 1	76							•	•
1	7F. 7	^		Ιį	- 1			2049		2.0	2,0	0.06					
	-		parous biotite perpayry strong hemstite	;	٠	•	•	2050		2.0	2.0	0.05			-		
ĺ	83,3	^ `	goesan part eilicified, medium grained	!!	- 1	l	4.	2051	. 82	2.0	2.0	0.04		ĺ			
į			5/ 60 /	, ,	- 1	1		1		1							
	4,7	^	biotite porphyry	Ιi	٠		1 - 1	2052	•	2,0	2.0	0.21					
į	a),	^^	pyrite and chalcocite veinlet tem wide reached sons					1	•	2.0							
	88.2	<b>~~</b>	pyrite and chalcocite veinlet imm wide reached zone medium grained silicified blottie					2052	•	2		0.21					
300 o		~_	pyrite and chalcocite vainlet imm wide reached zone medium grained silicified biotite 65 porphyry biotite relict: 5am pyrite and chalcocite weak disseminate				*	2052 2053	86 80 90	2,0	2.0	0.21					LEGEND
<b>300</b> 00	88.2 900	<b>~~</b>	pyrite and chalcocite veinlet imm wide reached zons medium grained allicified biotite 65 porphyry biotite relict: 5mm pyrite and chalcocite weak dissominate chalcocite veinlet width: 5mm brecoiated texture part					2052 2053 2054	86 80	2.0	2.0 2.0	0.21 0.38 0.40					LEGEND
<b>300</b> 00	88.2 900	~~ ^^ ^ ^	pyrite and chalcocite vainiet imm wide reached zone sedium grained silicified biotite 65 porphyry biotite relict: 5am pyrite and chalcocite weak disseminate chalcocite vainlet width: 5am breceiated texture part coarse grained milicified biotite porphyr.					2052 2053 2054 2055 2056 2057	86 80 90 92 94	2.0	2.0 2.0 2.0	0.21 0.38 0.40 0.47					•
<b>3</b> 000 o	88.1 900 93.5	~~ ^^ ^	pyrite and chalcocite veinlet imm wide reached zons medium grained silicified biotite  65 porphyry biotite relicit: 5mm pyrite and chalcocite weak disseminate chalcocite veinlet width: 5mm brecciated texture part coarse grained silicified biotite porphyr.  105 biotite change to phlogopite 50 95.75 - 95.76 strong secondary enrichiment					2052 2053 2054 2055 2056	86 80 90 92	2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54					LEGEND Mudstone
30000	93.5 97.0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	pyrite and chalcocite veinlet imm wide reached zons medium grained silicified biotite  65 porphyry biotite relicit: 5mm pyrite and chalcocite weak disseminate chalcocite veinlet width: 5mm brecciated texture part coarse grained silicified biotite porphyr.  105 biotite change to phlogopite 50 95.75 - 95.76 strong secondary enrichiment					2052 2053 2054 2055 2056 2057	86 80 90 92 94	2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79					•
30000	88.2 900 93.5 95.7	~ ^ ^ ^ ^ ? <del>? ? </del>	pyrite and chalcocite veinlet imm wide reached zone medium grained allicified biotite 65 porphyry biotite relicit: 5mm pyrite and chalcocite weak dissominate chalcocite veinlet with: 5mm brecoiated texture part  coarse grained milicified biotite porphyr biotite change to phicopite.  15 31.5 - 95.7m strong secondary enrichiment part  1.5 2 - 2cm width quarts vein, with chalco-					2052 2053 2054 2055 2056 2057 2058	86 80 90 92 94 96	2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53		·			Mudstane Sandstone
30000	93.5 97.0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	pyrite and chalcocite veinlet im wide reached zone medium grained silicified biotite 55 porphyry biotito relict; 5mm. pyrite and chalcocite weak disseminate chalcocite veinlet with 5mm brecciated texture part coarse grained silicified biotito porphyr. 55 5 - 95.7m strong secondary enrichinent 1.5 - 2cm width quarts vein, with chalcocite pyrite veinlet strong arguillade zone	{		}		2052 2053 2054 2055 2056 2057 2058 2059	86 80 90 92 94 96	2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53				H (* C) 1 (* 4 )	Mudstane
<b>3</b> 000 0	88.7 90.0 93.5 95.7 97.0	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet im wide reached zone medium grained silicified biotite 55 porphyry biotito relict; 5mm.  pyrite and chalcocite weak disseminate chalcocite veinlet with 5mm brecoisted texture part coarse grained silicified biotito porphyr.  55 5 - 95.7m strong secondary enrichinent 15 - 2cm width quarts vein, with chalcocite pyrite veinlet; strong argillized zone 5mm chalcocite pyrite veinlet; strong argillized zone 5mm - 1.5cm liel chalcocite pyrite veinlet strong silicified, medium grained biotit	{				2052 2053 2054 2055 2056 2057 2058 2059 2060	86 80 90 92 94 96 98 100	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21		·			Mudstane Sandstone
500 o	93.5 95.7 97.0 96.6	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zone  65 porphyry biotite relict; 5mm.  pyrite and chalcocite veak dissorinate chalcocite veinlet width; 5mm brecointed texture part  coarse grained silicified hiotite porphyr, 5biotite change to phlogopite.  35,5 - 95,7m strong secondary enrichinent 1.5 - 2cm width quarts vein, with chalcocite prite veinlet strong arguilland zone  5mm chalcocite pyrite veinlet strong arguilland zone  5mm -1.5cm lel chalcocite pyrite veinlet strong silicified, medium grained blotit  20 porphyry with chalcocite network porphyry and sandstone bounding part	{				2052 2053 2054 2055 2056 2057 2058 2059 2060 2061	86 80 90 92 94 96 98 100	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17		-			Mudstone Sandstone Tuff Lapilli t Rhyolite
35QQ	88.2 93.5 95.7 97.6 00.6 00.7	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zons medium grained silicified biotite  55 porphyry biotite relicit: 5mm pyrite and chalcocite weak dissoninate chalcocite veinlet with: 5mm brecciated texture part coarse grained silicified biotite porphyr.  55 35.5 - 95.7m strong secondary enrichinent 1.5 - 2cm width quarts vein, with chalcocite pyrite veinlet strong argillized zone 5mm chalcocite pyrite veinlet strong silicified, medium grained biotit 30 porphyry with chalcocite prophyry with chalcocite network porphyry with chalcocite network porphyry and sandstone bounding part	(	}			2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062	86 80 90 92 94 96 98 100 102,	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13		·			Mudstone Sandstone Tuff Lapilli t Rhyolita
35QQ	93.5 95.7 97.0 96.6	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zons medium grained silicified biotite  55 porphyry biotite relicit: 5mm pyrite and chalcocite weak dissoninate chalcocite veinlet with: 5mm brecciated texture part coarse grained silicified biotite porphyr.  55 35.5 - 95.7m strong secondary enrichinent 1.5 - 2cm width quarts vein, with chalcocite pyrite veinlet strong argillized zone 5mm chalcocite pyrite veinlet strong silicified, medium grained biotit 30 porphyry with chalcocite prophyry with chalcocite network porphyry with chalcocite network porphyry and sandstone bounding part	(				2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063	86 80 90 92 94 96 98 100 102 104 106	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13		-			Mudstone Sandstone Tuff Lapitli t Rhyolite Por phyry biolit
35QQ	93.5 95.7 95.7 97.0 00.0 00.7	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zons medium grained silicified biotite  55 porphyry biotite relicit: 5mm pyrite and chalcocite weak dissoninate chalcocite veinlet with: 5mm brecciated texture part coarse grained silicified biotite porphyr.  55 35.5 - 95.7m strong secondary enrichinent 1.5 - 2cm width quarts vein, with chalcocite pyrite veinlet strong argillized zone 5mm chalcocite pyrite veinlet strong silicified, medium grained biotit 30 porphyry with chalcocite prophyry with chalcocite network porphyry with chalcocite network porphyry and sandstone bounding part	(				2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064	86 80 90 92 94 96 98 100 102, 104 106 108 110	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13 0.21 1.72		•			Mudstone Sandstone Tuff Lapilli t Rhyolite Por phyry blotti quar Brecciaton
35QQ	88.2 93.5 95.7 95.7 005.1 06.7 08.5	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zone medium grained silicified biotite 55 porphyry biotitic relicit 5mm. pyrite and chalcocite weak disseminate chalcocite veinlet width 5mm breceisted texture part coarse grained silicified biotite porphyr biotite changes to phlogopite 593.5 - 95.7m strong secondary enrichinent part 2cm width quarts vein, with chalcocite pyrite veinlet strong arguilized zone 5mm chalcocite pyrite veinlet strong arguilized zone 5mm - 1.5cm lel chalcocite pyrite veinlet strong silicified medium grained biotit 20 porphyry with chalcocite network porphyry and sandstone bounding part 2cm width chalcocite impregnated vein 106.7 - 106.8 s.s. sample 3mm strong enrichiment sandstone and porphyry boundary part 105.1 - 106.3m strong enrichiment sandstone diluttance tanding part 109.0 - 112.6 argillized and shearing par pyrite and chalcocite dissemination.					2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066	86 80 90 92 94 96 98 100 102, 104 106 108 110	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13 0.21 1.72 0.48 0.20		•			Mudstone Sandstone Tuff Lapilli t Rhyolite hornt Por phyry bloiti quar
35QQ	93.5 95.7 95.7 97.0 00.0 00.7	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zone medium grained silicified biotite  55 porphyry biotite relicit: 5mm pyrite and chalcocite weak dissoninate chalcocite veinlet with: 5mm brecciated texture part course grained silicified biotite porphyr biotite change to phlogopite.  55 p. 59.7 m strong secondary enrichinent 1.5 - 2cm width quarts vein, with chalcocite pyrite veinlet strong argillized zone 5mm chalcocite pyrite veinlet strong argillized zone 5mm chalcocite pyrite veinlet strong silicified, medium grained biotit 20 porphyry with chalcocite impregnated vein 105.7 - 106.8 s.s manple 105.1 - 106.5m strong enrichinent sendstone and porphyry boundary part 105.1 - 106.5m strong enrichinent sandstone dilitature tanding part 109.0 - 112.6 significited and shearing par pyrite and chalcocite dissemination, medium silicified sandstone with chalcocit medium silicified sandstone with chalcocite dissemination.					2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066	86 80 90 92 94 96 98 100 102, 104 106 108 110	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13 0.21 1.72 0.48 0.20 0.19		•			Mudstone Sandstone Tuff Lapilli t Rhyolite Por phyry blotti quar Brecciaton
3500	88.2 93.5 95.7 95.7 005.1 06.7 08.5	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zone medium grained silicified biotite  55 porphyry biotite relicit: 5mm pyrite and chalcocite weak disseminate chalcocite veinlet with: 5mm brecoiated texture part  coarse grained silicified biotite porphyr biotite change to phigopite.  55 3.5 - 95. 7m strong secondary enrichinent information of the secondary enrichinent information of the secondary enrichinent information of the secondary enrichinent information of the secondary enrichinent information of the secondary enrichinent information of the secondary enrichinent information of the secondary enrichinent information of the secondary enrichinent information of the secondary enrichinent information information information in the secondary part 105.1 - 106.3 m strong enrichinent sandstone information enrichinent information in the secondary part 109.0 - 112.6 argillized and shearing per pyrite and chalcocite dissemination, medium silicified sandstone with chalcocit 114.9m - 115.1m crumbed					2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067	86 80 90 92 94 96 98 100 102, 104 106 108 110	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.59 0.53 0.21 0.17 0.13 0.21 1.72 0.48 0.20 0.19		•			Mudstone Sandstone Tuff Lapilli t Rhyolite Por phyry blotti quar Brecciaton
3500	88.1 93.5 95.7 97.0 60.6 00.7 08.5	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zons medium grained silicified biotite  55 porphyry biotite relicit: 5mm pyrite and chalcocite weak dissoniate chalcocite veinlet with: 5mm brecolated texture part  coarse grained silicified biotite porphyr biotite change to phigopite.  15 p. 5 - 95. 7m strong secondary enrichinent part  15 - 2cm width quarts vein, with chalcocite pyrite veinlet strong argillized zons  5mm chalcocite pyrite veinlet strong argillized zons  5mm chalcocite pyrite veinlet strong argillized zons  5mm chalcocite pyrite veinlet strong silicified, medium grained biotit  20 porphyry with chalcocite network  106.7m of the halcocite inetwork  105.1 - 106.8mm sandstone bounding part  2cm width chalcocite inergemated vein  105.1 - 106.3mm strong enrichinent sandstone dilitatione tanding part  109.0 - 112.6 argillized and shearing per pyrite and chalcocite dissemination, medium silicified sandstone with chalcocit 114.9m - 115.1m crumbed  114.9m - 115.1m crumbed  pyrite and chalcocite weak dissemination	to				2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069	86 80 90 92 94 96 98 100 102, 104 106 108 110 112 114	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13 0.21 1.72 0.48 0.20 0.19 0.10		_			Mudstone Sandstone Tuff Lapilli t Rhyolite Por phyry blotti quar Brecciaton
3500 3500	93.5 93.5 95.7 97.6 96.7 96.7 96.7 96.7 112.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veiniet imm wide reached zone  65 porphyry biotitic relict; 5mm.  pyrite and chalcocite veak disseminate chalcocite veiniet with 5mm breccited texture part  coarse grained milicified hiotito porphyr.  5mm chalcocite veiniet veiniet for porphyr.  5mm chalcocite pyrite veiniet strong arginized zone  5mm chalcocite pyrite veiniet strong arginized zone  5mm chalcocite pyrite veiniet strong arginized zone  5mm chalcocite pyrite veiniet strong arginized zone  5mm chalcocite pyrite veiniet strong arginized zone  5mm chalcocite pyrite veiniet strong arginized zone  5mm chalcocite pyrite veiniet strong arginized zone  5mm chalcocite pyrite veiniet strong arginized zone  5mm chalcocite instruction pyrite veiniet strong silicified, medium grained biotit porphyry end sandstone bounding part  105. 106.3mm strong enrichiment  sandstone and porphyrounders part  105. 106.3m strong enrichiment  sandstone dilitatione tanding pert  109.0 - 112.6 singlilized and shearing per pyrite and chalcocite dissemination, medium silicified sandstone with chalcocite weak discensination  114.9mm - 115.1m crumbed colified sandston pyrite and chalcocite weak discensination  117.9 - 123.1 argillized zandstone shoar-	to				2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069	86 80 90 92 94 96 98 100 102, 104 106 108 110 112 114 116 118	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13 0.21 1.72 0.48 0.20 0.19 0.10		¥		□	Mudstone Sandstone Tuff Lapilli t Rhyolite Por phyry biotic quar Brecciaton Inclination of (
3500 3500	88.2 93.9 93.9 95.7 97.6 66.7 06.7 08.5 112. 115.1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zone  65 porphyry biotitic relict; 5mm.  pyrite and chalcocite veak disseminate chalcocite veinlet width; 5mm breeciated texture part  coarse grained silicified hicitic porphyr.  5mm chalcocite veinlet width; 5mm breeciated texture part  coarse grained silicified hicitic porphyr.  5mm chalcocite phyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite inspreamated veinlet strong silicified, medium grained blotit  7mm chalcocite impregnated veinlets  100, 7 - 106. Sm strong enrichisent  105. 1 - 106. Sm strong enrichisent  105. 1 - 106. Sm strong enrichisent  109. 0 - 112.6 argillized and shearing par  pyrite and chalcocite dissemination.  114. 9mm - 115. in grushed  114. 9mm - 115. in grushed  115. 1 - 105. 3 argillized candatone with chalcocite weak dissemination.  117. 9 - 123.1 argillized candatone shoaring part  pyritiantion and chalcocite poor	to				2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2070	86 80 90 92 94 96 98 100 102, 106 108 110 112 114 116 118	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13 0.13 0.20 0.19 0.10 0.12 0.04				□	Mudstone Sandstone Tuff Lapilli t Rhyolite Por phyry blotti quar Brecciaton
3500 3500	93.5 93.5 95.7 97.6 96.7 96.7 96.7 96.7 112.	\8\<\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zone  65 porphyry biotito relict; 5mm.  pyrite and chalcocite weak disseminate chalcocite veinlet width 5mm brecciated texture part  coarse grained milicified biotite perphyr.  50 515 - 95.7m strong secondary enrichment portite change to phologopite.  5mm chalcocite pyrite veinlet strong arguilland zone  5mm - 1.5cm lel chalcocite pyrite veinlet strong milicified, medium grained biotit strong silicified, medium grained biotit perphyry with chalcocite network perphyry with chalcocite network perphyry with chalcocite metwork perphyry and sandatone bounding part 2cm width chalcocite impregnated vein 105.7 - 106.3m strong enrichment sends tone dilatation tanding pert 12.5 arguillated and shearing per pyrite and chalcocite dissemination, medium milicified medium arguillated and milicified sandaton pyrite and chalcocite dissemination.  114.9mm - 115.1m crushed medium arguillated and milicified sandaton pyrite and chalcocite desermation.  117.9 - 123.1 arguillated and milicified sandaton pyrite and chalcocite weak discentination.  117.9 - 123.2 m graillated and milicified fine	to				2052 2053 2054 2055 2056 2057 2068 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071	86 83 90 92 94 96 98 100 102 104 110 111 111 111 112 112 112 112 112 112	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.10		¥	<ul><li>(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)</li></ul>	□	Mudstone Sandstone Tuff Lapilli t Rhyolite Porphyry biotic quor Brecciation Inclination of t t bedding plot
3500 3500	93.5 93.5 95.7 97.6 96.7 96.7 96.7 96.7 112.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zone  65 porphyry biotito relict; 5mm.  pyrite and chalcocite weak disseminate chalcocite veinlet with 5mm brecciated texture part  coarse grained silicified hichito perphyr.  5mm chalcocite vith 5mm brecciated texture part  coarse grained silicified hichito perphyr.  5mm chalcocite pyrite veinlet strong argillized zone  5mm chalcocite pyrite veinlet strong argillized zone  5mm chalcocite pyrite veinlet strong argillized zone  5mm chalcocite pyrite veinlet strong argillized zone  5mm chalcocite pyrite veinlet strong argillized zone  5mm chalcocite instruction part veinlet strong silicified, medium grained biotit porphyry and sandatone bounding part  106.7 = 106.8 s.s. cample  106.7 = 106.8 s.s. cample  109.0 = 112.6 argillized and shearing part  109.0 = 112.6 argillized and shearing part  109.0 = 112.6 argillized and shearing part  medium stilicified sandatone with chalcocite incomprise and chalcocite dissemination.  117.9 = 123.1 argillized and stilicified sandatone incomprise and chalcocite perphyricand chalcocite perphyricand chalcocite perphyricand chalcocite perphyricand chalcocite perphyricantion and chalcocite perphyricantion and chalcocite perphyricantion and chalcocite medium  117.9 = 123.1 argillized and silicified fine  grained sandatone  pyritization and chalcocite pedium	to				2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073	86 83 90 92 94 96 98 100 102 104 106 110 111 112 114 116 118 120 122 124	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13 0.21 1.72 0.48 0.20 0.19 0.10 0.04 0.10		Y STATE OF THE STA		□	Mudstone Sandstone Tuff Lapilli t Rhyolite Por phyry biotic quar Brecciaton Inclination of (
35QQ	93.5 93.5 95.7 97.6 96.7 96.7 96.7 96.7 112.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet imm wide reached zone medium grained silicified biotite  55 porphyry biotite relicit: 5mm pyrite and chalcocite weak disseminate chalcocite veinlet with: 5mm brecoiated texture part  coarse grained silicified biotite porphyr biotite change to phlogopite.  53.5 - 95.7s strong secondary enrichisent part  cite chalcocite pyrite veinlet strong argillized zone  5s - 1.5cm liel chalcocite pyrite veinlet strong silicified , medium grained biotit  25 porphyry with chalcocite instead biotit  25 porphyry and sandstone bounding part  2cm width chalcocite inseport  105.7 - 105.8 s.s. caple  105.1 - 106.3 m strong enrichisent sandstone dilitatione tanding part  109.0 - 112.6 argillized and shearing par pyrite and chalcocite dissemination, medium silicified sandstone with chalcocit lassemination, prite and chalcocite dissemination, prite and chalcocite dissemination, pyrite and chalcocite weak dissemination  17.9 - 123.1 argillized and shearing part pyrite and chalcocite weak dissemination.  17.9 - 123.1 argillized and shearing part pyrite and chalcocite weak dissemination.  17.9 - 123.1 argillized and shearing part pyritiantion and chalcocite poor  123.1s - 152.5s strong silicified fine grained sandstone.	to				2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2066 2067 2068 2069 2070 2071 2072 2073 2074	86 80 90 92 94 96 98 100 102, 104- 106 110 111 112 114 116 112 120 122 124 126 128	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13 0.20 0.48 0.20 0.19 0.10 0.04 0.10 0.04				□	Mudstone Sandstone Tuff Lapilli 1 Rhyolite Por phyry bioliti quar Brecciaton Inclination of 1 t bedding plate GREE OF ALTER
35QQ	88.:	\ \alpha \left \ \left \ \alpha \left \alpha \left \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \alpha \left \ \alpha \left \alpha \left \ \alpha \left \ \alpha \left \ \alpha \left \ \alpha	pyrite and chalcocite veinlet imm wide reached zone  65 porphyry biotito relicit 5xx pyrite and chalcocite weak disseminate chalcocite veinlet with 5xx pyrite and chalcocite weak disseminate chalcocite veinlet with 5xx present occase grained milicified biotite perphyr biotite change to phlogopite  15 part = 95.7x strong secondary enrichment occase grained milicified with chalcocite pyrite veinlet strong anguilized zone  5x = 1.5cx liel chalcocite pyrite veinlet strong milicified medium grained biotit porphyry and sandatione bounding part 2cm width chalcocite impregnated vein 106.7 = 106.8 s.s sample  106.7 = 106.8 s.s sample  105.1 = 106.3 milicified and shearing part 109.0 = 112.6 argillized and shearing part 109.0 = 112.6 argillized and shearing part medium smilicified mandatione with chalcocit medium argillized and milicified sandation pyrite and chalcocite dissemination.  117.9 = 123.1 argillized milicified fine grained mandation and chalcocite poor 123.1s = 122.5 m strong silicified fine grained annatone pyritimation and chalcocite medium grained mandatone pyritimation and chalcocite medium grained mandatone pyritimation and chalcocite medium grained mandatone pyritimation and chalcocite medium grained mandatone pyritimation and chalcocite medium grained mandatone mandatone pyritimation and chalcocite medium grained sandatone pyritimation and chalcocite medium grained mandatone mandatone mandatone pyritimation and chalcocite medium grained mandatone mandatone mandatone pyritimation and chalcocite mandatone pyritimation and chalcocite mandatone pyritimation and chalcocite mandatone pyritimation and chalcocite mandatone pyritimation mandatone mandatone mandatone pyritimation and chalcocite mandatone pyritimation and chalcocite mandatone mandat	to				2052 2053 2054 2055 2056 2057 2058 2060 2061 2062 2063 2064 2065 2066 2067 2068 2070 2071 2073 2074 2075	86 89 90 92 94 96 98 100 102, 104 106 110 111 112 114 116 118 120 122 124 126 128 130	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.43 0.20 0.10 0.04 0.10 0.07 0.10 0.26 0.10			· · · · · · · · · · · · · · · · · · ·	□	Mudstone Sandstone Tuff Lapilli t Rhyolite Por phyry biotic quar Brecciaton Inclination of ( t bedding plate GREE OF ALTER
3500	88.:	\\ \{\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	pyrite and chalcocite veinlet imm wide reached zone  65 porphyry biotitic relict; 5mm.  pyrite and chalcocite veak disseminate chalcocite veinlet width; 5mm brecolated texture part  coarse grained silicified hicitic porphyr.  50 biotite change to phlogopite.  53,5 - 95,7m strong secondary enrichinent 1.5 - 2cm width quarts vein, with chalcocite pyrite veinlet strong arguillized zone  5mm chalcocite pyrite veinlet strong arguillized zone  5mm - 1.5cm llel chalcocite pyrite veinlet strong silicified, medium grained blotit strong silicified, medium grained blotit porphyry with chalcocite network porphyry with chalcocite intervery with chalcocite intervery with chalcocite intervery with chalcocite intervery silicified, medium grained blotit strong silicified, and sing part 105,7 - 106, 3m strong enrichisent sandstone and porphyry boundary part 105,1 - 106, 3m strong enrichisent sandstone dilitation tanding part 109,0 - 112,5 argullized and shearing part pyrite and chalcocite dissemination.  117.9 - 123.1 argulized candatone with chalcocite medium arguillized and silicified fine grained sandstone pyrite and chalcocite weak discenination.  117.9 - 123.1 argulized candatone shoaring part pyritiantion and chalcocite poor 123.1m - 122.5m strong silicified fine grained sandstone pyritisation and chalcocite medium gray colored measive sandstone pyrite veinlet pyrite dissemination strong sedium arguillized and silicified part	to				2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2070 2071 2072 2073 2074 2075 2074	86 83 90 92 94 96 98 100, 102, 104- 106 110 112 114 116 119 120 122 124 126 130 132	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.04 0.10 0.07			· · · · · · · · · · · · · · · · · · ·	□	Mudstone Sandstone Tuff Lapilli 1 Rhyolite Por phyry bioliti quar Brecciaton Inclination of 1 t bedding plate GREE OF ALTER
33300 3500	88.2 93.5 93.5 95.7 97.6 60.6 06.7 08.5 112.1 117.3 120.0 132.5 135.6	\\ \{\text{\cong}\cong\cong\cong\cong\cong\cong\cong\cong	pyrite and chalcocite veinlet imm wide reached zone medium grained silicified biotite  55 porphyry biotito relicit 5mm pyrite and chalcocite weak disseminate chalcocite veinlet within 5mm breceived texture part course grained silicified biotite porphyr 55 pyrite and chalcocite weak disseminate chalcocite veinlet within 5mm breceived texture part course grained silicified biotite prophyr 53.5 - 95.7m strong secondary cariohisont part 2cm width quarts vein, with chalcocite pyrite veinlet strong anythilized zone 5mm chalcocite pyrite veinlet strong silicified, medium grained biotit 20 porphyry with chalcocite network porphyry and sandstone bounding part 2cm width chalcocite insegnated vein 106.7 - 106.8 s.s. sample 105.1 - 106.3m strong enrichisent sandstone allistance tanding part 109.0 - 112.6 argillized and shearing part pyrite and chalcocite dissemination, medium silicified sandstone with chalcocit sedum argillized and silicified sandstone pyrite and chalcocite weak dissemination 117.9 - 123.1 argillized and sandstone shoaring part pyritisation and chalcocite weak dissemination 17.9 - 123.1 argillized and sandstone pyritisation and chalcocite weak dissemination 125.1m - 152.5m strong silicified fine 2 pyritisation and chalcocite and pyrite veinlot pyrite dissemination attons; sedium argillized and silicified part porphyry and sandstone intendity brechated part	to				2052 2053 2054 2055 2056 2057 2058 2060 2061 2062 2063 2064 2065 2066 2067 2068 2070 2071 2073 2074 2075	86 83 90 92 94 95 98 100 102, 104 106 110 111 111 112 114 116 118 120 122 124 126 130 132 134	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.43 0.20 0.10 0.04 0.10 0.07 0.10 0.26 0.10			· · · · · · · · · · · · · · · · · · ·	□	Mudstone Sandstone Tuff Lapilli 1 Rhyolite Por phyry bioliti quar Brecciaton Inclination of 1 t bedding plate GREE OF ALTER
3500	88.2 93.5 93.5 95.7 97.6 60.6 06.7 08.5 112.1 117.3 120.0 132.5 135.6	\\ \{\text{\frac{1}{2}} \text{\frac{1}{2}} \f	pyrite and chalcocite veinlet imm wide reached zone  medium grained silicified biotite  50 porphyry biotitic relicit Sumpyrite and chalcocite weak disseminate chalcocite veinlet within Sum breceived texture part  coarse grained silicified biotite porphyr biotite changes to phlogopite  50.51 - 95.70 strong secondary cariohisent part  consecutive part weight weight with chalcocite prite veinlet strong silicified, medium grained biotit strong silicified, medium grained biotit strong silicified, medium grained biotit porphyry with chalcocite impregnated veinlet strong silicified, medium grained biotit porphyry and sandatone bounding part 2cm width chalcocite impregnated veinlets and stone all titume tanding part 105.1 - 106.3 m strong carrichisent sandatone allitations tanding part prite and chalcocite dissemination, medium silicified sandatone with chalcocities sendatone with chalcocities and silicified sandatone pyrite and chalcocite weak dissemination 117.9 - 123.1 argillized candatone shoaring part pyritiantion and chalcocite poor 123.1s - 122.5 m strong silicified fine grained sandatone pyritization and chalcocite medium argillized and shilicified fine grained sandatone pyritization and chalcocite medium argillized and silicified part porphyry and sandatone mixed, breceived part coarse grained biotite porphyry coarse grained biotite porphyry and sandatone into a thought proceived part coarse grained biotite porphyry and candatone mixed, breceived part coarse grained biotite porphyry and candatone into a thought proceived pyrite and chalcocite pyrite and cha					2052 2053 2054 2055 2056 2057 2068 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2076 2076 2077 2075 2076	86 83 90 92 94 95 98 100 102, 104 106 108 110 112 114 116 120 122 124 126 130 132 134 136	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.04 0.10 0.07 0.10 0.21			· · · · · · · · · · · · · · · · · · ·	□	Mudstone Sandstone Tuff Lapilli ; Rhyolite Porphyry biolitication Inclination of it bedding plant GREE OF ALTER  argillization it
3500 4000	88.2 93.5 93.5 95.7 97.6 60.6 06.7 08.5 112.1 117.3 120.0 132.5 135.6	\\ \{\text{\alpha}\cdot\{\text{\alpha}	pyrite and chalcocite veinlet im wide reached zone  65 porphyry biotitic relict; 5mm.  pyrite and chalcocite veak disseminate chalcocite veinlet width 5mm breceited texture part  coarse grained milicified hichito perphyr.  5mm of the strong secondary enrichient 1.5 - 2cm width quarts vein, with chalcocite of the chalcocite pyrite veinlet strong argillized zone  5mm of the chalcocite pyrite veinlet strong argillized zone  5mm - 1.5cm lel chalcocite network perphyry and anadatone bounding part 2cm width chalcocite impregnated vein 200, 7 - 106.8 s.s. gample 2cm width chalcocite impregnated vein 200, 7 - 106.8 s.s. gample 2cm width chalcocite impregnated vein 200, 0 - 112.6 argillized and shearing part 109, 0 - 112.6 argillized and shearing part 109, 0 - 112.6 argillized and shearing part 114.9mm - 115.1mm orushed 114.9mm - 115.1mm orushed 117.9 - 123.1 argillized and shearing for 117.9 - 123.1 argillized and shearing to pyrite and chalcocite wask discensination.  117.9 - 123.1 argillized and shearing for 123.1mm - 132.5mm strong milicified sandstone pyrite and chalcocite seak discensination 2mm or 123.1mm - 132.5mm strong milicified fine 2mm or 132.5mm strong milicified fine 2mm or 132.5mm or					2052 2053 2054 2055 2056 2057 2068 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2076 2077 2078 2078	86 80 90 92 94 96 98 100 102 104 110 111 111 112 114 116 118 120 122 124 126 130 132 134 136 136	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.48 0.20 0.19 0.10 0.04 0.10 0.26 0.21 0.26 0.11				□	Mudstone Sandstone Tuff Lapilli ; Rhyolite Porphyry biolitication Inclination of it bedding plant GREE OF ALTER  argillization it
3500 4000	88.1 .900 93.9 95.7 97.0 .00.6	\\ \{\text{\frac{1}{2}} \text{\frac{1}{2}} \f	pyrite and chalcocite veinlet im wide reached zone  65 porphyry biotito relict; 5mm pyrite and chalcocite veak disseminate chalcocite veinlet width 5mm brecciated texture part  coarse grained milicified hichito porphyr biotite change to phlogopite.  63 93.5 - 95.7m strong secondary enrichment 1.5 - 2cm width quarts vein, with chalcocite pyrite veinlet strong argillized zone  5mm chalcocite pyrite veinlet strong argillized zone  5mm - 1.5cm llel chalcocite network pyrite veinlet strong silicified, medium grained biotit porphyry and sandstone bounding part 2cm width chalcocite impregnated vein 20.7 - 106.8 s.s. cample 2cm width chalcocite impregnated vein 20.7 - 106.8 s.s. cample 2cm width chalcocite dissemination, medium milicified sendstone of argillized and shearing part 109.0 - 112.6 signified and shearing part 2cm width chalcocite dissemination.  114.9m - 115.1m crushed 114.9m - 115.1m crushed 114.9m - 115.1m crushed 117.9 - 123.1 srglllized and strong pyrite and chalcocite week discenination 117.9 - 123.1 srgllized and silicified sendstone pyrite and chalcocite week discenination 27.5 m - 152.5m strong milicified fine grained mandstone mand chalcocite medium argillized and shlocite medium argillized and shlocite medium argillized and shlocite medium argillized and silicified part pyrite dissemination at rong medium argillized and silicified part porphyry and candstone mixed, preciated part coarse grained biotite porphyry 3cm width bhocciated pyrite and chalcocite and chalcocite and chalcocite and chalcocite and pyrite width chalcocite and pyrite veinlot pyrite dissemination at rong medium argillized and stilicified part porphyry and candstone mixed, preciated part coarse grained biotite porphyry 3cm width brocciated pyrite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and chalcocite and					2052 2053 2054 2055 2056 2057 2068 2069 2061 2062 2063 2064 2065 2066 2067 2068 2070 2071 2072 2073 2074 2075 2076 2077 2078 2078 2077 2078 2077 2078 2079 2079 2079 2079 2079 2079 2079 2079	86 80 90 92 94 96 98 100 102 104 106 110 112 114 116 120 122 124 126 128 130 132 134 136	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.04 0.10 0.26 0.21 0.21			・ 「	□	Mudstone Sandstone Tuff Lapilli the sandstone Rhyolite hornit porphyry biotic quar Brecciation Inclination of the bedding plates GREE OF ALTER argillization to the sandstone sa
3500	88	\\ \{\langle \langle \langle \text{\frac{1}{2}} \\ \langle \langle \text{\frac{1}{2}} \\ \langle \text{\frac{1}} \\ \langle \text{\frac{1}{2}} \\ \langle \t	pyrite and chalcocite veinlet im wide reached zone  65 porphyry biotitic relict; 5mm pyrite and chalcocite veak disseminate chalcocite veinlet width; 5mm brecolated texture part  coarse grained milicified hiotito porphyr.  50 biotite change to phlogopite.  53,5 - 95,7m strong secondary enrichinent 1.5 - 2cm width quarts vein, with chalcocite pyrite veinlet strong argilized zone  5mm chalcocite pyrite veinlet strong argilized zone  5mm chalcocite pyrite veinlet strong argilized zone  5mm chalcocite pyrite veinlet strong argilized zone  5mm chalcocite pyrite veinlet strong argilized zone  5mm chalcocite pyrite veinlet strong argilized zone  5mm chalcocite pyrite veinlet strong argilized zone  5mm chalcocite impregnated veinlet strong silicified, medium grained biotit porphyry and sandstone bounding part  105,7 - 106, 3m strong enrichisent sandstone and porphyry boundary part  105,1 - 106, 3m strong enrichisent seadstone dilitation tanding part  109,0 - 112,6 argillized and shearing par pyrite and chalcocite dissemination.  117,9 - 123,1 argilized and silicified sandstone pyrite and chalcocite weak dimenimation.  117,9 - 123,1 argilized and silicified fine synthesic sandstone pyritisation and chalcocite poor  123,1m - 122,5m strong silicified fine synthesic sandstone  gray colored mansive sundstone  pyritisation and chalcocite madium argilized and silicified part  porphyry and sandstone mixed, brecelated part  coarse grained biotite porphyry  5mm width brecciated pyrite and chalcocite coarse grained biotite porphyry and chalcocite or measure synthesis and content and chalcocite coarse grained biotite porphyry and condents and pyrite veinlet porty of the phonography and condents and chalcocite coarse grained biotite porphyry and condents and coarse grained biotite porphyry and condents and coarse grained biotite porphyry and condents and coarse grained biotite character and coarse grained biotite character and coarse grained biotite character and coarse grained biotite character and coarse grained biotite character					2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2071 2072 2073 2074 2075 2078 2079 2079 2079 2078 2079 2078	86 80 90 92 94 96 98 100 102, 104 106 110 112 122 124 126 128 130 132 134 136 138	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 0.17 0.13 0.21 0.48 0.20 0.19 0.10 0.04 0.10 0.26 0.21 0.11				□	Mudstone Sandstone Tuff Lapilli the sandstone Rhyolite hornit porphyry biotic quar Brecciation Inclination of the bedding plates GREE OF ALTER argillization to the sandstone sa
3500	88.1 .900 93.9 95.7 97.0 .00.6	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet im wide reached zone  65 porphyry biotito relict; 5mm pyrite and chalcocite veak disseminate chalcocite veinlet width 5mm brecciated texture part  coarse grained silicified biotito porphyr biotite change to phlogopite.  63 93.5 - 95.7m strong secondary enrichient 1.5 - 2cm width quarts vein, with chalcocite pyrite veinlet strong argillized zone  5mm chalcocite pyrite veinlet strong argillized zone  5mm - 1.5cm llel chalcocite pyrite veinlet strong silicified, medium grained biotit porphyry and sandatone bounding part 2cm width chalcocite impregnated vein 200.7 - 106.8 s.s. gample 2cm width chalcocite impregnated vein 200.7 - 106.8 s.s. gample 2cm width chalcocite impregnated vein 200.0 - 112.6 signifized and shearing part 109.0 - 112.6 signifized and shearing part 109.0 - 112.6 signifized and shearing part 109.0 - 112.6 signifized and shearing part 114.9m - 115.1m crushed 114.9m - 115.1m crushed 114.9m - 115.2 m crushed 114.9m - 123.1 signifized and silicified sandaton pyrite and chalcocite wask discensination 117.9 - 123.1 signifized andistone 5mm in part 115.5 m strong silicified fine grained sandatone and chalcocite medium argillized and shlocite por 123.1m - 132.5m strong silicified fine grained sandatone and chalcocite medium argillized and silicified part porphyry and candatone silicified part porphyry and candatone mixed, brecciated part coarse grained biotite porphyry and candatone mixed, brecciated part coarse grained biotite porphyry and candatone mixed, brecciated part coarse grained biotite porphyry and candatone mixed, brecciated part coarse grained biotite porphyry and candatone mixed, brecciated part coarse grained biotite porphyry and candatone in and partic part coarse grained biotite porphyry and candatone in and partic part coarse grained biotite porphyry and candatone in and pyrite and chalcocite and partic part porphyry and candatone partic partic partic partic partic partic partic partic partic partic partic partic partic partic partic partic partic partic par					2052 2053 2054 2055 2056 2057 2058 2060 2061 2062 2063 2064 2065 2066 2067 2071 2072 2073 2074 2075 2076 2077 2078 2079 2079 2079 2079 2079 2079 2079 2079	86 89 90 92 94 96 98 100 102, 104 106 110 112 114 116 120 122 124 126 130 132 134 136 137 138 144	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.00 0.10 0.10 0.10 0.11 0.10 0.11 0.10 0.00				□	Mudstone Sandstone Tuff Lapilli t Rhyolite Por phyry biotit quar Brecciaton Inclination of i t bedding plot  GREE OF ALTER  argillization t fresh weak
3500	88	\\\{\frac{1}{2}\left\{\frac{1}{2}\right\{\frac{1}\right\{\frac{1}\}\right\{\frac{1}\}\right\{\frac{1}\}\right\{\frac{1}\}\right	pyrite and chalcocite veinlet imm wide reached zone  65 porphyry biotitic relicit 5mm.  pyrite and chalcocite weak disseminate chalcocite veinlet width 5mm breceived texture part  coarse grained milicified biotite porphyr.  55 porphyry biotite change to phogopite  65 porphyr sinted to see the coarse grained silicified biotite porphyr.  55 port of the chalcocite pyrite veinlet strong anguilized zone  5mm chalcocite pyrite veinlet strong anguilized zone  5mm - 1.5cm lel chalcocite pyrite veinlet strong milicified, medium grained biotit zone prophyry with chalcocite network  5mm privery with chalcocite network  5mm privery and sandations bounding part  2mm width chalcocite impregnated veinlet strong milicified s. s. s. sample  106.7 - 106.3 m strong enrichisent sandatone and porphyry boundary part  109.0 - 112.6 argillized and shearing part  109.0 - 112.6 argillized and shearing part  114.9 - 115.1 m crushed  114.9 - 115.1 m crushed  114.9 - 125.1 m crushed  117.9 - 123.1 srgillized and shearing part  117.9 - 123.1 srgillized and shearing part  117.9 - 123.1 srgillized and shearing part  117.9 - 123.1 m crushed  118.9 m in the cocite poor  123.1 m in the cocite poor  123.1 m in the cocite medium grained sandatone  127.1 m or the cocite medium grained sandatone  128.1 m in the cocite medium grained sandatone  129.1 m in the cocite medium grained sandatone  129.2 m in the cocite medium grained sandatone  129.3 m in the cocite medium grained sondatone mind chalcocite medium argillized and silicified part  120.2 m in the cocite medium grained biotite porphyry  120.3 m width breceived pyrite and chalcocite  120.5 m width breceived pyrite and chalcocite  120.7 m in the cocite medium grained biotite change to muccytic and pyrite  120.5 m width breceived pyrite and chalcocite  120.7 m in the cocite medium grained biotite change to muccytic and pyrite  120.7 m in the cocite medium grained biotite porphyry  120.7 m in the cocite medium grained biotite porphyry  120.8 m in the cocite medium grained biotite porphyry  120.8 m					2052 2053 2054 2055 2056 2057 2058 2060 2061 2062 2063 2064 2065 2066 2067 2070 2071 2073 2074 2075 2076 2077 2078 2079 2079 2080 2080 2080 2080 2080 2080 2080 208	86 89 90 92 94 96 98 100 102, 104 106 110 112 114 116 112 120 122 124 126 130 132 134 146 146	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.07 0.10 0.07 0.11 0.04 0.11 0.07 0.11 0.07 0.11 0.07 0.11 0.07 0.10 0.07 0.10 0.07 0.10 0.07 0.10 0.07 0.10 0.07 0.10 0.07 0.10 0.07 0.10 0.07 0.10 0.07				□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Mudstone Sandstone Tuff Lapilli i Rhyolite Por phyry bioliti quar Brecciaton Inclination of i bedding plan GREE OF ALTER  argillization t fresh weak medium
3500 4000	88	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet im wide reached zone  65 porphyry biotito relict; 5mm pyrite and chalcocite veak disseminate chalcocite veinlet width 5mm brecciated texture part  coarse grained silicified biotito porphyr biotite change to phlogopite.  63 93.5 - 95.7m strong secondary enrichient 1.5 - 2cm width quarts vein, with chalcocite pyrite veinlet strong argillized zone  5mm chalcocite pyrite veinlet strong argillized zone  5mm - 1.5cm llel chalcocite pyrite veinlet strong silicified, medium grained biotit porphyry and sandatone bounding part 2cm width chalcocite impregnated vein 200.7 - 106.8 s.s. gample 2cm width chalcocite impregnated vein 200.7 - 106.8 s.s. gample 2cm width chalcocite impregnated vein 200.0 - 112.6 signifized and shearing part 109.0 - 112.6 signifized and shearing part 109.0 - 112.6 signifized and shearing part 109.0 - 112.6 signifized and shearing part 114.9m - 115.1m crushed 114.9m - 115.1m crushed 114.9m - 115.2 m crushed 114.9m - 123.1 signifized and shearing for 117.9 - 123.1 signifized and shearing part 115.5 m strong silicified sandaton pyrite and chalcocite and silicified sandaton pyrite and chalcocite seek discenination 117.9 - 123.1 signification and chalcocite medium argillized and shlocite por 123.1m - 132.5m strong silicified fine grained sandatone and chalcocite and pyrite veinlet pyrite dissemination at long and pyrite veinlet pyrite dissemination at long the prophyry and candatone mixed, brecciated part coarse grained biotite porphyry 3cm width brecciated pyrite and chalcocite and pyrite veinlet part coarse grained biotite porphyry 3cm width brecciated pyrite and pyrite chalcocite and pyrite and chalcocite and pyrite width brecciated pyrite and chalcocite 100 pyrallet veinlet 100 pyrallet veinlet 100 pyrallet veinlet 100 pyrallet veinlet 100 pyrallet veinlet 100 pyrallet veinlet 100 pyrallet veinlet 100 pyrallet veinlet 100 pyrallet veinlet 100 pyrallet veinlet 100 pyrallet veinlet 100 pyrallet veinlet 1000 pyrallet veinlet 1000 pyrallet veinlet 1000 pyrallet veinlet 100					2052 2053 2054 2055 2056 2057 2068 2061 2062 2063 2064 2065 2066 2067 2068 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2082 2082 2083 2084	86 80 90 92 94 96 98 100 102 110 110 111 111 112 122 124 126 128 130 132 134 141 144 146 148 146 148	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.26 0.21 0.11 0.26 0.21 0.11 0.26 0.21 0.11 0.26 0.11 0.26 0.11 0.27 0.11 0.26 0.11 0.27 0.11 0.27 0.10 0.27 0.10 0.28 0.11 0.29 0.11 0.29 0.10 0.10 0.20 0.11 0.20 0.11 0.20 0.11 0.20 0.11 0.20 0.11 0.20 0.11 0.20 0.11 0.20 0.11 0.20 0.11 0.20 0.11				□ L	Mudstone Sandstone Tuff Lapilli i Rhyolite Porphyry bioliti quar Brecciaton Inclination of i bedding plan GREE OF ALTER argillization i fresh weak medium
350 O	88	\\\{\frac{1}{2}\left\{\frac{1}{2}\right\{\frac{1}\right\{\frac{1}\}\right\{\frac{1}\}\right\{\frac{1}\}\right\{\frac{1}\}\right	pyrite and chalcocite veinlet im wide reached zone  medium grained silicified biotite  50 porphyry biotito relicit 5mm pyrite and chalcocite weak disseminate chalcocite veinlet width 5mm breceited texture part  coarse grained silicified biotite perphyr  50 515 - 95.7m strong secondary enrichment  50 cide 2cm width quartz vein, with chalcocite pyrite veinlet strong anguilized zone  5mm chalcocite pyrite veinlet strong anguilized zone  5mm - 1.5cm lel chalcocite pyrite veinlet strong silicified, medium grained biotit zone prophyry with chalcocite network  5mm vidth chalcocite inpregnated veinlet strong silicified, medium grained biotit zone width chalcocite inpregnated veinlet strong silicified sendence boundary part  106.7 - 106.8 s.s. sample  105.1 - 106.8 s.s. sample  105.1 - 106.3m strong enrichment sendence silicities and stone with chalcocite insemination.  medium silicified sendence with chalcocities perphyry boundary part  111.9 - 125.1m crushed  114.9 - 115.1m crushed  114.9 - 125.1m crushed  115.1m - 122.5m strong silicified fine grained sandstone  117.9 - 123.1 srgillized candetone shoaring part  pyritisation and chalcocite medium grained and shalcocite medium arguilized and shicified port  270 cyclored measive sandstone  50 5mm width chalcocite and pyrite veinlet pyrite dissemination strong sedium  arguilized and silicified part  coarse grained biotite perphyry  5cm width brecciated pyrite and chalcocit  170 vein  feldspar phenocryst: 7 - 2mm  blatite change to mescayle and byrite  coarse grained biotite perphyry with  pyrite chalcocite network and dissessina-  tion  55 150m core small sizes					2052 2053 2054 2055 2056 2057 2058 2060 2061 2062 2063 2064 2065 2066 2070 2071 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2080 2080 2080 2080 2080 2080 208	86 89 90 92 94 96 98 100 102, 104 106 110 112 114 116 118 120 122 124 126 130 132 134 146 148 148 150	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.07 0.10 0.07 0.11 0.04 0.10 0.07 0.11 0.07 0.11 0.07 0.11 0.07 0.10 0.07 0.10 0.07 0.10 0.07 0.10 0.07 0.10 0.09 0.00 0.10 0.00 0.10 0.00				□ L	Mudstone Sandstone Tuff Lapilli the American service of the ALTER orgillization of the Alternation of the Alternation of the Alternation of the Alternation orgillization
3500 4000	88	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet im wide reached zone  65 porphyry biotitic relict; 5mm  pyrite and chalcocite veak discominate chalcocite veinlet width 5mm breechated texture part  coarse grained milicified biotitic porphyr.  5mm 5mm 5mm 5mm 5mm 5mm 5mm 5mm 5mm 5m					2052 2053 2054 2055 2056 2057 2068 2069 2061 2062 2063 2064 2065 2066 2070 2071 2072 2073 2074 2075 2074 2077 2078 2077 2078 2078 2082 2082 2082	86 80 90 92 94 96 98 100 102 110 110 112 114 116 118 120 122 124 126 130 132 134 146 148 148 148 148 150 152	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.07 0.10 0.10 0.11 0.08 0.11 0.08 0.16 0.13 0.14 0.11 0.08 0.16 0.09				□ L	Mudstone Sandstone Tuff Lapilli the American service of the ALTER orgillization of the Altern service of the A
3300 3300 4000	88	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet im wide reached zone  medium grained silicified biotite  50 porphyry biotito relicit 5mm pyrite and chalcocite weak disseminate chalcocite veinlet width 5mm breceited texture part  coarse grained silicified biotite perphyr  50 515 - 95.7m strong secondary enrichment  50 cide 2cm width quartz vein, with chalcocite pyrite veinlet strong anguilized zone  5mm chalcocite pyrite veinlet strong anguilized zone  5mm - 1.5cm lel chalcocite pyrite veinlet strong silicified, medium grained biotit zone prophyry with chalcocite network  5mm vidth chalcocite inpregnated veinlet strong silicified, medium grained biotit zone width chalcocite inpregnated veinlet strong silicified sendence boundary part  106.7 - 106.8 s.s. sample  105.1 - 106.8 s.s. sample  105.1 - 106.3m strong enrichment sendence silicities and stone with chalcocite insemination.  medium silicified sendence with chalcocities perphyry boundary part  111.9 - 125.1m crushed  114.9 - 115.1m crushed  114.9 - 125.1m crushed  115.1m - 122.5m strong silicified fine grained sandstone  117.9 - 123.1 srgillized candetone shoaring part  pyritisation and chalcocite medium grained and shalcocite medium arguilized and shicified port  270 cyclored measive sandstone  50 5mm width chalcocite and pyrite veinlet pyrite dissemination strong sedium  arguilized and silicified part  coarse grained biotite perphyry  5cm width brecciated pyrite and chalcocit  170 vein  feldspar phenocryst: 7 - 2mm  blatite change to mescayle and byrite  coarse grained biotite perphyry with  pyrite chalcocite network and dissessina-  tion  55 150m core small sizes					2052 2053 2054 2055 2056 2057 2068 2060 2061 2062 2063 2064 2065 2066 2067 2070 2071 2073 2074 2075 2076 2077 2078 2079 2082 2082 2083 2084 2085 2086 2082 2083 2084 2085 2086 2086 2086 2086 2087	86 80 90 92 94 95 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 130 130 130 140 141 141 141 141 141 141 141 141 14	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.04 0.10 0.07 0.10 0.21 0.11 0.08 0.11 0.08 0.16 0.09 0.16 0.16 0.17 0.17 0.18 0.19 0.10				□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Mudstone Sandstone Tuff Lapilli the American service of the ALTER orgillization of the Alternation of the Alternation of the Alternation of the Alternation orgillization
3300 3300 4000	88	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	pyrite and chalcocite veinlet im wide reached zone  65 porphyry biotitic relict; 5mm pyrite and chalcocite veak discominate chalcocite veinlet width 5mm breechated texture part  coarse grained milicified biotitic porphyr.  55 57.5 - 95.7m strong secondary enrichinent 1.5 - 2cm width quarts vein, with chalcocite 5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite pyrite veinlet strong arginized zone  5mm chalcocite inspreamated veinlet strong silicified, medium grained biotit porphyry end sandstone bounding part  20m width chalcocite impregnated veinlet.  105.7 - 106.8 m strong enrichiaent sandstone and porphyrounders part  105.1 - 106.3m strong enrichiaent sandstone dilitatene tanding part  109.0 - 112.6 signifized and shearing par pyrite and chalcocite dissemination.  117.9 - 123.1 signifized and shearing part pyrite and chalcocite weak discomination.  117.9 - 123.1 signifized sandstone shearing part pyrite and chalcocite weak discomination.  117.9 - 123.1 signifized sandstone shearing part pyrite and chalcocite weak discomination.  117.9 - 123.1 signifized sandstone shearing part pyrite and chalcocite weak discomination.  105.5mm and shiedifed part pyrite discomination strong sedium arginized and shiedifed part porphyry and sandstone mixed, breediated pyrite width brechated pyrite width process of the pyrite chalcocite porphyry ith pyrite chalcocite with chalcocite width: 4mm chalcocite width the coarse grained biotite porphyry with pyrite chalcocite enrichment soca.  155.5mm core mail size.  155.7 - 155.6mm strong silicified and chalcocite enrichment soca.  155.5 - 155.6mm strong silicified and chalcocite enrichment soca.					2052 2053 2054 2055 2056 2057 2068 2060 2061 2062 2063 2064 2065 2066 2067 2074 2073 2074 2075 2074 2075 2076 2077 2078 2079 2082 2082 2083 2084 2085 2086 2087 2082 2083 2084 2085 2086 2087 2088 2086 2087 2088 2086 2086 2087 2088 2088 2088 2088 2088 2088 2088	86 80 90 92 94 96 98 100 102 110 110 111 111 111 112 120 122 124 126 130 130 130 140 141 141 141 141 141 141 141 141 14	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.21 0.38 0.40 0.47 0.54 0.79 0.53 0.21 1.72 0.48 0.20 0.19 0.10 0.04 0.10 0.07 0.10 0.21 0.11 0.08 0.11 0.08 0.16 0.09 0.16 0.16 0.17 0.17 0.10			・ 1 日本の一般の一般の一般の一般の一般の一般の一般の一般の一般の一般の一般の一般の一般の	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Mudstone Sandstone Tuff Lapilli the American service of the ALTER orgillization of the Altern service of the A
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PL. I - 14

OGICAL SURVEY OF

LOG and ASSAY

K-7(12/13EF)

301.4 m\_\_\_

Core Recovery 93 33%

/ishindaung\_\_\_\_

Elevation 180.8 m

ing from 20.4.75' to 22.4.75' S. MONONOBE

AGENCY

NATIONAL COOPERATION AGENCY

JAPAN

le No

#### RATION AND MINERALIZATION

		argillization *	silicification	pyritization	mineralization
		fresh	5102   < 55 %	Fe62 <   %	cu < 0.2 %
	<i>;</i>	weak	55 ~ 65%	1~5%	0.3 ~ 0.5%
		medium	65 ~ 80%	5 ~ 10 %	0.6 ~ 0.9%
1		strong	.// > 80 <b>%</b>	> 10 %	ilo side

260   Seastite vailet seath part   200												٠.	,				-
Secondary in the secondary dependent of the secondary in the secondary i	60,2	<u></u>	٣	hematite veinlet width: 2mm   medium argillized and milicified part with							1		•	1			
20	70.0	广	\\_"	3cm width hematite breccis vein		Λ					-				+	,	
Compared an experience of the compared and the compared	73.4	<u>\</u>	\ <u>_</u>	hematite network and dissemination		ı					1				1		
The property of the property	76.	^_	16	foldspar phenocryst 4 - 5mm 5 hematite veinlet 3mm width		١					ļ						
### STATE OF THE PRINCE OF THE	78.	<u> </u>	<u>a</u> Z9	o silicified and brecciated part roundary in icm width hematite veinlet							ı						
10			١.	gosson part silicified, medium grained		Į					ā	1051					
Comparison of the property is select multiple state of the property is select multiple state of the property is select multiple state of the property is select multiple state of the property is selected and the proper	83.	1	.   ~	O biotite porphyry		-		-									
### 1976 of the control of the contr		\^^		renched zone medium grained silicified biotite					1			-					
Section   Sect	1900		~[`	pyrite and chalcocite weak disseminate		Į	Ų.		-	Ų							
10		<u>.</u>	₫.	texture part		-		Ì	١.	γħ	1		-				
1970   200		1		biotite change to phlogopite		ì	ľ	Ų	Į		1		96		2.0	0.53	
The continue of the property of the continue	oc.	~	٦,	25 part   2cm width quartz voin, with chalco-	\		Ţ		Į	۱,	ነ						
100	1001	_		5mm chalcocite pyrite veinlet strong argillized zone			$\ $				Ιl						
The second part   The second	104.	کہ	].	strong silicified medium grained blotte		-[	1				ı						
100.   100.				2cm width chalcocite impregnated vein		1	Y		<b>[</b> ]			-		1	1		
100			=	40 and tone and perphyry boundary part	Ι.		Y			٠,	/			'			
### medium sittletted anadatems with distance of the control of th	112	1 :-		100.0 - 112.6 argillized and anearing bard	İ				ĺ	.				i		· .	
177,   172,   anythised and silicities demandations   177,   172,   anythised and shortest wash discovered to the state of the state	115	. 🔛		medium silicified sandstone with chalcocite			Υ		1	Ĭ		ĺ		. !	- 1		
177.0 - 125.1 aryllited audates chooses   177.0 - 125.1 aryllited audates chooses   177.0 - 125.1 aryllited audates   177.0 - 125.1 aryllited   17	117	٠,	4	medium argillized and silicified sandstone			Υ	•	į	1		2069	118	2.0	2,0	0.04	
1972   1971   1972		َ ہے اہ	٠.	. 1 1	J			ı	į								
123.1s - 132.4s strong shieldies like		-با-	-	pyritization and chalcocite poor	1		Λ		Ň.	1	1				,		
100   100   2.0   2.0   2.0   0.11		·:		_grained sandstone	i	i	Н		JĮ.				126	2.0			
	130			erny colored massive sandstone			Y	į.			١.	L.		ŧ			
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1836   A		1		porphyry and candstone mixed, breceisted					Y	ļ	(	ı	-				
Section   Sect	00136	17	$ egthinspace{1.5em} olimits$	course grained biotite perphyry 3cm width brecciuted pyrite and chalcocite								1	138	2.0	2.0	0.16	
145.	140	10 -		≤70 veln			ll		i	,		1.		i			
147.   100 parallel veinible   100 parallel veinible   100 parallel veinible   100 parallel veinible   100 parallel veinible   100 parallel veinible   100 parallel veinible   100 parallel   100 paral	÷			highlite change to macovite and hyrica					1		)	1	!	\$	:		
100   101   102   103	14	·  -	<del>.  </del>	coarse grained biotite porphyr, with					-		\	1					
1000   1000		1.	$^{\sim}$	pyrite chalcocite network and dissemina-					ļ	٠,	ļ	1					
10.5   16.0 ms - 16.0 cm strong silicitied and chalcocite enrichment row of the collectic row of the collectic row of the co		3. <b>?</b> [_	<u>^</u>	CUS vion core small size	Ÿ	•	Λ					1		!			
197. 7 - 197. Fe strong pyrite and chalcondition part 197. 7 - 160. 5s browclated texture tropolited fragment sensite. 7 cm - 2 cm 197. 7 - 160. 5s browclated texture tropolited fragment sensite. 7 cm - 2 cm 197. 7 - 190. 1 cm width currits prite veinited tropolitic fragment sensite. 7 cm - 2 cm 197. 1 cm width currits prite veinited tropolitic fragment sensite. 7 cm - 2 cm 197. 1 cm width currits prite veinited tropolitic fragment sensite. 7 cm - 2 cm 197. 1 cm width currits prite veinited tropolitic fragment sensite. 7 cm - 2 cm 197. 1 cm width currits prite veinited tropolitic fragment sensite. 7 cm - 2 cm 197. 1 cm width currits prite veinited tropolitic fragment sensite. 7 cm - 2 cm 197. 1 cm width currits prophyry the first related to 1 cm 197. 1 cm width currits prophyry the first related tropolitic fragment sensite. 7 cm 197. 1 cm width currits prophyry the first related tropolitic fragment sensite. 7 cm 197. 1 cm 197. 2 cm 197. 1 cm		. ] ^	^	160.8m - 168.0m strong silicified and	į				$\ $			1		1	i		
### 160.5% breeclated toxine breeclated fragment smalls: 0. cm = 200   0.00   1.62   2.0   2.0   0.18   0.00   0.00   1.62   2.0   0.00	13	`` <b>`</b>	♬	155.3 - 155.Pm strong pyrite and chalco-	į	:					ļ	2099		1	i	• '	
103.	Į.	_ا،،		159.7m - 160.5m brecciated texture	1			-•-			- -	1		1 '	1		
Second	1	, [	~ ]	too tem width quartz pyrite veinlet	1			1					i		!		
16.   170.1 cm drumy pyrite vain with   200   100   2.0   2.0   0.0   170   170   2.0   2.0   0.0   170	10	" [-	^	strong silicified coarse grained biotite	1					:	l			l.	1		
700   700 chalcectte and pyrite vein widt: Emm redum grained blottle perphyry theits relict: Emm redum grained blottle perphyry theits relict: Emm redum grained blottle perphyry theits relict: Emm redum grained blottle perphyry theits relict: Emm redum grained blottle perphyry theits relict: Emm redum grained blottle perphyry theits relicts within the strong allierified, pyrite and chalcectte nearest within the strong allierified part with pyrite and chalcectte value to a strong allierified part with pyrite and chalcectte value to a strong allierified part with pyrite and chalcectte value to a strong allierified part with pyrite and chalcectte value to a strong allierified part with pyrite and chalcectte value to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and breaking to a strong allierified and allierified weak arguilized and adults allierified weak arguilized and mand allierified weak arguilized and mand allierified weak arguilized and mand allierified part pyrite disagnation wank arguilized and mand allierified part pyrite disagnation wank arguilized and mand allierified part pyrite disagnation wank arguilized and mand allierified part pyrite disagnation wank arguilized and mand allierified part pyrite disagnation wank arguilized and chalcection native k and disagnation wank arguilized and chalcection towk and disagnation wank arguilized and chalcection native k and disagnation wank arguilized and chalcection native k and disagnation wank arguilized and chalcection native k and disagnation with quarts pyrite chalcecte virile with the strong and the pyrite			$\cong$	16%.Cm = 170.1cm drusy pyrite vein with	ı	i	1		Ų	: 1	ľ	1		1	1	i .	
176.1   87   176.2				20 chalcocite and pyrite vein widt : 8mm	1	:		:		•	ľ	1		2.0	2.0	0.31	
1000   12.1   15.0		1	`_	blotite relict: 3nn - 4nn					1	1	Ļ				1	!	
Second   strong dilicified, pyrite and chalcocite networks and discocination part   2101 162 2.0 2.0 0.0 0.79	1	6.1		feldspar phenocryst: Jnn - 5m:	1				Λ	,			1	1	1	1	
strong silicified part with pyrite and chalcocite disseminate pyrite and chalcocite winlet strong silicified hard compact part pyrite and chalcocite winlet strong silicified hard compact part pyrite and chalcocite network zone pyrite and chalcocite network zone pyrite and chalcocite network zone pyrite and chalcocite network zone pyrite and chalcocite network zone pyrite and chalcocite network zone pyrite and chalcocite network zone pyrite and chalcocite network zone pyrite and chalcocite order part pyrite and chalcocite and pyrite velvalet strongly silicified and brecciated part strongly silicified and brecciated part sullrook change to fine grained quartz appropriate with three chalcocite winds appropriate with the chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite and chalcocite velvalet pyrite dissemination weak argillized and modium silicified part pyrite dissemination weak argillized and modium silicified part pyrite dissemination weak argillized and modium silicified pyrite pyrite and chalcocite network and disson minimum, incremization colum.  2300 pyrite and chalcocite velvalet pyrite dissemination weak argillized and modium silicified pyrite pyrite and chalcocite network and disson minimum, incremization colum.  2300 pyrite and chalcocite velvalet pyrite discocite indivork and disson minimum, incremization colum.  2301 pyrite and chalcocite velvalet velvalet whitesh pyray colored discocite velvalet whitesh pyray colored discocite velvalet velv	u	0.0	^	strong silicified, pyrite and chulcocite	1	:		<b>_</b>	Ш		.   _		2	ļ	1	1	
### Chalcotite disseminate pyrite and chalcotite veinlet  ###################################	5000 <sup>11</sup>	32.‡	_	An 2mm width chalcocite veinlet	1			'	Y	;					-	4	
1900   1910   1913   1910   1913   1910			^	chalcocite disceminate	1			:	1	!	ľ			1		1	
190   191   101	þ.	87.4	^	1266	- 1	1		:		•					j.	1	
pyrite and chalcocite network zone    200.   106.   200   200   200   2.			^ :	]		٠	ı	•	I	ı.	1	- 1		1			
195.7	[	·	^_	pyrite and chalcocite network zone							$\ $			i	;		
2000 A clacocite and pyrite vehicle  210 200 2.0 2.0 1.05  211 202 2.0 2.0 0.38  211 202 2.0 2.0 0.38  211 202 2.0 2.0 0.38  211 202 2.0 2.0 0.22  211 203 2.0 2.0 0.05  211 204 2.0 2.0 0.05  211 205 2.0 2.0 0.05  211 206 2.0 2.0 0.05  211 206 2.0 2.0 0.05  211 208 2.0 2.0 0.05  211 208 2.0 2.0 0.10  211 208 2.0 2.0 0.12  211 208 2.0 2.0 0.12  211 208 2.0 2.0 0.12  211 218 218 218 218  211 218 218 2.0 2.0 0.12  211 218 218 218 2.0 2.0 0.12  211 218 218 218 2.0 2.0 0.13  211 218 218 218 218 218  211 218 218 218 218  211 218 218 218  211 218 218 218  211 218 218 218  218 218 218 218  219 218 218 218  210 200 2.0 0.05  211 218 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218 218  211 218  212 22 2.0 2.0 0.05  213 208 2.0 2.0 0.05  214 208 2.0 2.0 0.05  215 218 218 218  218 218  218 21	- 1	95.4			1				ή	1	凸	ı		i	- 1	1	
202.   A   c'alcocite and pyrite rich part   atrougly atlicified and brecciated part   wallrook change to 'ine grained quartz   aggregation   210.6m - 211.7m quartz aggregation zone   211.5m quart	· ·			chalcocite and purite vehillet	i 1	!		į	$\ $				1		ţ		
200   210.6   211.7 m quartz aggregation zone   210.6 m - 211.7 m quartz aggregation zone   210.6 m - 211.7 m quartz aggregation zone   210.6 m - 211.7 m quartz aggregation zone   211.6   200   2.		02.1	^ ^		i	į	1						1	1	i		
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200.			^^	210.6m - 211.3m quartz aggregation zone	į			1.	П		П	- 1	1	2.0	ļ	1	
13.1   276   200   2.0	l i		_^	4.					Y	'	$\ $					1	
coarse grained biotite porphyry biotite relict: Ann - Can  Celdspur phenogryat: 6mm - 9mm redium argillized and milicified weak argillized and medium silicified weak argillized and medium silicified part pyrite dismemination weak  726.  7300  2300  730	1000	13.4	^_^	or medium grained biotite perphyry	ļ	ì	1	Į¦	Y		Y	211	7 214	2.0	2.0	0 0.13	
2700		-	^	conrue grained blotite perphyry	٠.				1		I	L					
21.4   medium argillized and allicified week argillized and medium silicified part		220 0	^							į		- 1	·	1	1	1	
pyrite disnemination weak  55 pyrite veinlet with chalcocite impregnate  weak argilitzed and medium silicified redium grained bibitie porphyry pyrite and chalcocite network and disse- miration, mireralization redium, 70 tem with quartz pyrite chalcocite vein  whitesh pray colored cire grained bibitie porphyry  pyrite and chalcocite veinlet  whitesh pray colored cire grained bibitie porphyry  2123 206 2.0 2.0 0.40  2125 230 2.6 2.0 0.40  2126 232 2.0 2.0 0.30  2127 234 2.0 2.0 0.35  2128 236 2.0 2.0 0.35  2128 236 2.0 2.0 0.35  2129 238 2.0 2.0 0.79  2120 238 2.0 2.0 0.35  2120 238 2.0 2.0 0.35  2120 238 2.0 2.0 0.35		i i	•	medium argillized and silicified weak	ľ	_						- 1	1		1	1	
750.   55 pyrite veinlet with chalcocite imprograte weak argillized and modium silicified redium grained blottle perphyry   1124   228   2.0   2.0   0.10   125   230   2.6   2.0   0.19   125   230   2.6   2.0   0.30   125   230   2.6   2.0   0.30   125   230   2.6   2.0   0.30   125   230   2.6   2.0   0.30   125   232   2.0   2.0   0.30   125   235   2.0   2.0   0.30   125   235   2.0   2.0   0.35   125   235   2.0   2.0   0.35   125   235   2.0   2.0   0.35   125   235   2.0   2.0   0.35   125   235   2.0   2.0   0.35   125   235		. ]	^_	pyrite discemination weak							ļ		- 1	1			
2300   reddin grained biotite potphyry   215   230   2.0   2.0   2.10	1 !	PP6.1		55 pyrite veinlet with chalcocite impregnate					h			- 1	i				
miration, mirarlization rotium, 70 icm width quartz pyrite chalcocite vein 236.		2300	^	madium prained biotite porphyry							.			1	i		
236. Any 5mm pyrite and chalcocite veirlet  236. Any 5mm pyrite and chalcocite veirlet  whitesh pray colored  (ire grained bictite perphyry  230. Any 5mm pyrite and chalcocite veirlet  2128 236 2.0 2.0 0.35  220. Any 5mm pyrite and chalcocite veirlet  2128 236 2.0 2.0 0.35  2128 236 2.0 2.0 0.55			^	. mi-ntion, mineralization medium,		1		)			J	1	ļ	1.			
whitesh pray colored 1 ; 2129 238 2.0 2.0 0.78 ; 2130 240 2.0 2.0 0.59			^~	By 5mm pyrite and chalcocite veinlet		i	١			]	ĺ	i I			0 2	0 0.35	
1			^	whitesh gray colored		1	1	ļ	۱ ]				i i	1 4	i	i i	
		Z400	,	I . =	1	١	:	I	:								

LEGEND

Burmese Hole No

30 Inclination of plane structures ( bedding plane Intrusive boundary etc.)

#### DEGREE OF ALTERATION AND MINERALIZATION

argillization *	silicification	pyritization	mineralization
fresh	sio2 < 55 %	FeS2 < 1 %	< 0.2 %
weak	55 ~ 65%	1 ~ 5 %	0.3 ~ 0.5%
medium	65 ~ 80%	5 ~ 10 %	0.6 ~ 0.9%
strong	> 80 %	> 10 %	> 1 %

X fresh : unaltered

the feldspor phenocrysts

changed into clay minerals

strong : not only feldspar phenocrysts but also ground-

mass changed into clay minerals

( by field abservation)

#### ABBREVIATIONS

arg : Argillization : Silicification

Dissemination

1		,	1		Mirror and and an analysis of the second sec	
1	50.0	1	`~\		tion	
200	,_,	Г			pyrite veinlet with chulcocite width: 4mm	-
	55.3	′	`		160.0m = 168.0m etrony silicified and   2087 154 2.0 2.0 0.25   chalcocite enrichment zone   2008 156 2.0 2.0 0.62	•
i	50.1	1	╮		#55.3 = 155.8m strong byrite and chalco-	- 1
	L60.0	_			cite network and dissemination part 1 2089 158 2.0 2.0 0.44 159,7m = 160.5m broccinted texture 2090 160 2.0 2.0 0.15	
ļ	L90.4	F	7		brecciated fragment scale: 0.5cm-2cm	- [
1	63.	L	_]	<b>_</b> 70	5mm width quartz pyrite veinlet 2092 164 2.0 2.0 0.98	
		1 -	` 1		strong silicified coarse grained biotite	-
500	168.	┖	_		167.0m - 170.1cm drusy pyrite vein with	- 1
	1700	1	`~	/	Enlocite, pyrite 2095 170 2.0 2.0 0.14	- 1
	171.	1			chalcocite and pyrite vein width: Emm 2096 172 2.0 2.0 0.31 medium grained biotite porphyry	
		-	^		hiotite relict: 3mm - 4mm	
	76.	<u>,</u>	-	_87	feldspar phenocryst: Jan - Jan	
		ŀ.	_		strong silicified, pyrite and chalcocite	.
	180.6	E			networks and dissemination part 2100 180 2.0 2.0 0.92 2mm width chalcocite veinlet 2101 182 2.0 2.0 0.78	.
000	82.	1	_	2.80	strong silicified part with pyrite and	i
	ļ		_	١.	chalcocite disseminate	.
	87.	Ĺ		<b>Z</b> 50	pyrite and chalcocite veinlet  strong silicified hard compact part  2104 188 2.0 2.0 0.23	:
	1901		^	١.	2105 190 2.0 2.0 0.51	
	[3]:	1			0 191.0m - 191.3m porous part 2106 192 2.0 2.0 0.83	
	١		`~	ـ ا	pyrite and chalcocite network zono	ľ
	95.	١.	\ A	1260	105 2n = 202 7m at warp still eited	
5 <u>50</u> 0	1	1.	`^	ارا	chalcacite and pyrite veinlet	1
	200	"		-69	the section and months with mart	
	202.	4		4	strongly silicified and brecciated part	
		1	^_	1	vallrook change to fine grained quartz aggregation 1 2113 206 2.0 2.0 0.09	; [
		1.	<u>`</u> `	1	210.6m - 211.3m quartz aggregation zone	1
	210	آه.د	`_		with brocciated chalcocite	1
••••	211	٠  -	<u> </u>	. 1	0 pyrite and chalcocite veiniet	:
, cont	13	•+		¥70	76 medium grained biotite porphyry pyrite and chalcocite veinlet width; 6mm	•
	1	ľ	^	-	coarse grained biotite porphyry 218 2.0 2.0 0.05	!
	ļ		^	1	biotite relict: 4mm - 6mm	1
	220	ľ	`		feldapar phonocryst: 6m - 9m   2120 220 2.0 2.0 0.04 medium argillized and silicified weak   2121 222 2.0 2.0 0.05	(
		•	~	1	argillized and modium silicified part	· ,
	hac		^	L	pyrite dissemination weak	. }
750	226	<u>`</u>	$\overline{}$	Ť	pyrite veinlet with chalcocite impregnate weak argillized and medium silicified	,
	[230	0.0	^		redium grained biotite porphyry	<b>,</b>
		-		1	pyrite and chalcocite notwork and disso- miration, mineralization medium,	,1
	235	5.4	<u> </u>		70 1cm width quartz pyrite chalcocite voin	<b>)</b>
	236	5. d	^_	业	but pyrite and chalcocite veinlet	
1		-	^		whitesh gray colored 1 1 2129 238 2.0 2.0 0.76 fire grained biotite perphysy 2.0 2.0 0.50	i 1
	24	٥٩	_		blotite relict: 'mm - 2mm	•
000	0	Ì	_		feldspar phenograt: 3mm pyrite and chalcocite dissemination zone  2132 244 2.0 2.0 0.05	- 1
1	24	5.4	$\hat{-}$	1	30 minoralization modium	!
l		ļ	^		10cm width quart vein with pyrite chalco-	1
	25	oα			eite discentration strong silfeified roch original texture 1 1 2135 250 2.0 2.0 0.13 not clear part	3
	İ			ĺ	pyrite and chalcocite discenination and   1	1
1			<u> </u>	<b>\</b>	network mineralization etrong sone	
	25	5.7	_	+	(60 25cm wide brecciated pyrite vein with 2138 256 2.0 2.0 0.3% ehalocoite	1
85	00-5		- '	4	95 pyrite network etrong zone	i
	- [ .	60.0	_^		medium grained dictite porphyry	-
	1	3.	<u> </u>	丁	3cm brecciated pyrite vein with chalcoci-	- 1
	ľ	- 🔻	^		argillization and milicification medium pyrite and chalcocite notwork and diose-	17
			۸ ا	$\backslash$	minate 2144 268 2.0 2.0 0.0	)6
Ì	2]	700	Ÿ	-	medium grained biotite perphyry	1
	- 1	72.0	<del> </del>	+	265 hiotite relict: 3r - 4m 1.3cm width chalcocite voin with pyrite 2146 272 2.0 2.0 0.4	1
90	00		^	1	and chalcocite	1
			1	\	272.0mm - 282.7m strong silicified part  pyrite and chalcocite network and disse-  2749 278 2.0 2.0 2.0 0.1	i
		900	_	1	mination 2:50 2:0 2.0 2.0 0.2	•
	г	81.1		عك	200 2mm width pyrite a d chalcocite veinlet	
1	ſ	•	^	T	medium argillized and silicified part	44
	51	85.	<b>—</b>	4	baundary of silicified part and 2153 256 2.0 2.0 0.4	41
١.,	20.0		^	$\perp$	287.0m - 287.5m 50cm pyrite rich and   1	- 1
1	2	90.0	\ <u>-</u>	.   -	c'alcocité pour part	
1			1	$\perp$	pyrite and chalcocite rich network and	1
	ļ	95.	Ŀ		dissemination 2157 294 2.0 2.0 0.	- 1
	į		]^		a the second sec	14 i 18 i
1	. !	98. <b>98</b> .	,	╢	7m - 2m	10:
		:01	1	<u>~</u>	botton 301.4m	i
p	00.0			İ		!
٢				- [		i
1	1		1.	j		
ļ	ì	310.0	1	-		1
L				Ŀ		<del>- 1</del>

weak : parts of feldspor phenocrysts changed into clay minerals

medium : atmost all the feldspor phenocrysts changed into clay minerals

strong : not only feldspor phenocrysts but also ground-mass changed into clay minerals

(by field observation)

ABBREVIATIONS

arg : Argillization

sil. : Silicification

py. : Pyritization

kao : Kaclinization

ser. : Sericitization

ch : Chiorifization

alu : Alunitization

ccp.: Chalcopyrite
c.c.: Chalcocite
en.: Energite
dis.: Dissemination
v.: Veinlet
w.: Width

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...**t.** 

Depth	\$ 5		Territion & Mineralization Rewin of Chemical Analysis
(feet) (m)	Sect	Particulars	B Samele Depth Core Somole T-Cu
3.0	18. A.	non core weathered lapilli tuff, fragmont: shale.	GEOLOGICAL SURVEY OF
7.1	္ပံု	sundstone bornhlende bidtite perphyry	MONYWA AREA UNION OF BURMA
		reddish brown colored tuff breccia breccia fragment; hornblende hiotite	( PHASE III )
11.4	<u></u> 0	porphyry (hernblende- green colored)	CORE LOG and ASSAY
	٠ ·	brownish, yellow colored lapilli tuff	The state of the s
1 18.51	6	lapilli size: 3mm - 1.2cm average 7mm - 8mm	DD.H. No. JK-8(13/14EE) Sheet 1
200		18,5m - 24.0m lapilli size:maximum 3cm	
24.0 24.5	ŗo	hornblende blotite porphyry, lapilli riched part	Core: Recovery 97.
	, 0	24.0m = 24.5m small lapilli port lapilli sise maximum ton	Location: Kylshindaung Elevation (6).1 m
1000 300	, A	weathered lapilli tuff silicified ***/ eandstone lapilli tuff breccia, breccia is sandatone and	Direction O Inclination 90°
	• °	hornblande biotite porphyry  weathered lapilli tuff riched zone	Date of Logging from 23 4,75 to 25, 4.75'
34.8	۰.Δ	54.1m - 42.7m pale gray colored tuff breccin	Logoed by S, MONONOBE
400	<u>۸</u> .	breccia size maximum 10cm	
12.7		large brecciathornblendo biotite porphyrwith 5mm - 6mm fragmontal pyrite	
1500		pale bluersh gray colored lapilli tuff lapilli; hornblende biotite porphyry	METAL MINING, AGENCY
49.1 50.0	٠٥	and silicified sandstone	JAPAN INTERNATIONAL COOPERATION AGENCY
51.2	Δ	Weak pyrite dissemination zone 51.3m; size 10cm biotite porphyry	GOVERNMENT OF JAPAN
53.8 55.2	0 1	(breccia) gray colored lapilli tuff	SEPTEMBER 1975
	• •	weak argillized part	Prepared by MITSU KINZOKU ENGINEERING SERVICE CO. LTD.
2000	, 0	55.2m sampling by weak argillized part pale gray colored tuff brecois	
63.C	÷ 2	pale gray colored tuff breccia breccia port argillized argillized and shearing part	
67.7	0 *	7mm width drusy pyrite veinlet medium argMlized zone	₩ Burmese Hole No
71.4	. 0	omall grained lapilli tuff  25, lapilli sizer tum	(존한다스) [[
74.7	0 1	icm clay pyrite veinlet graysh colored medium argillised, lapilli tuff	
2500	<u> </u>	partly crushed work argillized tuff brocoin, greenish	
800	Δ	gray colored breccia sise maximum 5cm and medium argillised	
PA T	^	fragment: medium grained sandstone and hornblende biotite porphyry 77.3m - 78.2m breccia lapilli size: icm	
85.5 87.3	3.7	- 1.5m argillized and shearing part 85.3m - 85.6m weak silicified part gray	
900	• <u>•</u>	colored weak silicified and argillized	LEGEND
, ,,,,,,	<u>* ο</u> Δ "	lapilli tuff, lapilli maximum Jen pyrite dissemination very weak gray	
	_ "	colored weak silicified and argillized tuff breccia	Müdstone Müdstone
3000	Δ "	95.2m - 95.4m in the 20cm scale large hreccia horablande biotite porphyry	Sandstone
IC3 T	Δ	coarse grained tuff breecia	Tuff Lapilli tuff Tuff Brectia.
1 1 1	Δ ·	breccia 3 piece breccia sise maximum; 70cm, minimum; 15cm	Rhyolite nomblende—biotife porphyry
350.0	Δ.	103.6m - 130.7m gray colored argillized, and silicified tuff breccia	Porphyry biotite porphyry quartz biotite porphyry
110,0	· Δ	107.7m: 15cm size hornblende	Brecciaton
	Δ.	biotite porphyry ( brecoin )	inclination of plane structures
	٠,	119.5m fine grained part sampling	( bedding plane Intrusive boundary etc.)
1200	Δ,	124.8c. fragmental pyrito samples	
		126.2m gray colored tuff breacts, in 15cm size hornblend biotite porphyry	DEGREE OF ALTERATION AND MINERALIZATION
		126.4m black colored small materials	orgillization silicification pyritization mineralizatio
138.9			SIO2 FeS2 CI
	°۔ ۔	pale gray colored lapilli tuff shearing and argillized zone with pyrite fragment	fresh   < 55 %   < 1 %   < 0.2 %
1500	A .	gray colored coarse grained	weak 55 ~ 65% 1 ~ 5 % 0.3 ~ 0.59
1400	ľΔ	177.0m - 10cm breccia fragment; horn-1 blende biotite porphyry 139.7m - 10cm width shearing part	medium 65 - 80% 5 ~ 10 % 0.6 ~ 0.91
	Δ."	142.6m brecola size:5cm biotite porphyr, 144:2m brecola size:8cm biotite porphyr,	strong = 1,5 > 80.%   > 10.%   > 1.%
[[]]	" <u> </u>	[46.Cm brockis size:   Ocm hornblands   biotite porphyry	
	->::- 	147.5m brecois size: 10cm hornblenie  15 biotite porphyry  147.6m width: 30cm argillized part	★ fresh: unaltered
AND PARTIES.		150.7m pyrite discemination silicified	weak : parts of feldspar phenocrysts changed
	Δ.	breccia size:   cm x Pcm	medium: almost att the feldspor phenocryst
. 156.	<u>-</u> 5 %	biotite porphyry 155.9m breccia size; 15cm byrite isprognated milicified sandstone	changed into clay minerals strong : not only feldspar phenocrysts but also ground
		argillized and gray colored lapilli tuff 157.0: 2.5cm pyrite impregnated gilici-	是这个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一

										. !		-			
	7.7	•		7mm width drusy pyrite veinlet medium arghlized zone small grained lapilli tuff	Ĭ	•	1	1		:					
7	1.4	* O	<u> </u>	lapilli size: tcm tcm clay pyrite veinlet graysh colored	١	•	f :: 	1	•			`\			
7	1.7	10		modium argillized, lapilli tuff partly crushed	1		} 	į		i			•		
7	7.9	- 4		weak argillized tuff breezin, greenish gray colored	1		l ;	!		i 					•
	900	Δ .		broccic size maximum 5cm and medium argillized			[ . 	÷							
B	4.3	Δ.	-00	fragment: medium grained sandstone and hornblende biotite perphyry 77.3m - 78.2m breccia lapilli size: 1cm	\ \		! !	1				:		:	
8	7.3	<del>2</del> ~	لاقط	- 1.5m argillized and shearing part 85.3m - 85.6m weak silicified part gray	Y			1		:					
Ċ	- 1	, °	_	colored weak silicified and argillized	-			;		j . I					
19	1.9	<u>"О</u>		lapilli tuff, lapilli maximum 3cm pyrite dissemination very weak gray				1		!					£
	ŀ	- 		colored weak silicified and argillized tuff				:		i 	·				
		Δ"		95.2m - 95.4m in the 20cm scale large	1			1		! !					
- 1	2.7	, Δ		coarse grained tuff breedia				:	٠		,	-			
		Δ •		102.5cm - 103.6cm big biotite porphyry treccia 3 piece				i				,			-
Q		-Δ		breccia size maximum:30cm, minimum: 15cm 103.6m - 130.7m gray colored argillized,				1		!-		:		1	
ļ	0.0	Δ '		and silicified tuff breccla	-	•. '		i		[   .			;		
i		"Δ.		107.7m: 15cm size horrblende biotite porphyry (tressia)				į		:					-
1		Δ •		119.5m fine grained part				1	•				:	}	
1	00	٠Δ.		Bampling				1		i				:	-
0.		Δ"		124.8m. fragmental pyrite samples		-		į	4	; 	,				
	-	" Д		126.2m gray colored tuff breedia, in 15cm size hornbland biotite porphyry	4			1		; •		٠.	;		
:		Δ.		126.4m black colored small unterials	١			-		ŀ	, .				
ł	30.0 30.	0 *	ŀ	pale gray colored lapilli tuff shearing	h	. •		i		į.,	,				
į	34.5	10		and argillized zone with pyrite fragment gray colored coarse grained			l I	1		1					
o.''		Δ.		134.5m - 156.4m tuff breccia.	Ÿ		l ı	1		:				1	
1.	100	• Δ	مت	137.Cm - 10cm breccia fragment: horn- blende biotite porphyry 139.7m - 10cm width chearing part	Ì		1	- {				• ;	1		
٠.	•	Δ "		142.0m breccia size:5cm biotito porphyr; 144.2m breccia size:8cm biotito porphyr;			1 1	1		17					,
:		" △		146.0m breckia size:10cm hornblende biotite porphyry	Ì		i	- [		:		,			
		Λ	1.5	147.5m breecia size: 10cm hornblende biotite porphyry	ľ		1	1		•					
اره) ال	50.0	Δ <b>*</b>		147.6m width; 30cm argillized part 150.7m partie discomination silicified		-	¦ +	Ì	٠	į		;			
-		١.		broccia size: tem x 2cm 153.8m Treccia size: 15cm hornblende	Ĭ		1	i		i					
,	٠.	Δ "	ł	bictite porphyry 195.9m breccia cize; 19cm tyrito		•	1	1		-					
1	ģĝ,o	0 7 101 - 101		imprognated cilicified sandstone argillized and gray colored lapilli tuff			į .	-		<u> </u>					
1	62.	~ ≥		197.0: 2.5cm pyrite impregnated filici- fied sandstone breckin lapillicituff lapilli size maximum 2cm, clay part			 	ĺ		!					•
1	65. 67.	. O		( fault clay with ion candatone and			! !	-					:		
	foo	Δ ,,	1	porphyry pobble,) tuff breccia is lormblende biotite porphyry mime: 5cm		1	1	Ì		1					
:		~ ~		169.2m - 183.4m grayish white colored fault clay zone			1		·	1			•		
ĺ.	ar .	~~	Ì	176.3m: by X- ray analyzed with average size tem fault breccia			į			ŀ			:		
1	76.	~	1	pyrite weak impregnate			] 	•		-			:		
J	80 C	~	<b>-</b> 5	180.2m 2cm pyrite vein			١.		•	i	2162,	180	2.0	2.0	0.25
	83. 84.	~	<b>2</b> 0	180.4m Sem biotite porphyry pebble 182.2m pyrite network	\	}	j			1	2163	184	2,0	2.0	0.12
:	87.	^ ^		183.4m gray colored medium silicified and argillized biotite porphyry	ľ	ļ					2164	186 188	2.0	2.0	0.39
	900	۸		dem width pyrite veinlot			Ϋ.				2166	190	5.0		0.15 0.47
- 1	93.	~ ^		silicified and pyrite networked zone chalcocite	ſ	]					2167 2168	192 194	2.0	2.0	0.17
	194.		1	argillized and chearing part silicified and argillized redion part	)			Ì	}		21 69	196	2.0	2.0	0.12
20	00.00		1	pyrite notwork and dissemination part chalcocite weak							2170 2171	198 200	2.0	2.0	
- [	202.	^ ^	]	200 - 202.3 argillized part weak pyritization	ļ	}	ļ.	1			2172	202	2.0		0.00
:	205.	^ ^	5 <u>تم</u>	network and dissemination zone 2cm quartz pyrite veinlet			Ή	1	) ·		2173	204 206	2.0	i	0. 15 <sup>1</sup>
١		^ ^		strong silicified and brecciated part							2175	208	2.0	[	0.85
	210.	^-	20	breccia: biotite porphyry  3mm width quartz pyrite veinlet with	֡֡֞֜֞֜֜֡֡֡֜֜֜֜֜֡֡֜֜֜֜֡֡֡֡֜֜֜֡֡֡֡֡֡֡֜֜֜֜֡֡֡֡֡֡	\ ;		ļ		Y	2176	210 21 <b>2</b>	2.0	. [	0, 18
201		^^	٥٠	wear chalcocite 210.5m - 218.8m medium milicified and		i '			1		2178	214	2.0	- 1	0. 52
		^ ^		argillized part pyrite network and dissemination		1			. !		2179	216 216	2.0	- 1	0, 06
	218. <b>220 ¢</b> 221.	^ ^	- 5	3cm quartz pyrite vein		ļ.,		. }	L	\	2181	220	2.0		0, 20
	22.	^	<u> </u>	gray colored coarse grained lictite porphyry 3mm width pyrite vein, biotite relict;							2182	22 <b>2</b> 224	; 2.0 ; 2.0 ;		0, 16
- 1			1	7 - 1cm			Ш.		[ :		2.84	226	2.0	i	1.44
ļ	26.	^^^	<u> </u>	strong milicified and pyritization zone		( )	;	- 1					- '		
٥d		^		strong silicified and pyritization zone pyrite, notwork and dissemination pyrite chalcocite veinlet width: 4mm					Ì	$\ $	2185 2186	226 230	2.0	2.0	0.27
20	230.0 230.0	^^		strong silicified and pyritization some			)    -			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	218 <b>6</b> 2187	230 232	2.0	2.0 2.0 2.0	0.27 0.25 0.26
20	2 <b>300</b> 230. 232.	^		strong ellicified and pyritization come pyrite, notwork and discemination pyrite chalcocite veirlet width: 4mm 276.2m - 246.2m medium argillized and silicified zone pale gray colored redium grained biotit porthyry 4mm pyrite chalcocite veinlot	•		)  - 	į			2186	230	2.0	2.0	0.27 0.25 0.26 0.16
20	230C	^^		strong silicified and pyritization some pyrite, notwork and discomination pyrite chalcocite veirlet kidth: 4mm 226,2m - 246,2m medium'argillized and silicified zone pale gray colored redium grained biotit porphyry 4mm pyrite chalcocite veinlot 230,1m - 256,2m strong cilicified zone with pyrite network and disconduction 5mm - 7mm width druny pyrite voinlet	<b>!</b>		)(.   				2186 2187 2188 2189 2190	230 232 234 236 238	2.0 2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0	0.27 0.25 0.26 0.16 0.08 0.14
20	2 <b>300</b> 230. 232.	^ ^ ^ ^ ^		strong ellicified and pyritisation some pyrite, notwork and discomination pyrite chalcocite veirlet width: 4mm 276.2m - 246.2m medium'argillized and allicified zone pale gray colored redium grained biotith porphyry 4mm pyrite chalcocite voinlet 27%.1m - 256.2m strong cilicified zone with pyrite retwork and diosendration							2186 2187 2188 2189	230 232 234 236	2.0 2.0 2.0 2.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0	0.27 0.25 0.26 0.16 0.08 0.14

## LEGEND

Burmese Hole No

Brecciaton

# DEGREE OF ALTERATION AND MINERALIZATION

argillization *	silicification	pyritization	mineralization
fresh	5102 < 55 %	F•S2 <   %	cu < 0.2 %
weak	55 ~ 65%	1 ~ 5 %	0.3 ~ 0.5%
medium	65 ~ 80%	5 ~ 10 %	0.6 ~ 0.9%
strong	> 80 %	> 10 %	> 1 %

🔅 fresh

parts of feldspar phenocrysts changed

into clay minerals

the feldspor phenocrysts

clay minerals

strong : not only feldspar phenocrysts but also ground-

mass changed into clay minerals

( by field observation)

#### ABBREVIATIONS

Araillization Silicification Pyritization Kaolinization Sericitization

Chalcopyrite

: Width

:	50.0	Δ .		biotite porphyry 147,6m width: 30cm argillized 1			!	. I	1	ļ		1	٠.	
20	, y y, U	- Δ		150.7m pyrite dissemination sil	[ ]	ļ	1	į	į	ŀ	į	1 1		1
		Δ,,		153.8m treccia size: 15cm horn'			!	1	1		1			1.
	156.	ت ت		195.9m breccin size: 15cm tyrn	DP .1 1		i						i	
	[6 <del>9</del> .0	- 10 10		argillized and gray colored la 157.0: 2.5cm pyrite imprognate	i zilici-		1	*	<del></del>					
	162.	ō :		fied sandstone breccia lapilita lapilli size maximum 2cm, clay	part		1			:	!		:	
00	165. 167.			( fault clay with tem sandaton perphyry pebble.)	1			•			i	i i		
	į foc	Δ "		tuff breccia is hornblende bid porphyry size: 5cm 169.2m - 183.4m grayish white	- 1 1						İ			Ì
	İ	~~	ļ	fault clay gone	1.1		i							
	176	~	]	176.3m: by X- ray analyzed with size tom fault breccia	2707080		1		ļ	<u> </u>		; ;		
		~	]	pyrite weak impregnate		11.	. ;		١.		160			
~	, <b>8</b> 0	h	15	t80.2m 2cm pyrite vein 180.4m 5cm biotite porphyry	pebble						2162, 182 2163 184	2.0 2.0 2.0 2.0	0.25 0.12	Ì
•••	184	: <del> ~~</del>	40	182.2m pyrite network 183.4m gray colored medium si	licified	$\ $					2164 186	2.0 2.0	0.39	
	ļ 187	^		and argillized biotite porphy  4mm width pyrite veinlet	ry	Y	- [[				2165 188	2.0 2.0		
	190	• ∴	}	milicified and pyrite network	ed zone	Ţ.	ľ	•	.		2166 190 2167 192	2.0 2.0		
	19) 19	1 4 -	<del>)</del>	chalcocite argillized and shearing part		Ų	1				2168 194 2169 196	2.0 2.0	0,10	
		"	7	silicified and argillized red	lium part	Å	-		Ŋ		2170, 198	2.0 2.0	0.08	ì
55 <u>C</u>	20X	اه،	_	pyrite network and disseminat chalcocite weak		$\ $	:		γ.		2171 200 2172 202		1	1
	20	2.	4	200 - 202.3 argillized part weak pyritization	]	Ĭ	: <u>}</u> ]				2173 204		0. 15	-
	20	5. <u> ^</u>	<u> </u>	network and dissemination zer Zem quartz pyrite veinlet	1	į				h	2174 206 2175 208	1 1 .	0.73	
	_	^	۱	strong milicified and brecc breccia: biotite porphyry	inted part	-	$\left\{ \right\}$	) [		$\mathbb{I}$	2176 210	2.0 2.0	0.18	
	- [-]	٦,	-12:0	3mm width quartz pyrite vein weak chalcocite	let with	h			Y		2177 217		1 1	- }
70		<u> </u>	<u>^_</u> º	210.5m - 218.8m medium silic argillized part pyrite netwo	ified and rk and	∥		1			2179 210	2.0 2.	1	
	12	1e.	<u> </u>	dissemination  3cm quartz pyrite vein	Ì	╢			$\prod_{i=1}^{n-1}$		2180 21	1 1 -	0 0.06	- 1
	22	20 <u>^</u>		gray colored coarge grained	!iotite	Y	1			$\mathbb{I}$	2182 22		0 0.16	
1	22	2.1	- "	porphyry  3mm width pyrite vein, blot:  7 - ich		1		) :			2183 22	1	- (	
L	- 1	26.7	<u>^ _</u>	strong silicified and pyrit pyrite, natwork and discemi pyrite chalcocite veirlet N	ization zone nation idth: 4mm	Ì	ų	Л		∟ij	2165 22	8 2.0 2.	0 0.27	-
<b> </b> *	200 2	30 <b>. T</b> —	^_	226.2m - 246.2m medium argi	IIIEGG MM		 			ľ	2186 23		.0 0,25 .0 0,26	l
		32 <b>.</b> ^	<u> </u>	pale gray colored medium gr			1	!		.	2188 23 2189 23		.0 0.16 . .0 0.08 ;	
ļ	l þ	<del>3</del> 6	^뇬	4mm pyrite chalcocite veinl 232.in - 236.2m strong mili with pyrite network and dis	semination								.0 0.14	
١	1	400 -		5mm - 7mm width drusy pyric 236.2m - 246.2m argillized		ij	[ . <sup>]</sup>	γ.		. ү			.0 0.07	ŀ
١,	00.0	^		gray colored medium grained porphyry 4mm pyrite chalcocite veinl				$\ $		-	2193 2	44 2.0 2	0.14	i
ľ	-	46.	<u>^</u> _	7mm pyrite veinlet 5 246.2m = 254.1m strong sil:		}		ľΩ:	·		1	17 1 1	2.0 0.07	j
		2500	- 1	bictite perphyry groundmass change to smal aggregation with pyrite ne	ll quartz twork and					:	2196 .2	-	2.0 0.10	Ì
ļ		۳٦,	^	pyrite dissemination weak			١,	Y	·		1	. [ 1	2.0 0.04	
١		254.	\ <u> </u>	biotite relict: 7mm  5mm width pyrite veinlet 254.1m - 268.5m; medium ar	gillized		1	Ï			, , ,	256 2.0	2.0 0.10	
١	8500	257.		weak silicified zone pyritization and copper mi							.		2.0 0.06 2.0 0.04	
		2600 /	- 1	poor coarse grained argillized	tiotite					1	: 1		2,0 0,08	
		265.	$^{\prime}$	porphyry 2mi clay pyrite veinlet wi	th chalcocit	•			:		1 12		2.0 0. 11	
		1	`\]	biotite relict: 5mm -7mm cs felderar phonocryst: 6mm	- 8nz		:		!	1	2205	268 2.0	2.0 0.10	•
		268. 2700	<u>,                                    </u>	2mm clay pyrite veinlet w	ith chalcocit Lotite porphy	-	∥ :			-•		270 2.0	2.0 0.09 2.0 c.04	
	9,000	.	<u>,</u> ^	ry weak silicified and are width: 30cm, shearing and	21171502100		╢	Ţ			1 1	274 2.0 276 2.0	2.0 0.05	
		275.		hiotite relict 5mm brecciated part; medium s	ilicified			.	1	•	2209	278 2.0 278 2.0	2.0 0.10	1
			^^	25			╢.	∜	. ≬		2211	280 2.0 282 2.0	2.0 0.10	
	:	282.		nedium argillized and weat part pyritization poor		ı	V	$\lambda$			2212	282 2.0 284 2.0	2.0 0.07	
			^,	282.3m - 287.0m etrong fi	licified and		į				2214	286 2.0 288 2.0	2.0 0.07	•
	950	287. 0258.	~^	silicified and shearing ;	art						2216	290 2.0	2.0 0.03	i
		290.0	^	argillization and milicin	ication ork and disse	_		.			2217	292 2.0 294 2.0	2.0 0.05	1
		293. 295.		mination chalcite and pyrite vein	let					) i	2219	296 2.0	2.0 0. 14	
		295.	^ ^	205.3m = 295.6m pyrite c	alcocite ict: 5mm		$\ $	:		\	2220	298 2.0	2.0 0.00	ì
		\$600 301	$\frac{\lambda}{\lambda}$	299.8m - 300.2m receist network part bottom: 301.3m modium gr	ed and pyrion	1 20-	$\perp$	$\perp \parallel$	Ш		2222	300.3 2.0	2.0 0.06	1
	00	1	•	histite porphyry				1	ļ					
			ŀ					!	1.					-
		310.0	-											

weak : parts of feldspar phenocrysts changed

into clay minerals

medium almost all the feldspar phenocrysts changed into clay minerals

strong : not only feldspar phenocrysts but also ground—

mass changed into clay minerals

( by field observation)

#### ABBREVIATIONS

arg : Argillization : Siticification sil : Pyritization

: Kaolinization

; Sericitization : Chlorifization

ch : Alunitization

Chalcopyrite C C P.

c c. : Chalcocite en. : Engraite

; Veinlet

; Width

1-29

· ...