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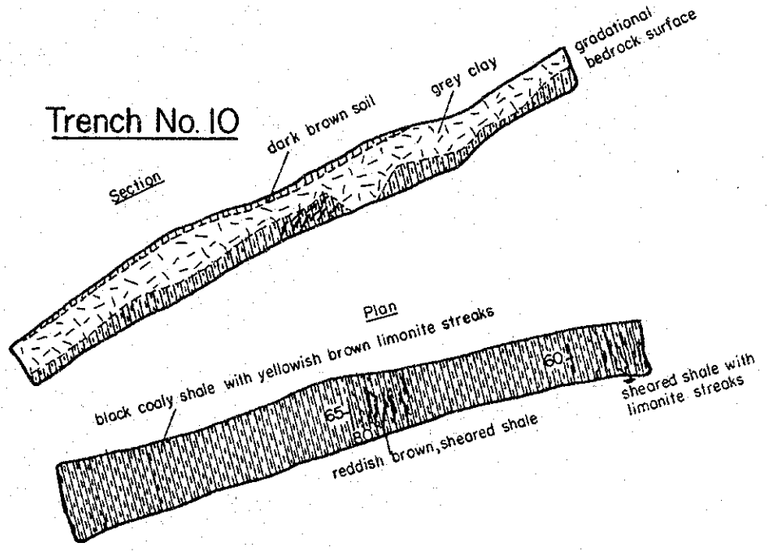
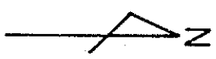
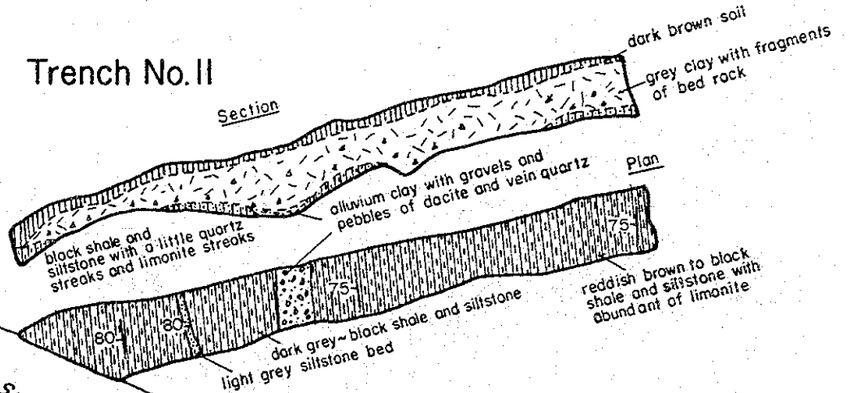
Geology of Trenches No. 10 and No. 11

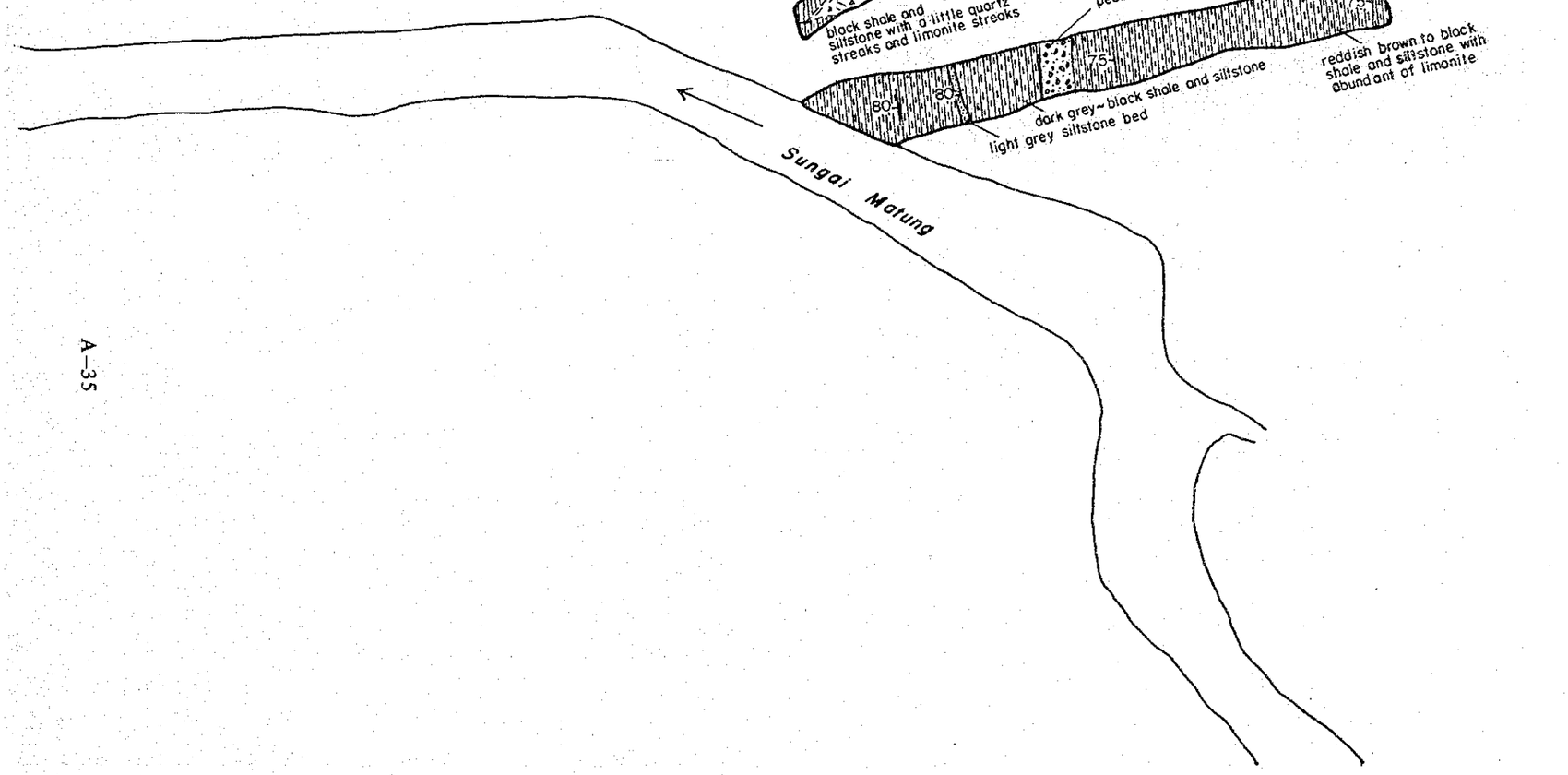
Trench No. 10





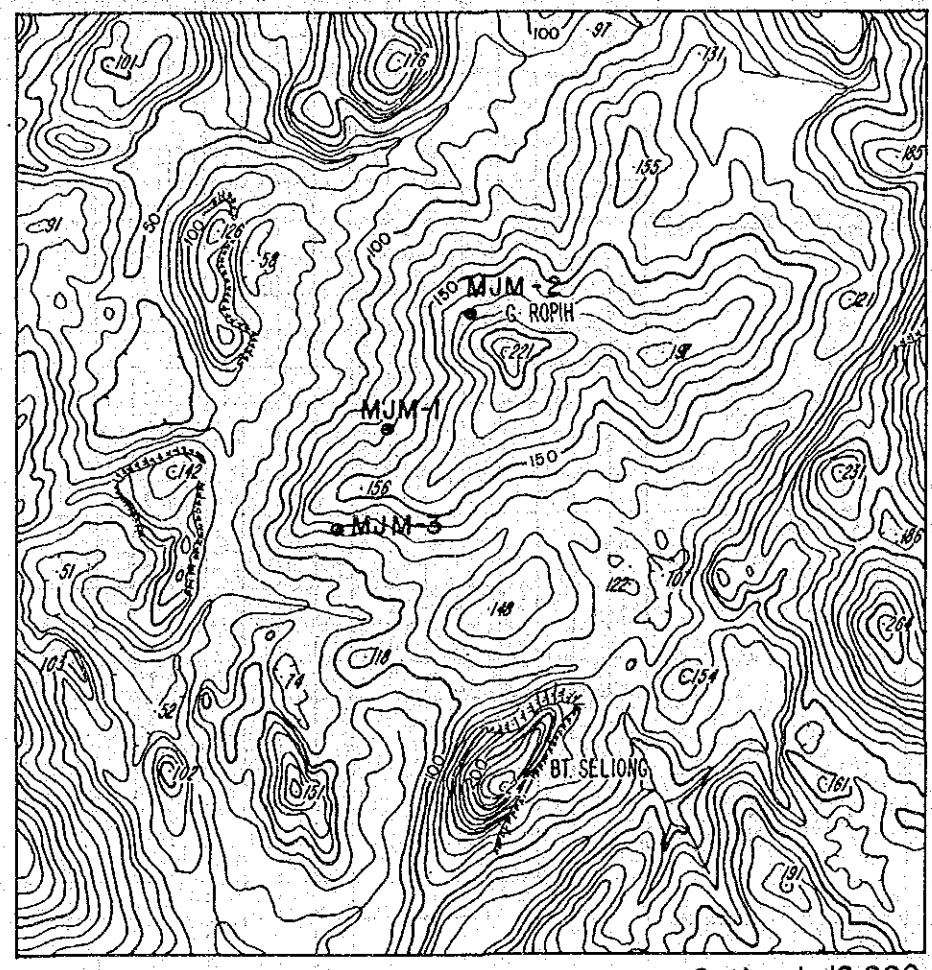
Trench No. 11





Appendix 11 Drill Logs, Gunung Ropih Area

MJM-1	total depth :	241·3 m	vertical
MJM-2	"	250·5 m	vertical
MJM-3	"	200·8 m	vertical



Location map

Scale 1 : 10,000

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Drilling Log of MJM-1 , Gunung Ropih Area depth (0 m ~ 40 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein Density	Wd (m)	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil			Au	Cu	Mo
10	Non - Core																							
15.00																								
	L~L	soft, white, altered quartz porphyry														3								
	~L~															3								
	L~L															3								
	~L~															3								
	L~L															3								
20	~ ~																							
	~L~	soft, altered quartz porphyry yellow color														3								
	L~L															3								
	~L~															3								
	. . .	dark yellow soil														?								
	. . .															?								
	. . .															?								
	. . .															?								
	. . .															?								
	. . .															?								
30	. . .															?								
31.00	. . .															?								
	L L	hard, light grey quartz-porphyry fresh hornblende phenocryst										2						$2^?$	2	0				
	L					I						2						$2^?$	2	0				
	L L											2						$2^?$	2	0				
	L~L	soft, light greenish yellow, weathered quartz porphyry														?		?		0				
	~L~															?		?		0				
	L L L	hard, light grey quartz porphyry fresh hornblende phenocryst																		0				
	L~L	soft, light greenish yellow, weathered quartz porphyry										2						$2^?$	2	0				
	~L~															?		?	?	0				
	///	altered quartz porphry? only siliceous part remains.																	?	0				
40	///																							

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LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-1 , Gunung Ropih Area depth (40 m ～ 80 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein Density	Wd (m)	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil			Au	Cu	Mo
		altered quartz porphyry? only siliceous part remains																	?	0				
																			?	0				
																			?	0				
		highly silicified, brecciated quartz porphyry with black spots		1?	1	2						1		2					3	5				
				1?	1	2						1		2					3	5	1.60	tr.	0.15	27
		highly silicified quartz porphyry, original texture disappears				1						2		1					3	5				
						1						2		1					3	5				
						1						2		2					3	5				
		with black spots (chalcocite?)		1?	1	2						3		2					3	10				
50						1						3		1					3	5				
						1						3		1					3	10				
						1						3		2					3	20				
						1						2		1					3	20				
		with black spots (chalcocite?)		1?	1	1						3		1					3	20				
						1						2		1					3	20				
						2						2							3	40				
		altered quartz porphyry, original texture appears.				1						2							3	40				
						2						2							3	70				
		quartz porphyry, original texture appears.				1						1							1	30				
60		altered quartz porphyry, original texture appears.				1						1							3	20				
		highly silicified quartz porphyry, original texture disappears				1						1							3	10				
						2						1							3	≤10				
		quartz porphyry, original texture appears with many garnet patches				1						2		2					2	10				
						2	1					3		3						20				
						1	1					3		1					1	40				
		highly chloritized, brecciated quartz porphyry				2	2					3						2?	2	20	2.00	tr.	0.11	56
						2	2				2	3		2				2?	2	10				
						1	1					3						2?	1	20	2.00	tr.	0.07	66
						2	2					1						3?	1	30				
70		highly altered part, skarn minerals occur (garnet, chlorite and epidote)				3	3				3	3	2	2				2?	1	50	2.00	tr.	0.10	125
						3	2			2?		3	1	3					1	30				
		highly altered quartz porphyry				3	3					2						3?	2	5	2.00	tr.	0.09	67
		altered quartz porphyry, original texture appears					1					2						2?	2	5				
						2	1				1	2						3?	2	5				
						2	2					2						3?	2	5				
		quartz porphyry original texture appears quartz veinlet rare					2					2						2?	3	0				
						1	1				1	2						2?	2	0				
							1					2						2?	2	0				
							1					2						2?	2	0				
80						1	1					1						1?	2	5				

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LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-1 , Gunung Ropih Area depth (80 m ~ 120 m)

Depth (m)	Column	Description	Mineralization									Alteration							Vein	Wd	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	(m)	Au	Cu	Mo
		quartz porphyry, original texture appears				1	1					2	1					1?	2	0				
						1						2	1					1?	2	0				
		weathered quartz porphyry				1						2	1			3?				0				
												2				3?				0				
		quartz porphyry, original texture appears				1						2							2	5				
						2	1					2	1					1?	2	5				
		quartz porphyry original texture appears, partly brecciated				1	1					2						2?	2	30				
						2	1					2						2?	2	30				
						1	2					2	1					2?	2	30				
90						2	1				1	2	1					2?	2	40				
						2	1					2	1					2?	2	60				
						2	1					2	1					2?	2	60				
		altered quartz porphyry, original texture appears				2	1					2	1					2?	2	5				
						1	1				1	2	1					2?	2	10				
		highly altered quartz porphyry original texture disappears, with many quartz veinlets				2	1					2	2					2?	2	50				
						2	1					2	2					2?	2	60				
						2	2					2	2	1				2?	2	50				
						2	1					2	1					3?	1	50				
						2	2					2	1	1					1	60				
100						3	1					2	2						1	70				
							3					2	2						2	50				
												2	2						1	40				
							2					2	2					1?	1	60				
						2	3					2	2	1					1	70				
						1	3					1	1	1				1?	1	80				
						1	3					1	1	1				1?	1	90				
		highly altered, brecciated quartz porphyry				2	2					3	3						2	30				
						2	2					3	3					1?	2	0				
		weathered, brecciated quartz porphyry				1	1					3	3					1?	2	0				
110												2	3	2				2?		0				
		highly altered, brecciated quartz porphyry					2					3	3					1?	3	0				
		altered quartz porphyry original texture appears.				2	2					2	3					1?	3	0				
						1	3					2	3	1				1?	3	0				
		quartz porphyry, original texture appears.					2					3	2	1				1?	3	0				
						1	2					3	1					1?	3	0				
		altered, brecciated quartz porphyry				2	2					3	1	2				1?	3	0				
						2	2					3	3	2				1?	3	0				
						1	1					3	2	1				1?	3	0				
		quartz porphyry, original texture appears										2	2					2?	3	0				
120												2	1					2?	2	0				

SP. 3017/11/84

LEGEND

Mineralization
- Ma : Malachite
- Cc : Chalcocite
- Bo : Bornite
- Cp : Chalcopyrite
- Py : Pyrite
- Ga : Galena
- Sp : Sphalerite
- Mo : Molybdenite
- Po : Pyrrhotite

Alteration
- Chl : Chlorite
- Epi : Epidote
- Gar : Garnet
- Cal : Calcite
- Kao : Kaolinite
- Mon : Montmorillonite
- Ser : Sericite
- Sil : Silicification

Ore Minerals
- 3 : abundant
- 2 : common
- 1 : rare

Degree of alteration
- 3 : strongly altered
- 2 : moderately altered
- 1 : weakly altered

Analysis
- Wd : Sampling width
- Au : Au content (g/t)
- Cu : Cu content (%)
- Mo : Mo content (ppm)

Drilling Log of MJM-1, Gunung Roplh Area — depth (120m ~ 160m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein	Wd	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	(m)	Au	Cu	Mo
		quartz porphyry, original texture appears				1	1					2	1					2?	2	0				
		highly altered, brecciated quartz porphyry				2	2					3	3					3?	1	0	2.00	tr	0.05	84
						2	1					3	3					3?	1	0				
						2	1					3	3	1				3?	1	0	2.00	tr	0.07	52
						2	1					3	3	1				3?	1	0				
						1	2					2	2					3?	2	0				
		altered quartz porphyry, original texture slightly appears				1	1					2	2					3?	2	0				
						1	1					2	2					3?	2	0				
						1	1					2	2					3?	2	0				
						1	1					2	2					3?	2	0				
130		matic mineral rich				1						2	1					3?	1	0				
		altered quartz porphyry, original texture slightly appears				2	1					2	1					3?	1	0				
						2	1					2	1					3?	1	0				
						1	1					2	1					3?	1	0				
						1	1					2	1					3?	1	0				
						2	1	1				2	2	1				3?	1	0	2.00	tr.	0.07	46
						2	1	1			1	2	2					3?	1	0				
						2	1	1				2	2	1				3?	1	0	2.00	tr	0.06	53
		brecciated quartz porphyry				2	1				1	2	1					3?	1	50				
140		altered quartz porphyry, original texture appears. with many quartz veinlets				2	1					2	1					3?	2	30	2.00	tr	0.14	50
						2	1					2	1					3?	2	40				
						2	1				1	1	1	1				3?	2	50	2.00	tr	0.27	95
						3	1					2	2	1				3?	2	60				
						2	1					2	2	1				3?	2	80	2.00	tr	0.21	36
						1	1					1	1					3?	2	80				
						1	1				1	1	1					3?	2	80	2.00	tr	0.13	18
						1	1					1	1					3?	2	60				
						1	1					1	1					3?	2	60	2.00	tr	0.13	23
						2	1					1	1	1				3?	2	80				
150						1	1					1	1					3?	2	60	2.00	tr	0.18	24
						1	1				1	2	1							40				
						2	2	2				2	2						3	80	2.00	tr	0.15	17
						1	2	1				1	1						2	15				
		altered, brecciated quartz porphyry				2	2	1				2							3	10	2.00	tr	0.12	22
		altered quartz porphyry, partly brecciated, quartz veinlet rare				1	2	2				2							3	0				
						2	3	1				2	2						3	0	2.00	tr	0.17	74
		altered quartz porphyry, original texture slightly appears				2	3	1				2	2						3	40				
						1	2					2	1						3	30	3.00	tr	0.25	64
						1	2					2	1	1					3	30				
160		altered brecciated quartz porphyry				1	2	1				3	3	1					3	30				

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LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-1 , Gunung Ropih Area　　depth (160 m ~ 200 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein	Wd	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	(m)	Au	Cu	Mo
		altered quartz porphyry, original texture appears.				2	2	2				3	1	1					3	40	2.00	tr	025	124
		Pyrrhotite occurs along crack.				2	2	3				3	1						3	35				
						2	2	2				3	1						3	30	2.00	tr	023	104
						2	2	2				2	3						3	30				
						2	2	2				3	3	1					3	30	2.00	tr	025	93
						2	2	1				2	3	2					3	40				
						2	2	2				2	2	2					3	30	2.00	tr	019	50
						2	2	1				2	2	2					3	20				
						2	1	1				2	3	2					2	20	2.00	tr	016	37
170		altered, brecciated quartz porphyry skarn minerals occur				2	1	1				3	1	2					2	50				
						2	2					3	2	1					3	30	2.00	tr	022	25
		highly altered quartz porphyry original textuere disappears, garnet patches abundant				2	2	1				3	2	2					3	60				
						3	2	1				3	3	2					3	40	2.00	tr	018	30
						2	2	1				3	3	2					3	30				
						2	2					3	3	2					3	30	2.00	tr	017	46
						2	2					3	3	2				1?	3	30				
						2	2					3	3	2					3	40	2.00	tr	015	49
						2	2	1				3	3	2					3	30				
						2	2	1				3	3	1					3	30	2.00	tr	015	41
180						1	1	3				3	2	2					3	20				
						3	1	1				3	2	2					3	20	2.00	tr	019	66
						3	1	1				3	3	2					3	60				
						2	1	1				2	2	2					3	40	2.00	tr	029	43
						3	1					3	2	2					3	40				
						3	1					3	2	2					3	10	2.00	tr	011	48
						2	2					3	2	2					3	10				
						3	1					2	2	2					3	30	2.00	tr	012	59
						2	1					2	2	2					3	30				
						2	2					2	2	2					3	30	2.00	tr	017	41
190						2	2					2	2	2					3	30				
		altered quartz porphyry, original texture appears.				1	1					3	1					1?	3	30				
						2	2					3	1					1?	3	20				
						2	2					3	1	1				1?	3	10				
		altered, brecciated quartz porphyry				2	2	1				3	2	1				1?	3	10				
		highly silicified quartz porphyry original texture slightly appears				1	1					3	1	1					3	10				
		highly altered quartz porphyry original texture disappears, garnet patches abundant quartz veinlets few.				1	1	1				3	1	2					3	20				
						2	1	1				3	1	3					3	10				
						2	2					2	2	3					3	10				
						2	1					3	1	3					3	10				
200						1	1					2	1	1					3	10				

SP 3018/11/84

LEGEND

Mineralization
Ma : Makchite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-1, Gunung Ropih Area — depth (200m ~ 240m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein Density	Analysis			
			Ma	Cc	Bo	Cp	Py	Po	Go	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil		Wd (m)	Au	Cu	Mo
		highly altered quartz porphyry original texture disappears				1	1					2		1					3	5				
						1	1					2	1	2					3	5				
		altered quartz porphyry original texture slightly appears.				2	1					2	1	2					3	5				
						1	1					2	1	1					3	5				
						1	1					2	1	1					3	5				
						2	1	1				2	1	1					3	10				
						1	1					2	1	1					3	5				
						1	1					2	1	1					3	5				
						1	1					2	1	1					3	5				
210		garnet patches abundant				1	1					3	1	3					2	5				
						1	1	1				3	1	2					2	5				
						1	1	1				3	1	2					2	5				
		Chalcopyrite Po along crack				2		2				3	1	2					2	5				
		altered brecciated quartz porphyry				1		2				3	1	1					2	5				
							1	2				3	1	1					3	10				
								2				3	1	1					3	5				
							1	2				3	1	1					3	5				
						1		2				3	2	2					3	5				
						1		2				3	2	1					3	5				
220		Cp, Py along cracks				2	2	2				3	1	2					3	5				
						1	1	2				3	1	1					3	5				
						1		2				3	2	1					3	5				
		altered quartz porphyry				1	1	2				3	1	1					3	5				
		altered, brecciated quartz porphyry				1						3	2	1					3	5				
						1	1					3	1	1					3					
						1	1					3	2	1					3	5				
		altered quartz porphyry original texture appears										2	1						3	0				
						1	1					2	1						3	5				
		altered, brecciated quartz porphyry				2	1	2				2	1	1					3	0	2.00	tr,	0.13	55
230		Cp, Py, Po along cracks				3	2	2				2	2	2					3	5				
		altered quartz porphyry original texture appears				1	1	1				2	1	1					3	0				
		altered, brecciated quartz porphyry				1	1	1				3	1	1					2	5				
		altered quartz porphyry, original texture appears, partly including fragments silicification weak				1	1					3							2	0				
							1					3							1	0				
							1	1				3							1	0				
							1	2				3							1	0				
							2					3							1	0				
						1	2	1				3							1	0				
							2					3							1	0				
240							2					3							1	0				

SP 3016/11/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Go : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-1, Gunung Ropih Area — depth (240 m ~ 241.3 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein	Wd	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	(m)	Au	Cu	Mo
241.30	L L L L L	altered quartz porphyry original texture appears					2					3							1	0				

SP 3015/11/84

LEGEND

Mineralization
- Ma : Malachite
- Cc : Chalcocite
- Bo : Bornite
- Cp : Chalcopyrite
- Py : Pyrite
- Ga : Galena
- Sp : Sphalerite
- Mo : Molybdenite
- Po : Pyrrhotite

Alteration
- Chl : Chlorite
- Epi : Epidote
- Gar : Garnet
- Cal : Calcite
- Kao : Kaolinite
- Mon : Montmorillonite
- Ser : Sericite
- Sil : Silicification

Ore Minerals
- 3 : abundant
- 2 : common
- 1 : rare

Degree of alteration
- 3 : strongly altered
- 2 : moderately altered
- 1 : weakly altered

Analysis
- Wd : Sampling width
- Au : Au content (g/t)
- Cu : Cu content (%)
- Mo : Mo content (ppm)

Drilling Log of MJM-2, Gunung Ropih Area — depth (0 m ~ 40 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein Density	Wd (m)	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil			Au	Cu	Mo
6.00	Non-core																							
		White, altered quartz porphyry					2	3								2			2					
		White, altered, brecciated quartz porphyry					2	3								2			2					
		Pyrrhotite occur along cracks					2	2								2			1					
		pyrite disseminated					2																	
10		Relatively fresh quartz porphyry					2	1								1			1					
		Phenocrysts of plagioclase altered to kaolinite					1	2								1			1					
		Calcite filling cracks.					1	2								2			2					
		White, altered, brecciated quartz porphyry					2	3								3			1					
		Calcite and pyrite filling cracks.					2	2								3			1					
		Pyrrhotite disseminated					2	2								3								
		Pyrrhotite-malachite aggregates	2				2	3								3								
							2	3								3								
			1				2	3								3								
20			1				2	3								3								
		White, altered quartz porphyry	1				2	3	1							3								
		White altered, brecciated quartz porphyry	1				2	3								3								
		Pyrrhotite-disseminated	1			1?	2	3								3								
			1			1?	2	3	1							3								
		Calcite filling cracks	1				1	3								3								
			1				1	3								3			1					
			1			1?	1	3	1							3			1					
			1				2	3	1							3			1					
		Malachite aggregates	1				2	3	1							3								
30			1				2	3								3								
			1			1?	2	3	2							3			1					
			1				2	3	1	1						2			2					
			1				1	2								3			1					
			1			1?	1	3								3			1					
			1				2	3	1							3			1					
			1			1?	2	2	1							3					200	tr	tr	9
		White, altered quartz porphyry				1?	2	2	1							2			2					
		Pyrite filling cracks				1?	2	2	1							2			2		200	tr	tr	5
			1			1?	2	2	1							3								
40			1			1?	2	2								3			2		200	tr	tr	8

SP3050/II/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-2, Gunung Ropih Area depth (40 m ~ 80 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein	Wd	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	(m)	Au	Cu	Mo
		White altered quartz porphyry	1			1?	3	2	1							2					200	tr	tr	8
		Brecciated quartz porphyry with altered	1				2	2	1							2					200	tr	tr	5
			1			1?	2	3	1	1						3								
		Calcite filling cracks	1			1?	2	3	1	1						3					200	tr	tr	7
			1			1?	2	3								3								
			1			1?	2	2								3								
						1?	2	2	1							3								
			1			1?	3	3								3								
							2	2								3								
50			1				1	2								3								
		White, altered, quartz porphyry texture disappears	1			1?	1	2								3			1					
		White altered, brecciated quartz porphyry	1				1	2								3			1					
		Calcite veinlet with galena					3	2	2							3			2					
							2	2								3			2					
						1	2	2								3			2					
							3	3								3			1					
							3	3								3			2					
							2	2								3			2					
							3	3	1							3			2					
60			1				3	3	2							3			2					
							2	2	2							3			2					
		Calcite filling cracks					2	3	2							3			2					
		White, altered, quartz porphyry					2	3	2							3			2					
							2	3								3			2					
		Brecciated quartz porphyry pyrite and pyrrhotite filling cracks					1	3								3			1					
							2	3	1							3			2					
							2	3	1							3			1					
							3	3								3			1					
							3	3	1							3			1					
70		Calcite veinlet with galena	1				3	1	2							3			1					
							1	3								3			1					
							1	2								3			1					
							2	2								3			1					
							2	2								3			1					
		Pyrite and pyrrhotite occur along cracks					2	2								3			1					
							1	3								3			1					
							2	3								3			1					
							2	3								3			1					
							2	3								3			2					
80							3	3								2			2					

SP305I/II/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-2 , Gunung Ropih Area — depth (80 m ~ 120 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein	Wd	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	(m)	Au	Cu	Mo
		Pyrite occur along cracks					3	3								2			2					
							3	2								2			2					
							2	2								2			2					
							2	2								3			2					
							2	3								2			2					
							3	2								2			2					
			1			1?	3	2								2			2		200	tr	tr	10
						1?	3	1	1							2			2					
			1			1?	3	1								2			1		200	tr	tr	8
90			1			1?	2	2								2			1					
			1			1?	3	2								3			1		200	tr	tr	6
			1			1?	3	2								3			1					
			1			1?	1	2								3			1		200	tr	tr	15
		Chalcopyrite– pyrrhotite– calcite filling crack	1			1?	1	3								3			1					
		Pyrrhotite occur along cracks	1			1?	1	3								3			1		200	tr	tr	10
						1?	2	3	1							3			1					
			1			1	1	3								3			1					
			1				1	3								3			1					
			1				2	3								3			1					
100			2				1	3								3			1					
		Pyrrhotite– pyrite aggregates calcite patch with chalcopyrite	1			1?	1	3								3			1					
			2			1?	2	3								2			1					
		White altered quartz porphyry calcite patches	1				2	3								2			1					
							1	3								2			1					
							1	2								2			1					
								2								2			1					
							1	2								2			1					
							1	1								2			1					
			1				1	1								2			1					
110		Calcite with pyrite- chalcopyrite				1?	1	2								2			1					
			1				1	2								2			1					
			1				1	2								2			1					
							1	2								3								
							1	2		1						3			1					
						1?	1	2								3			1					
							1	2								2			1					
			1					2								2			1					
							1	3								2			2					
			1				1	3								1			2					
120							2	3								2			1					

SP 3054/11/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-2, Gunung Ropih Area — depth (120 m ~ 160 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein Density	Wd (m)	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil			Au	Cu	Mo
		Grey porphyry, feldspar of phenocryst altered to kaolinite(?)					2	2								2			2					
							2	1								1			2					
		Calcite filling cracks	1				1	3								1			2					
							1	3								1			2					
								3								1			2					
								3								2			2					
							1	3								2			2					
							1	3								2			2					
							1	3								2			2					
130							2	3								2			2					
							2	2	1							1			3					
								3								1			3					
			1				2	3								1			3					
								2		1						2			3					
			1					3								2			2					
			1					3								2			2					
			1					3								2			3					
		Calcite filling cracks	1					3								1			3					
			2					3								1			3					
140			1				1	3								1			3					
			1					3								1			3					
							1	2	1							2			2					
		Pyrrhotite and pyrite occur with calcite in cracks	1					3								1			3					
			1				1	3								1			2					
			2				1	3								1			3					
			1					3								1			3					
			1					3								1			3					
								3								1			3					
		Pyrrhotite occurs with calcite in cracks						3								1			3					
150			1					3								2			3					
			1					3								2								
								3								2								
			1					3								2								
								3								2								
								3								2								
								3								2								
			1					3								2								
			1					2								2			1					
			1					3								2								
160			1				1	3								2								

SP3055/1/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM- 2, Gunung Ropih Area — depth (160 m ~ 200 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein Density	Wd (m)	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil			Au	Cu	Mo
						·	2	2				1				2			1					
							2	2				1				2			1					
							1	2				1				2			1					
							1	2	1			2				2			1					
		Calcite patches with pyrite and pyrrhotite						2				1				2			1					
								2				1				2			1					
			1				1	2				2				2								
			1				1	2				2				2								
							1	3				2				2								
170							2	2				1				2			1					
							1	2				1				2			1					
							1	2				2				2			1					
							1	3				2				2			2					
								3				2				2			2					
								3				1				2								
								3				1?				3?		?	1					
								3				2?				2?		?	1					
			1				1	3				1?				3?		?	1					
							1	3				1?				3?		?	1					
180							2	3				1?				3?		?	1					
			1				2	3				1?				3?		?	1					
			1					3				2?				3?		?	1					
			1				1	3				2?				3?		?						
							2	3				2?				3?		?						
							1	3				3?				2?		?						
								2				2?				3?		?						
							2	1				1?				2?		?						
		Grey porphyry Phenocrysts of feldspar altered to clay mineral					2	1				1?				2?		?						
							1	1								1?		?	1					
190		Phenocryst few grey silicified? porphyry					1	1								1?		?	2					
							1	1								1?		?	2					
		Gradually changes						1								1?		?	2					
		Light grey quartz porphyry Phenocrysts of quartz and feldspar many					2	2								2?		?	2					
							2	2								2?		?	2					
							2	2								2?		?	2					
							2	2								2?		?	2					
							2	2								2?		?	2					
		Gradually changes					1	2								2?		?	2					
		Grey silicified? porphyry phenocryst few						2								2?		?	2					
200							1	2								2?		?	2					

SP3052/11/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-2 , Gunung Ropih Area

depth (200 m ~ 240 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein Density	Wd (m)	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil			Au	Cu	Mo
							1	2								2?		?	2					
							1	2								2?		?	2					
		Light grey quartz porphyry hornblende phenocryst					1	2								2?		?	2					
							1	2								2?		?	2					
							1	2								2?		?	2					
							1	2								2?		?	2					
							1	2								2?		?	2					
							1	2	1							2?		?	2					
		Grey porphyry phenocryst a few					2	2								1?		?	2					
210		Light grey quartz porphyry phenocryst many					1	2		1						1?		?	2					
								2	1	1						2?		?	2					
							1	2								2?		?	2					
								2								1?		?	2					
		Grey~dark grey porphyry phenocryst few					1	2								1?		?	2					
							2	2								1?		?	2					
							1	2		1						1?		?	2					
							2	2								1?		?	2					
		Light grey quartz porphyry phenocrysts many					1	2								1?		?	2					
							1	2								1?		?	2					
220		Grey porphyry phenocryst few						2								1?		?	2					
							2	2	1	1						1?		?	2					
		Brecciated quartz porphyry consisting of different kinds of porphyries					2	2	2	2						2?		?	2					
							2	2	2	2						2?		?	2					
		Calcite veinlets with galena-sphalerite-pyrrhotite					2	2	2	2						2?		?	2					
							2	2	2	2						2?		?	2					
			1				2	2	2	2						2?		?	2					
							2	2	2	2						2?		?	2					
							2	2	2	2						2?		?	2					
								3								2?		?	1					
230							1	2	1	1						2?		?	1					
		Calcite veinlets with pyrite					2	2	2	2						2?		?	1					
							2	2	2	2						2?		?	1					
							2	2	1	1						1?		?	2					
		Calcite veinlets with pyrite-galena-sphalerite					2	2	2	2						2?		?	2					
							2	2	2	2						2?		?	2					
							2	2	1	2						2?		?	2					
			1				2	2	1	2						2?		?	1					
							1	2	1	2						2?		?	1					
							1	3	1	2						2?		?	1					
240							1	3	1	2						2?		?	1					

SP3053/11/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM- 2 , Gunung Ropih Area

depth (240 m ～ 250.5 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein	Wd	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	(m)	Au	Cu	Mo
							1	3	1	2						2?		?	1					
							1	2	1	2						2?		?	1					
								3	1	2						2?		?	1					
							1	3	1	1						2?		?	1					
							1	3	1	2						2?		?	1					
							1	3	1			2				2?		?	1					
							2	3				2				2?		?	2					
		Druse with pyrrhotite- pyrite-galena-calcite.					2	3				2				2?		?	2					
							3	3		1		2				3?		?	1					
		Pyrite patches.					3	3		1		2				3?		?	1					
250							3	3		1		2				3?		?	1					

SP3056/11/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-3, Gunung Ropih Area — depth (0 m ~ 40 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein Density	Wd (m)	Analysis		
			Mo	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil			Au	Cu	Mo
10	Non - core																							
20																								
30																								
33·90																								
40	L ~ L ~ L ~ L ~ L ~ L ~ L ~ L	Weathered, gossanized quartz porphyry																		25? 25? 25? 25? 25? 25?				

SP 3046/II/84

LEGEND

Mineralization
Mo : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : obundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-3 , Gunung Ropih Area depth (40 m ~ 80 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein	Wd	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	(m)	Au	Cu	Mo
		Strongly gossanized quartz porphyry																		25?				
																				25?				
		Light greenish grey quartz porphyry																		30?				
																				50?				
																				65?				
		White, weathered, weakly gossanized quartz porphyry																		65?				
																				50?				
																				50?				
																				50?				
50																				50?				
		Original texture appears, quartz porphyry				2	1					2	2	1				2?	1	60	2.00	tr	0.30	21
						2	1					2	2	1				2?	2	50				
		Original texture disappears, altered quartz porphyry quartz veinlets cut by calcite veinlet				2	2					1	2	1				1?	3	95	2.00	tr	0.21	21
						2	2					1	2					1?	2	80				
						2	2					1	2					1?	2	90	2.00	tr	0.30	13
						2	2					1	2					1?	2	80				
						2	2					1	2	1					2	70	2.00	tr	0.23	13
		Original texture appears, garnet and epidote filling cracks after quartz veinlets				2	2					3	1					3?	2	60				
			1			2	2					2	1	1				3?	1	65	2.00	tr	0.30	18
60						2	2					2	2	1					2	80				
						2	2					2	2	1				2?	1	80	2.00	tr	0.27	12
						2	2					2	2							70				
		Only dog teeth-like quartz veinlets remain																		70?	2.00	tr	0.14	37
		Original porphyritic texture remains. Phenocrysts of feldspar altered to clay mineral				2	2					2	2	2				2?	1	70				
						2	2					2	2	1				2?		70	2.00	tr	0.18	14
						2	2					2	2					2?		80				
		Partly phenocrysts of hornblende found				2	2					2	2	1				2?	2	60	2.00	tr	0.20	16
						1	1	1				2	3					1?	2	35				
						2	2					2	3	1				1?	2	50	2.00	tr	0.20	16
70						1	2					2	3					1?	2	60				
		Fresh hornblende much				1	1					2	3					1?	2	30	2.00	tr	0.19	25
						1	1					2	3					1?	2	60				
		Hornblende of phenocrysts altered to chlorite				1	1					2	3					1?	2	50	2.00	tr	0.17	19
						1	1					2	3	1				1?	3	40				
						2	2					2	3	1				1?	3	55	2.00	tr	0.23	18
						1	1					2	1	1				3?	1	50				
		Gossanized					2					2	1					3?	1	30	2.00	tr	0.15	19
		Gossan filling cracks					2					1	1	1				3?	1	50				
						1	2					2	1	1				3?	1	40	2.00	tr	0.19	20
80							2					2	2	1				3?	1	50				

SP 3045/11/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-3 , Gunung Ropih Area

depth (80 m ~ 120 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein	Analysis			
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	Wd (m)	Au	Cu	Mo
		White clay and gossan					2					2	2					2?		25	2.00	tr	0.17	24
		Greenish grey porphyry Original texture clear				2	2	1				2	1	1				1?	3	15				
						1	2					2	1	1					3	70	2.00	tr	0.17	22
						1	2					2	1	1					3	60				
						2	2					2	1	1					3	50	2.00	tr	0.25	24
		Py and Cp occur along cracks after quartz veinlets				2	2					2	1	1					3	50				
						3	2	1				2	1	1				2?	3	90	2.00	tr	0.19	40
						3	2					2	1					1?	3	90				
		Original texture disappears				2	2					1						2?	3	35	2.00	tr	0.19	26
90		Gossanized, silicified,				3	3											2?	3	90				
			1			2	3					3	3	1				2?	3	90	2.00	tr	0.21	37
			1			2	3											2?	3	90				
							3									3?		3?	3	80	2.00	tr	0.46	36
							3									3?		3?	2	80				
							3									3?		3?	2	80	2.00	tr	0.35	43
						1	3									3?		3?	2	50				
					1	3	2												2	90	1.20	tr	0.26	44
		Non - core																						
100		Drusy quartz veinlets much original porphyritic texture disappears				3	2									2?		2?	3	70	1.10	tr	0.31	48
			1			3.	3									2?		2?	3	80	2.00	tr	0.23	47
						3	3					2	1	1		3?		3?	3	80				
						3	3					2	1	1		2?		2?	2	90	2.00	tr	0.28	47
						3	3									2?		2?	3	90				
						2	3									2?		2?	3	90	2.00	tr	0.27	55
		Brecciated after quartz vein Matrix is green in color				2	3									2?		2?	3	90				
						2	2					3							1	60	2.00	tr	0.13	43
						3						2	1	1					1	50				
		Original texture disappears Cp disseminates in quartz vein				3	1					2	1			1?		1?	1	40	2.00	tr	0.17	62
110							1					2				2?		2?		40				
							3					3				2?		2?		40	2.00	tr	0.15	45
						1	1					3							3	30				
		Dark green, hard original texture disappears				2	1					3							3	20	2.00	tr	0.19	57
						1	1					3				2?		2?	3	20				
		Strongly gossanized				?	?									2?		2?	3	20	2.00	tr	0.08	40
		Argillized				1	1					2				3?		3?	1	20				
		Dark green, hard				3	2					2				1?		1?	3	30	2.00	tr	0.13	48
						3	2									2?		2?	2	40				
		Argillized, gossanized										2				3?		3?		?	2.00	tr	0.04	15
120												2				3?		3?		?				

SP3047/11/84

LEGEND

Mineralization
- Ma : Malachite
- Cc : Chalcocite
- Bo : Bornite
- Cp : Chalcopyrite
- Py : Pyrite
- Ga : Galena
- Sp : Sphalerite
- Mo : Molybdenite
- Po : Pyrrhotite

Alteration
- Chl : Chlorite
- Epi : Epidote
- Gar : Garnet
- Cal : Calcite
- Kao : Kaolinite
- Mon : Montmorillonite
- Ser : Sericite
- Sil : Silicification

Ore Minerals
- 3 : abundant
- 2 : common
- 1 : rare

Degree of alteration
- 3 : strongly altered
- 2 : moderately altered
- 1 : weakly altered

Analysis
- Wd : Sampling width
- Au : Au content (g/t)
- Cu : Cu content (%)
- Mo : Mo content (ppm)

Drilling Log of MJM-3, Gunung Ropih Area — depth (120 m ~ 160 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein	Analysis			
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	Wd (m)	Au	Cu	Mo
		Argillized, gossanized										2				3?		3?		20	200	–	006	18
		Greenish grey, original texture disappears				1	1					2				2?		2?		40				
						1	1					2	1						2	20	200	–	006	46
						1	1					2	1			2?		2?	2	20				
		Hematite filling cracks in green and white rock				1	1					3	1			3?		3?	1	40	200	–	004	43
												3				2?		2?	1	20				
		Original porphyritic texture appears				1	1					2	1			1?		1?	3	5	200	–	002	40
						1						2	1			1?		1?	3	20				
		Light green porphyry				1						2				1?		1?	3	30	200	–	003	40
130						1						1	1	1					3	30				
		Garnet and quartz vein after thin quartz veinlets				1	1					1	1	1					3	10	200	–	005	45
						1	1					1	1	2					3	10				
						1	1					1		1					3	10	200	–	007	50
						1	1					1		2					3	10				
													1	2					3	10	200	–	003	39
													1	2					3	10				
													1	1					3	10	200	–	004	38
		Fresh biotite found												2					3	20				
						1								1					3	20	200	–	004	49
140		Garnet–wollastonite vein after quartz veinlets			1									2					3	50				
						1								1					3	5	200	–	005	48
					1	1								1					3	5				
		Original porphyritic texture disappears					1							2					3	10	200	–	003	44
							1						1	2					3	5				
		Garnet–wollastonite vein after quartz veinlets			1								1	2					3	5	200	–	006	52
					1	1							1	1					3	10				
						1							1	1					3	5	200	–	003	52
		Fresh biotite found				1	1												3	5				
						2							1	1					3	5	200	–	004	49
150						1							2	2					3	5				
						1	1						1	2					3	<5				
		Light green porphyry but original texture not clear				1	1						1	1		1?			2	<5				
						1	1					1	1	1					3	<5				
		Garnet–quartz veinlet				1	1						1	1					3	<5				
						1	1						1	1					3	<5				
													1	1					3	<5				
		Potash feldspar?–quartz vein after quartz veinlets			1	1	1					1	1	1					3	<5				
						1	1						1	1					3	<5				
160						1	1						1	1					3	<5				

SP3044/11/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM- 3 , Gunung Ropih Area

depth (160 m ～ 200 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein Density	Wd (m)	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil			Au	Cu	Mo
		Highly silicified rock porphyritic texture partly remains as patches				2	1						1	1					3	<5				
								1					1	1					3	<5				
												1	1	2				1	3	<5				
		Fresh biotite found			1	1						1	1	1					3	<5				
		Garnet–wollastonite vein			1	1						1	1	2					3	<5				
						1		1				1	1	1					3	<5				
		Garnet–wollastonite vein			1	1						1	1	1					3	<5				
		Fresh biotite found				1		1				1	1	1					3	<5				
					1	1						1		1					3	<5				
170						1		1				1		2					3	<5				
						1		1				1	1	2					3	<5				
						1		1				1		2					3	<5				
						1						1		1					3	<5				
		Fresh biotite found				1	1					1		1					3	<5				
						1						1		1					3	<5				
						1						1		1					3	<5				
		Light green–original texture appears				1		1				1		1					3	<5				
						2						1		1					3	<5				
		Original texture disappears				1						1		1					3	<5				
180		Fresh biotite found										1		1					3	<5				
						1		1				1		1					3	<5				
						1					1	1		1					3	<5				
					1	2						1		2					3	<5				
					1	1		1				1		1					3	<5				
						1						1		1					3	<5				
		Porphyritic texture partly remains as patches										1		2					3	<5				
						1						1		1					3	<5				
						1						1		1					3	<5				
						1						1		1					3	<5				
190						1						1		1					3	<5				
		Porphyritic texture partly remains as patches				1						1		1					3	<5				
						1						1		1					3	<5				
		Porphyritic texture partly remains as patches				1	1					1	1	1					3	<5				
						1						1		1					3	<5				
		Porphyritic texture partly remains as patches				1						2		2					3	<5				
						1						2		1					3	<5				
						1						2		2					3	<5				
						1						2		2					3	<5				
200						1						2		1					3	<5				

SP3049 /11/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Drilling Log of MJM-3, Gunung Ropih Area

depth (200m ~ 201 m)

Depth (m)	Column	Description	Mineralization									Alteration								Vein	Wd	Analysis		
			Ma	Cc	Bo	Cp	Py	Po	Ga	Sp	Mo	Chl	Epi	Gar	Cal	Kao	Mon	Ser	Sil	Density	(m)	Au	Cu	Mo
201-00						1						1		1					3	<5				

SP3048/11/84

LEGEND

Mineralization
Ma : Malachite
Cc : Chalcocite
Bo : Bornite
Cp : Chalcopyrite
Py : Pyrite
Ga : Galena
Sp : Sphalerite
Mo : Molybdenite
Po : Pyrrhotite

Alteration
Chl : Chlorite
Epi : Epidote
Gar : Garnet
Cal : Calcite
Kao : Kaolinite
Mon : Montmorillonite
Ser : Sericite
Sil : Silicification

Ore Minerals
3 : abundant
2 : common
1 : rare

Degree of alteration
3 : strongly altered
2 : moderately altered
1 : weakly altered

Analysis
Wd : Sampling width
Au : Au content (g/t)
Cu : Cu content (%)
Mo : Mo content (ppm)

Appendix 12 Results of Chemical Analysis of Drill Core Samples, Gunung Ropih Area

Serial No.	Drill Hole No.	Depth (m)	Au (g/t)	Ag (g/t)	Cu (%)	Mo (ppm)
1	MJM-1	43.4 – 45.0	tr.	tr.	0.15	27
2		65.0 – 67.0	tr.	tr.	0.11	56
3		67.0 – 69.0	tr.	tr.	0.07	68
4		69.0 – 71.0	tr.	tr.	0.10	125
5		71.0 – 73.0	tr.	tr.	0.09	67
6		121.0 – 123.0	tr.	tr.	0.05	84
7		123.0 – 125.0	tr.	tr.	0.07	52
8		135.0 – 137.0	tr.	tr.	0.07	46
9		137.0 – 139.0	tr.	tr.	0.06	53
10		139.0 – 141.0	tr.	tr.	0.14	50
11		141.0 – 143.0	tr.	tr.	0.27	95
12		143.0 – 195.0	tr.	tr.	0.21	36
13		145.0 – 147.0	tr.	tr.	0.13	18
14		147.0 – 149.0	tr.	tr.	0.13	23
15		149.0 – 151.0	tr.	tr.	0.18	24
16		151.0 – 153.0	tr.	tr.	0.15	17
17		153.0 – 155.0	tr.	tr.	0.12	22
18		155.0 – 157.0	tr.	tr.	0.17	74
19		157.0 – 160.0	tr.	tr.	0.25	64
20		160.0 – 162.0	tr.	tr.	0.25	124
21		162.0 – 164.0	tr.	tr.	0.23	104
22		164.0 – 166.0	tr.	tr.	0.25	93
23		166.0 – 168.0	tr.	0.84	0.19	50
24		168.0 – 170.0	tr.	tr.	0.16	37
25		170.0 – 172.0	tr.	1.05	0.22	25
26		172.0 – 174.0	tr.	tr.	0.16	30
27		174.0 – 176.0	tr.	0.70	0.17	46
28		176.0 – 178.0	tr.	tr.	0.15	49
29		178.0 – 180.0	tr.	tr.	0.15	41
30		180.0 – 182.0	tr.	tr.	0.19	66
31		182.0 – 184.0	tr.	tr.	0.29	43
32		184.0 – 186.0	tr.	0.21	0.11	48
33		186.0 – 188.0	tr.	tr.	0.12	59
34		188.0 – 190.0	tr.	0.21	0.17	41
35		228.0 – 230.0	tr.	tr.	0.13	55

Serial No.	Drill Hole No.	Depth (m)	Au (g/t)	Ag (g/t)	Cu (%)	Mo (ppm)
36	MJM-2	35.0 – 37.0	tr.	tr.	tr.	9
37		37.0 – 39.0	tr.	tr.	tr.	5
38		39.0 – 41.0	tr.	tr.	tr.	8
39		41.0 – 43.0	tr.	tr.	tr.	5
40		43.0 – 45.0	tr.	tr.	tr.	7
41		85.0 – 87.0	tr.	tr.	tr.	10
42		87.0 – 89.0	tr.	tr.	tr.	8
43		89.0 – 91.0	tr.	tr.	tr.	6
44		91.0 – 93.0	tr.	tr.	tr.	15
45		93.0 – 95.0	tr.	tr.	tr.	10
46	MJM-3	50.0 – 52.0	tr.	tr.	0.30	21
47		52.0 – 54.0	tr.	tr.	0.21	21
48		54.0 – 56.0	tr.	tr.	0.30	13
49		56.0 – 58.0	tr.	1.10	0.23	13
50		58.0 – 60.0	tr.	tr.	0.30	18
51		60.0 – 62.0	tr.	tr.	0.27	12
52		62.0 – 64.0	tr.	tr.	0.14	37
53		64.0 – 66.0	tr.	tr.	0.18	14
54		66.0 – 68.0	tr.	tr.	0.20	16
55		68.0 – 70.0	tr.	1.30	0.20	16
56		70.0 – 72.0	tr.	0.42	0.19	25
57		72.0 – 74.0	tr.	tr.	0.17	19
58		74.0 – 76.0	tr.	0.42	0.23	18
59		76.0 – 78.0	tr.	0.21	0.15	19
60		78.0 – 80.0	tr.	tr.	0.19	20
61		80.0 – 82.0	tr.	0.84	0.17	24
62		82.0 – 84.0	tr.	tr.	0.19	22
63		84.0 – 86.0	tr.	0.63	0.25	24
64		86.0 – 88.0	tr.	tr.	0.19	40
65		88.0 – 90.0	tr.	0.84	0.19	26
66		90.0 – 92.0	tr.	tr.	0.21	37
67		92.0 – 94.0	tr.	tr.	0.46	36
68		94.0 – 96.0	tr.	tr.	0.35	43
69		96.0 – 98.0	tr.	0.36	0.26	44
70		98.0 – 100.0	tr.	0.21	0.31	48
71		100.0 – 102.0	tr.	tr.	0.23	47

Serial No.	Drill Hole No.	Depth (m)	Au (g/t)	Ag (g/t)	Cu (%)	Mo (ppm)
72	MJM-3	102.0 – 104.0	tr.	0.42	0.28	47
73		104.0 – 106.0	tr.	0.42	0.27	55
74		106.0 – 108.0	tr.	tr.	0.13	43
75		108.0 – 110.0	tr.	tr.	0.17	62
76		110.0 – 112.0	tr.	tr.	0.15	45
77		112.0 – 114.0	tr.	tr.	0.19	57
78		114.0 – 116.0	tr.	tr.	0.08	40
79		116.0 – 118.0	tr.	tr.	0.13	48
80		118.0 – 120.0	tr.	tr.	0.04	15
81		120.0 – 122.0	NA	NA	0.06	18
82		122.0 – 124.0	NA	NA	0.06	46
83		124.0 – 126.0	NA	NA	0.04	43
84		126.0 – 128.0	NA	NA	0.02	40
85		128.0 – 130.0	NA	NA	0.03	40
86		130.0 – 132.0	NA	NA	0.05	45
87		132.0 – 134.0	NA	NA	0.07	50
88		134.0 – 136.0	NA	NA	0.03	39
89		136.0 – 138.0	NA	NA	0.04	38
90		138.0 – 140.0	NA	NA	0.04	49
91		140.0 – 142.0	NA	NA	0.05	48
92		142.0 – 144.0	NA	NA	0.03	44
93		144.0 – 146.0	NA	NA	0.06	52
94		146.0 – 148.0	NA	NA	0.03	52
95		148.0 – 150.0	NA	NA	0.04	49

NA – Not Analysed

tr. – Trace

Appendix 13 Results of Polished Ore Section Determination

Ser. No.	Sample		Macroscopic Observations	Microscopic Observations	Ore Minerals Observed									
	Drill Hole	Depth			Cp	Bo	Cc	Cv	Py	Mc	Po	Ga	Sp	Mo
1	MJM-1	44m	Bornite-bearing porphyry ore	Ore minerals : Bornite > Chalcopyrite > Pyrrhotite Ore minerals are filling in small cavity and disseminated in quartz veinlet.	O	O					O			
2	MJM-1	66m	Molybdenite-bearing porphyry ore	Ore minerals are common, but poor in quantity. Molybdenite occurs in soft gangue mineral and quartz veinlet. Bornite, chalcopyrite, pyrrhotite and pyrite are also found in porphyry matrix.	O	O			O		O			O
3	MJM-1	122m	Chalcopyrite rich porphyry ore	Chalcopyrite occurs paragenetically with quartz veinlet.	O									
4	MJM-1	140m	Chalcopyrite rich porphyry ore	Ore minerals are sparcely distributed in and along quartz veinlets.	O				O		O			
5	MJM-1	165m	Chalcopyrite-pyrrhotite disseminated ore with quartz veinelts	Chalcopyrite forms irregularly anhedral. Pyrrhotite shows granular texture. Tiny sphalerite is rarely observed.	O				O				O	
6	MJM-1	171m	Sulphide-poor porphyry ore	Anhedral chalcopyrite is closely associated with pyrrhotite and sparcely distributed in pyrrhotite-quartz veinlets and porphyry matrix.	O						O			
7	MJM-1	179m	Sulphide rich porphyry ore	Chalcopyrite and pyrrhotite are accompanied with quartz veinlets.	O						O			
8	MJM-1	181m	Sulphide very poor porphyry ore	Fine-grained chalcopyrite and pyrrhotite sparcely distributed in porphyry matrix and quartz veinelts.	O						O			
9	MJM-1	187m	Sulphide very poor porphyry ore	Sulphide minerals of chalcopyrite and pyrrhotite							O			
10	MJM-1	229m	Brown skarn type ore	Sulphide minerals are concentrated in and near skarn parts. Chalcopyrite and pyrrhotite occur paragenetically. Pyrite is not much but sparcely distributed in sulphide zone.	O				O	O	O		O	
11	MJM-2	86m	Sulphide poorly disseminated porphyry ore	Most of sulphide is composed of pyrrhotite. Marcasite occurs as a decomposition product of pyrrhotite. Pyrite occurs as veinlet and dissemination.					O	O	O			
12	MJM-2	92m	Sulphide poorly disseminated porphyry ore	Most of sulphide is composed of pyrrhotite. Small amount of galena showing triangular pits is observed.							O	O		
13	MJM-2	94m	Sulphide poorly disseminated porphyry ore	Only pyrrhotite is disseminated with a small amount of marcasite in porphyry matrix.						O	O			
14	MJM-3	63m	Supergene oxidized ore	Primary quartzose zone and supergene oxidized zone are distinguished. Chalcopyrite and pyrite and observed mainly in the primary zone. Covelline and chalcocite are dominant in the transitional zone.	O		O	O	O					
15	MJM-3	67m	Banded quartzose ore Sulphide poor	Ore minerals : Chalcopyrite ≥ pyrite > pyrrhotite Sulphide minerals occur along banded texture of quartz vein.	O				O		O			
16	MJM-3	71m	Quartzose ore sulphide poor	Very fine-grained chalcopyrite is disseminated not only in quartzose part but also in porphyry matrix. Lesser pyrite is also observed.	O				O					O
17	MJM-3	83m	Banded quartzose ore sulphide poor	Sulphide minerals of chalcopyrite and pyrite are disseminated in quartzose put and porphyry matrix.	O				O					
18	MJM-3	89m	Lougitudinal vein in porphyry sulphide poor	Very fine-grained chalcopyrite and pyrite occur in the quartz vein.	O				O					
19	MJM-3	99m	Quartz vein	Sulphide minerals of chalcopyrite, pyrite, pyrrhotite and sphalerite are disseminated in the quartz vein. Sphalerite is associated with chalcopyrite.	O				O		O		O	
20	MJM-3	107m	Quartz vein sulphide very poor	Sulphide minerals of chalcopyrite and pyrite are observed in quartz vein. A few grains of molybdenite are also observed.	O				O					O
21	MJM-3	113m	Greenish gray porphyry ore sulphide poor	Chalcopyrite and pyrite are disseminated in porphyry.	O				O					

Abbreviations; Cp : Chalcopyrite, Bo : Bornite, Cc : Chalcocite, Cv : Covelline, Py : Pyrite,
Mc : Marcasite, Po : Pyrrhotite, Ga : Galena, Sp : Sphalerite, Mo : Molybdenite

Appendix 14 I.P. Survey Instruments

Instruments	Maker	Quantity	Remarks
IP Transmitter CH-T7801	Chiba Electric Co., JAPAN	1	Maximum output power 2.5A, 800V
IP Receiver CH-R7801,2	Chiba Electric Co., JAPAN	2	
Engine Generator Model 421	Geotronics Inc. USA	1	Maximum output power 3kW, 400Hz, 115V
IP Checker Model 522A	Chiba Electric Co., JAPAN	1	
Remote-control Switching System CH807	Chiba Electric Co., JAPAN	1	32ch
Telephone Model P11	Nobel Co., JAPAN	3	

Appendix 15 Drilling Equipments

A. Machines

Article	Model	Specifications	Quantity
Drilling Machine	Model "L-34-76" (Long Year Co.)	Capacity: BQ-WL 475 m Dimensions: Height 1,450 mm Length 2,570 mm Width 1,120 mm Weight (without Power Unit): 1,450 kg	1 set
	Swivel Head	Spindle Speed: Low/R 28, 56, 102, 170 r.p.m. High/R 290, 600, 1,100, 1,850 r.p.m.	
	Hoist	Type: Planetary Gear Type (Power Up) Capacity: 4,800 kg	
	Oil Pump	Type: Hydr. Recine (2-FA) Capacity: 20/min Pressure: Max. 70 kg/cm^2	
Motor	Model "HR3" (Lister)	Diesel Engine: 3 Cycle Air-cool Type Revolution: 1,500 ~ 2,000 r.p.m. Related Power: 38 P.S.	1 set
Drilling Pump	Model "520RD" (Long Year Co.)	Triplex Single acting positive displacement Weight (without Power Unit): 395 kg Piston Diameter: 57 mm Stroke: 57 mm Max. Capacity: 76/min Max. Pressure: 49 kg/cm^2	1 set
Water Supply Pump	Model "MS303ECK" (Maruyama Co.)	Gasoline Engine (Kubota Co.) Revolution: 2,200 r.p.m. Related Power: 28 P.S.	1 set
Derrick	Iron Steel Type	9 m	1 set
Mixer	Model "MP-1" (Maikai Co.)	140 ℓ	1 set
Generator	Model "EP850" (Hokuetsu Co.)	0.85 KVA	1 set
Drill Rod		NQ - 3.0 m BQ - 3.0 m	45 pcs 85 pcs
Casing Pipe		97 mm - 1.5 m 97 mm - 0.5 m 73 mm - 3.0 m	10 pcs 4 pcs 98 pcs
Wireline Hoist		Attached to Drilling Machine	1 set
Rod Safety Clamps		LH Type	1 set
Water Swievel		NW Type	1 set
Hoisting Swivel		L Type	1 set

B. Consumed Materials

Article	Specification	Unit	Quantity			
			MJM-1	MJM-2	MJM-3	Total
Gasoline	Generator	L	464	200	240	904
Light Oil	Engine	L	1,320	920	1,296	3,536
Mobil Oil	Engine	L	96	60	70	226
Mission Oil	Gear	L	20	25	40	85
Turbine Oil	Oil Pressure	L	180	20	200	400
Grease		kg				60
Cutting Oil		L				70
Metal Crown	101	pcs	1	1	2	4
Single Core Tube	99 m/m x 0.5 m	set				2
Double Core Tube	NQ-WL	set				1
do	BQ-WL	set				2
Wire Cutter	12 m/m	pg				1
Core Tube Head	99	pcs				1
Casing Head	97	pcs				1
do	73	pcs				2
Casing Metal Shoe	97 m/m	pcs				3
do	73	pcs				3
Cement		pack				6
Rag		kg				60
Core Box		pcs	27	32	18	77
Board	20 m/m	m^3				1.5
Wire	#10	kg				70
do	#12	kg				40
Nail	75 m/m	kg				20
do	38 m/m	kg				20
Wire Rope	10 m/m x 50 m	vol				1
Manila Rope	19 m/m x 50 m	vol				1
Binyl Rope	8 m/m x 70 m	vol				1
V-Belt	Engine	set				6
do	Pump e	set				4
Wire Rope	5 m/m x 350 m	vol				1
Core-Lifter	NQ-WL	pcs				13
do	BQ-WL	pcs				18
Core-Lifter Case	NQ-WL	pcs				9
do	NQ-WL	pcs				10
WL-Accessary	NQ-WL	set				1
	BQ-WL	set				1
Working Dress	M, L	set				6
Working Gloves		pair				120
Working Shoes	25 ~ 27 cm	pair				3
Pressure Gauge	70 kg/cm^2	pcs				2
Bentnite		kg	3,680	3,680	4,000	11,280
C.M.C		kg	95	60	95	250
Mud Seal		kg				200

C. Consumed Bits

Bit Type		MJM-1		MJM-2		MJM-3		Total	
		Drilled Length	Quantity	Drilled Length	Quantity	Drilled Length	Quantity	Drilled Length	Quantity
IOI Single	Bit	15.00 m	1 pcs	6.00 m	1 pcs	33.90 m	2 pcs	54.90 m	4 pcs
	Reamer	-	-	-	-	-	-	-	-
NQ-WL	Bit	115.10	7	125.40	2	44.30	4	284.80	13
	Reamer	115.10	1	125.40	1	44.30	2	284.80	4
BQ-WL	Bit	111.20	8	119.10	4	122.80	6	353.10	18
	Reamer	111.20	1	119.10	1	122.80	2	353.10	4

Appendix 16 Details of Moving Operation, Exploration Drilling

Item \ Hole No.		MJM–1		MJM–2		MJM–3			
Moving Operation	In	Jul. 29, 1984		Sep. 16, 1984		Oct. 7, 1984			
		Aug. 14, 1984		Sep. 23, 1984		Oct. 14, 1984			
	Out	Sep. 11, 1984		Oct. 6, 1984		Oct. 30, 1984			
		Sep. 15, 1984		Oct. 6, 1984		Nov. 4, 1984		Total	
		Day	Man-day	Day	Man-day	Day	Man-day	Day	Man-day
Preparation	Road Reinstatement	7	84	3	99	3	78	13	261
	Haulage	5	85	2	67	3	78	10	230
	Installation	4	64	3	96	2	52	9	212
	Test Run, etc.	1	14					1	14
	Total	17	247	8	262	8	208	33	717
Removal	Dismounting	2	50	0.5	12	3	23	5.5	85
	Pull out of casing pipes	2	48	0.5	11	1	9	3.5	68
	Haulage								
	Road Reinstatement								
	Others	1	17			2	6	3	23
	Total	5	115	1	23	6	38	12	176
Grand Total		22	362	9	285	14	246	45	893

Appendix 17 Summary Record of Drilling MJM-1, Exploration Drilling

		Periods			Number of Days	Actual Working Days	Pay off	Total Number of Workers
Drilling Period	Preparation	Jul. 29, 1984 ~ Aug. 14, 1984			17	17	0	247
	Drilling	Aug. 15, 1984 ~ Sep. 10, 1984			27	26	1	391
	Removing	Sept. 11, 1984 ~ Sep. 15, 1984			5	5	0	115
	Total	Jun. 29, 1984 ~ Sep. 15, 1984			49	48	1	753
Drilling Length	Planned Length	240.00 m	Overburden	23.80 m	Core Recovery for Each 100 m Section			
	Increase or Decrease in Length	-- m	Core Length	209.50 m	Depth (m)	Section (%)	Total (%)	
	Drilled Length	241.30 m	Core Recovery	96.32 %	0–100	87.53	87.53	
	Drilling	208°20′	45.59 %	32.91 %	100–200	99.50	96.32	
Working Time	Accompanying Works	215°20′	47.12	34.02	200–300			
	Repairing	33°20′	7.29	5.27	300–400			
	Total	457°00′	100 %	72.20	Drilling Efficiency			
	Preparation	78°00′		12.32	241.30 m/27 days ($\frac{\text{Total Length (m)}}{\text{Drilling Period}}$)			8.94 m/Day
	Moving	18°00′		2.84	241.30 m/26 days ($\frac{\text{Total Length (m)}}{\text{Working Days}}$)			9.28 m/Day
	Others	80°00′		12.64	241.30 m/21 days ($\frac{\text{Total Length (m)}}{\text{Net Drilling Days}}$)			11.49 m/Day
	Grand Total	633°00′		100 %	391 men/241.30 m ($\frac{\text{Net Drilling Workers}}{\text{Total Length (m)}}$)			1.62 men/m

Inserted Casing Pipe	Pipe size & Inserted Length (m)	Inserted Length / Drilling Length x 100%	Recovery of Casing Pipe(%)	Remarks
	97 CP 26.44	10.95	100	
	73 CP 130.10	53.91	100	

Appendix 18 Summary Record of Drilling MJM-2, Exploration Drilling

		Periods			Number of Days	Actual Working Days	Pay off	Total Number of Workers
Drilling Period	Preparation	Sept. 16, 1984 ~ Sep. 23, 1984			8	8	0	262
	Drilling	Sept. 24, 1984 ~ Oct. 5, 1984			12	12	0	304
	Removing	Oct. 6, 1984 ~ Oct. 6, 1984			1	1	0	23
	Total	Sep. 16, 1984 ~ Oct. 6, 1984			21	21	0	589
Drilling Length	Panned Length	250.00 m	Overburden	6.00 m	Core Recovery for Each 100 m Section			
	Increase or Decrease in Length	m	Core Length	240.70 m	Depth (m)	Section (%)	Total (%)	
	Drilled Length	250.50 m	Core Recovery	98.44 %	0–100	97.34	97.34	
	Drilling	130°50′	56.56 %	40.84 %	100–200	98.80	98.44	
Working Time	Accompanying Works	91.50	39.70	28.67	200–300			
	Repairing	8.40	3.74	2.71	300–400			
	Total	231.20	100	72.22	Drilling Efficiency			
	Preparation	59.00		18.42	250.50 m/12 days ($\frac{\text{Total Length (m)}}{\text{Drilling Period}}$)			20.87 m/Day
	Moving	10.00		3.12	250.50 m/12 days ($\frac{\text{Total Length (m)}}{\text{Working Days}}$)			20.87 m/Day
	Others	20.00		6.24	250.50 m/12 days ($\frac{\text{Total Length (m)}}{\text{Net Drilling Days}}$)			20.87 m/Day
	Grand Total	320.20		100	304 men/250.50 m ($\frac{\text{Net Drilling Workers}}{\text{Total Length (m)}}$)			1.21 men/m

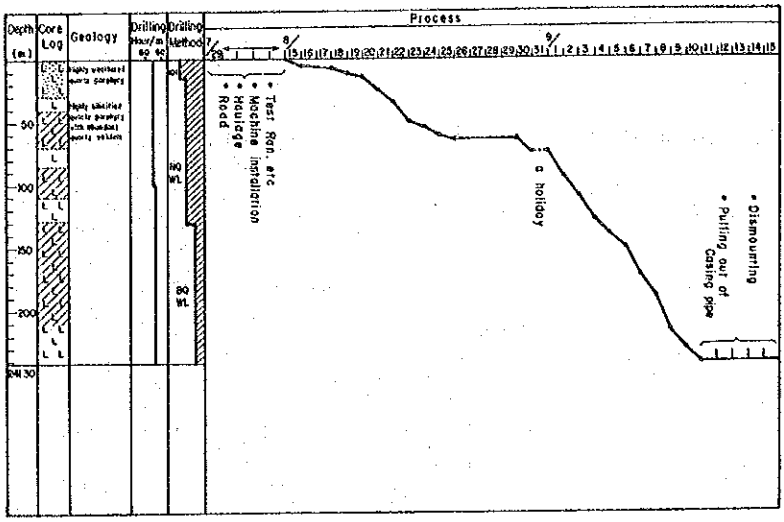
Inserted Casing Pipe	Pipe size & Inserted Length (m)	Inserted Length / Drilling Length x 100%	Recovery of Casing Pipe (%)	Remarks
	97 CP 6.00	2.4	100	
	73 CP 131.50	52.5	100	

Appendix 19 Summary Record of Drilling MJM-3, Exploration Drilling

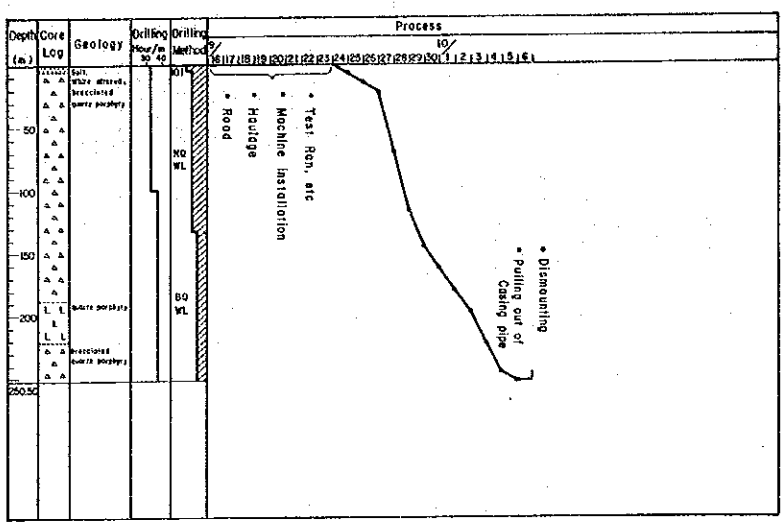
		Periods			Number of Days	Actual Working Days	Pay off	Total Number of Workers
Drilling Period	Preparation	Oct. 7, 1984 ~ Oct. 14, 1984			8	8	0	208
	Drilling	Oct. 15, 1984 ~ Oct. 29, 1984			15	15	0	251
	Removing	Oct. 30, 1984 ~ Nov. 4, 1984			6	6	0	38
	Total	Oct. 7, 1984 ~ Nov. 4, 1984			29	29	0	497
Drilling Length	Planned Length	200.00 m	Overburden	33.90 m	Core Recovery for Each 100 m Section			
	Increase of Decrease in Length	m	Core Length	148.30 m	Depth (m)	Section (%)	Total (%)	
	Drilled Length	201.00 m	Core Recovery	88.74 %	0–100	76.40	76.40	
	Drilling	175.20	53.29 %	39.58 %	100–2))	96.80	88.74	
Working Time	Accompanying Works	135.50	41.29	30.66	200–300			
	Repairing	17.50	5.42	4.03	300–400			
	Total	329.00	100	74.27	Drilling Efficiency			
	Preparation	51.00		11.51	201.00 m/15 days (Total Length (m) / Drilling Period)			13.40 m/Day
	Moving	16.00		3.61	201.00 m/15 days (Total Length (m) / Working Days)			13.40 m/Day
	Others	47.00		10.61	201.00 m/15 days (Total Length (m) / Net Drilling Days)			13.40 m/Day
	Grand Total	443.00		100	251 men/201.00 m (Net Drilling Workers / Total Length (m))			1.24 men/m
Inserted Casing Pipe	Pipe size & Inserted Length (m)	Inserted Length / Drilling Length x 100%	Recovery of Casing Pipe (%)		Remarks			
	97 CP 33.26	16.5	100					
	73 CP 76.20	37.9	100					

Appendix 20 Generalized Drilling Records, Exploration Drilling

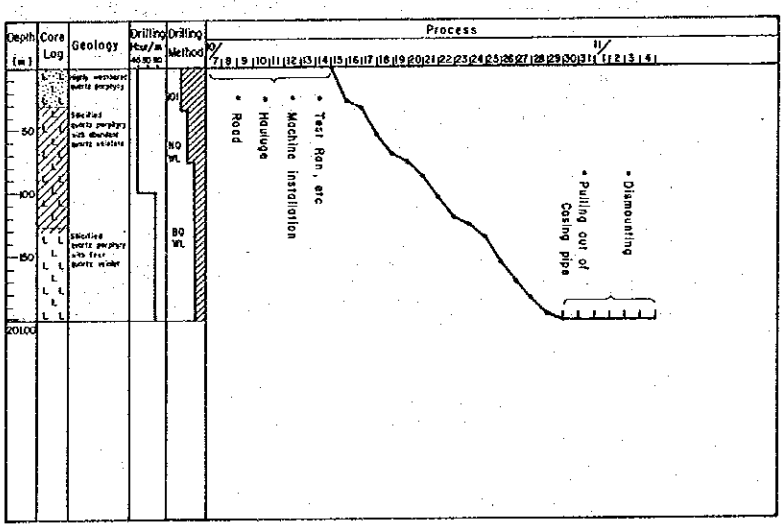
Drill Hole No.	Machine Type	Drilling Period	Drilled Length	Core		Number of Drilling Shift			Drilling Speed	
				Length	Recovery	Drilling	Casing etc.	Total	m/shift*	m/shift**
MJM–1	L–34	Aug. 15, '84 ~ Sep. 10, '84	241.30 m	209.50 m	96.32 %	33	1	34	7.10 m	7.31 m
MJM–2	L–34	Sep. 24, '84 ~ Oct. 5, '84	250.50	240.70	98.44	20	1	21	11.93	12.53
MJM–3	L–34	Oct. 15, '84 ~ Oct. 29, '84	201.00	148.30	88.74	27	1	28	7.18	7.44
Total			692.80	598.50	95.13	80	3	83	8.35	8.66



Drilling progress of each hole : MJM-1



Drilling progress of each hole : MJM-2



Drilling progress of each hole : MJM-3

Appendix 21 Drilling Progress of Each Holes

Appendix 22 Detection Limits and Analytical Methods

Detection Limits

Detection limits of the various analytical methods used for the elements analysed are shown below:-

Element	Detection Limit		Remarks
Au	0.1 ppm	)	
Ag	0.1 ppm	)	Analysed by Geological Survey of Malaysia, Sarawak
As	0.5 ppm	)	
Sb	0.5 ppm	)	
Hg	25 ppb	)	dependent on vapour pressure of Hg
Mn	1.0 ppm	)	
Au	0.01 ppm	)	
Ag	0.1 ppm	)	Analysed by Bishimetal Exploration Co., Ltd., Japan
Cu	1 ppm	)	
Mo	1 ppm	)	

Analytical Methods of Geological Survey of Malaysia, Sarawak

Analysis of Au

1) Weigh 10 g of sample into a 150 ml beaker
2) Add 15 ml Conc. HCl and 5 ml Conc. HNO_3
3) Decompose on sand bath until paste-like
4) Add 20 ml 10% HCl
5) Warm to dissolve the paste
6) Filter into a 100 ml standard flask
7) Add 5 ml of MIBK and shake vigorously for 2 minutes
8) Transfer organic phase into test tube and measure by AAS.

Analysis of Ag and Mn

1) Weigh 1 g of sample and transfer into a beaker
2) Add 10 ml HCl and 1 ml HNO_3
3) Stir, cover with watch glass and heat in sand bath for 1 hour
4) Cool and transfer solution to a graduated test tube

5) Make up to 20 ml

6) Shake and allow to settle overnight

7) Measure with AAS

The AAS setting for the elements analysed using AAS is as shown below:-

Element	Wavelength (nm)	Slit Width (nm)	Current (mA)
Au	242.8	0.7	10
Ag	328.1	0.2	12
Mn	279.5	0.2	20

Analysis of As

1) Weigh 0.5 g of sample into test tube

2) Fuse with 2 g fused potassium bisulphate

3) Cool and add 10 ml (1 + 1) HCl

4) Leach in boiling water bath until completely dissolved

5) Add another 10 ml (1 + 1) Hcl, shake to mix well and allow to settle overnight

6) Take 5 ml of the aliquot in flask, add 15 ml (1 + 1) HCl and 30 ml water

7) Add 5 ml of KI solution (15%) and 0.2 ml of $SnCl_2$ (45%)

8) Wait for 15 minutes and add about 8 g of zinc pellets (As free)

9) Connect flask to arsenic apparatus

10) allow gas to bubble through chloroform – Ag DDTC solution via patch of lead acetate-soaked glass wool until reaction stops

11) The resulting colour is compared against similarly prepared standards using a photo-spectrometer (wavelength 550 nm)

Chloroform-Ag DDTC solution is prepared by dissolving 1.25 g silver-diethyl dithiocarbamate and 0.82 g ephedrine in 500 ml chloroform.

Analysis of Sb

1) Weigh 1 g of sample into test tube

2) Add 3 g $K_2S_2O_7$ and fuse

3) Cool and add 20 ml of 1 : 1 HCl

4) Shake and allow to settle

5) Take 5 ml aliquot and add 0.2 ml $Ce(SO_4)_2$ solution, 0.1 ml 1% $HONH_2Cl$ solution, 5 ml 8% $(NaPO_3)_6$ solution, 1 ml 0.05% brilliant green solution followed immediately

by 5 ml toluene. Cerium sulphare solution – 0.1 M $Ce(SO_4)_2$ in 1 MH_2SO_4.

6) Shake vigorously for 30 seconds

7) Compare with prepared standards using the photospectrometer set at wavelength 625 nm. Step 5 onwards is repeated with a lesser aliquot if concentration appears to be above standards.

Analysis of Hg

Hg is analysed using the Jerome Gold Film Mercury Detector, model 301. 1 g scoop sample is normally used but for sample suspected to be high in Hg, the 0.01 g scoop is sufficient.

Analytical Methods of Bishimetal Exploration Co., Ltd., Japan

Analysis of Au and Ag (Fire Assay)

1) Weigh 10–100 g of sample into a fire clay crucible and add 40 g soda ash, 30 g PbO, 10 g borax and 3 g starch and mix

2) Common salt is added to cover the mixture and an iron nail place in the crucible

3) The charge is fused in a fusion furnace for 20 min. at 600°C, 10 min. at 950°C and 10 min. at 1100°C

4) Fused charge is then poured into an iron mould and allowed to cool

5) The lead button is removed and hammered into a rough cubic shape

6) The lead buttom is placed in a bone ash cupel and cupelled in a muffle furnace for 15 min. at 850°C

7) The dori formed is purified further by using a blow flame (820 + 10°C)

8) Any bone ash attached to the Au-Ag bead is brushed off and the bead hammered into a thin foil and weigh

9) Add 4–5 ml conc. HNO_3, into porcelain crucible containing the Au-Ag foil and heat

10) Wash the residue of dark grey spongy gold

11) If gold not completely parted add silver foil and repeat (9) and (10)

12) Decant any water and dry the spongy gold under low heat and then place in muffle furnace until a shiny yellow piece of gold is formed

13) Weigh the gold and calculated the weight of Ag

Analysis of Cu and Mo

1) Weigh 2 g of sample into conical beaker
2) Add 10 ml of 1:1 HNO_3
3) Dissolve by heating
4) Cool and transfer into 50 ml test-tube
5) Make up to 50 ml with distilled-water
6) Shake vigorously for 2 minutes
7) Measure by Inductively coupled Argon Plasma Emission Spectrophotometer

JICA