第Ⅲ部

結論及び提言

第III部　結論及び提言

第1章　結論

第1年次調査の結果，WS地区，WN地区北東部及びCB地区北部で白金鉱床が潜在する可能性が指摘された。今年度はWS地区において5孔のボーリング調査を実施し，鉱化帯の捕捉，新鉱床の発見に努めた。

ボーリング調査の概要は以下のとおりである。

MJZS－1号（W，－60°）	400．00m
MJZS－2号（W，－60°）	500．00m
MJZS－3号（W，－60°）	500．30m
MJZS－4号（W，－60°）	300．00m
MJZS－5号（W，－60°）	400．44m
合計（5孔）	2，100．74m

各ボーリングの肉眼観察可能な硫化物鉱化帯の概要は以下の通りである。

Hole No.	Depth(m)	Zone	Mineralization	Main Sulphide Minerals
MJZS-1	226.00～ 260.00	MSZ	disseminate	Po, Py, Cp,
MJZS-2	266.00～ 274.00	MSZ	disseminate	Po, Py, Cp,
MJZS-3	263.50～ 273.50	MSZ	disseminate	Po, Py, Cp,
	335.00～ 351.00	LSZ	disseminate	Po, Py, Cp,
MJZS-4	70.00～ 87.00	MSZ	disseminate	Po, Py, Cp,
	143.00～ 153.00	LSZ	disseminate	Po, Py, Cp,
MJZS-5	160.00～ 172.50	MSZ	disseminate	Po, Py, Cp,
MJZS-1	226.00～ 260.00	MSZ	disseminate	Po, Py, Cp,

硫化物鉱化帯の白金族元素の最高品位は以下のとおりである。

Hole No.	Depth(m)	Pt(ppb)	Pd(ppb)	Rh(ppb)	PGM(ppb)
MJZS-1	249.50～ 250.00	533	434	12	979
	250 00～ 251.00	490	425	15	930
MJZS-2	271.00～ 271.50	389	374	19	782
MJZS-3	348.00～ 349.00	583	331	14	928
	349.00～ 350.00	510	355	51	916
MJZS-4	151.00～ 152.00	426	111	---	537
MJZS-5	168.50～ 169.50	598	147	17	762
	169.50～ 170.50	518	138	15	671

ボーリング調査の結果，5孔のボーリングでMSZを捕捉した。本地区のMSZは連続性のよい鉱化帯であることが判明した。一方，LSZは2孔で捕捉しており，断続する鉱化帯と思われる。

本地区の過去の調査も含め8孔のボーリング結果を対比検討した結果，硫化物鉱化及び白金族の鉱化帯は北部へ連続し，地区南部では東へ連続発展する可能性が指摘された。

従って，追加ボーリング調査を実施し，鉱化帯の連続を追跡すると共に高品位帯を捕捉する必要がある。

第2章　第3年次調査への提言

第1年次，第2年次の調査結果とその検討によって得られた結論に基づき，第3年次では次の調査を実施することを提言する。

(1) WS地区にボーリング調査を実施し，鉱山開発を期待し得る鉱床の発見に努める。
(2) WN地区北東部及びCB地区北部でボーリング調査を実施し，鉱床賦存の可能性を把握する。

参考文献

参 考 文 献

Bache J.J., Dallas S., Milian J.F., Porst A.E. and Rolin P. (1983) : Zimbabwe Geological Series CENTENARY. Geological Survey Department of Zimbabwe.

Bartholomew D.S. (1986) : Mineral Resources of Zimbabwe, Base Metal and Industrial Mineral Deposits. Geological Survey Department of Zimbabwe.

Cotterill.P. (1973) : Union Carbide Rhomet (Private) Limited. E.P.O. No.193.

JICA - MMAJ (1996) : Report on the mineral exploration in the Snake Head area, The Republic of Zimbabwe. Phase I.

Prenderdergast M.D. and Wilson A.h. (1989) : The Great Dyke - II. mineralization and mineral deposits. Magmatic sulphides - The Zimbabwe volume.

Prendergast.M.D.A. (1992) : Cluff Resources Zimbabwe Limited. E.P.O. No.654.

Stegman J.G. (1977) : Provisional Geological Map of Zimbabwe. Geological Survey Department of Zimbabwe.

Wiles J.W. (1965) : Geological Map of the Country around SIPOLILO. Geological Survey Department of Zimbabwe.

Wilson Allan H. and Tredoux Marian (1990) : Lateral and Vertical Distribution on the Sulphide Mineralization in the P1 Pyroxenite Layer of the Darwendale Subchamber of the Great Dyke, Zimbabwe. Economic Geology Vol.85. PP556-584.

Worst.B.G. (1960) : The Great Dyke of Southern Rhodesia, Southern Rhodesia Geological Survey Bulletin No.47.

巻末資料

A-1　岩石顕微鏡写真

Abbreviations of mineral names in the plate

Pl : Plagioclase

Cpx: Clinopyroxene

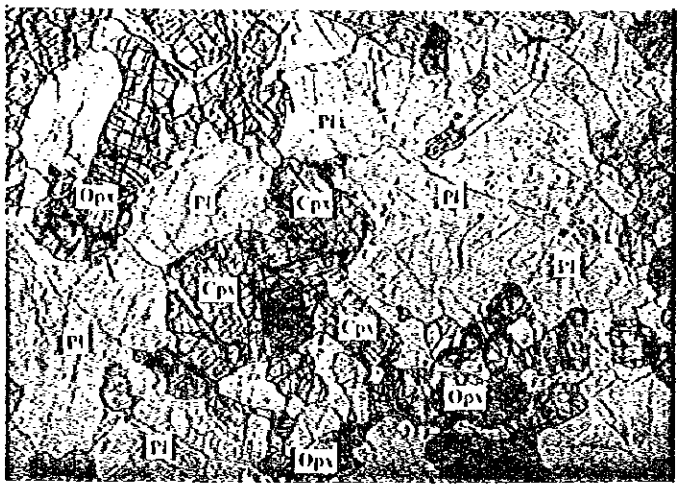
Opx: Orthopyroxene

Ol : Olivine

Tlc: Talc

Ser: Serpentinite

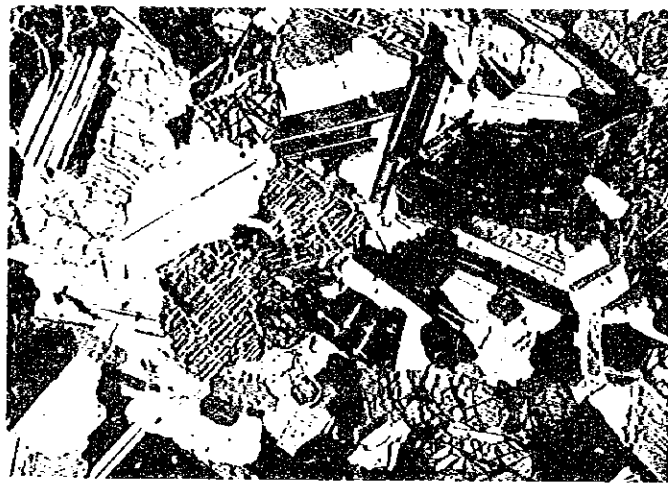
Cr : Chromite



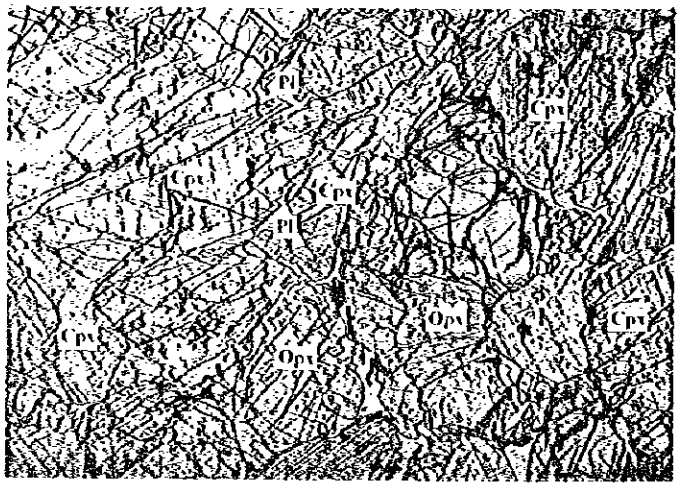
Sample No. 1-04 Open nicol ——— 1.0 mm

Rock name Gabbro-Norite

Locality MIZS-2 : 115.98m



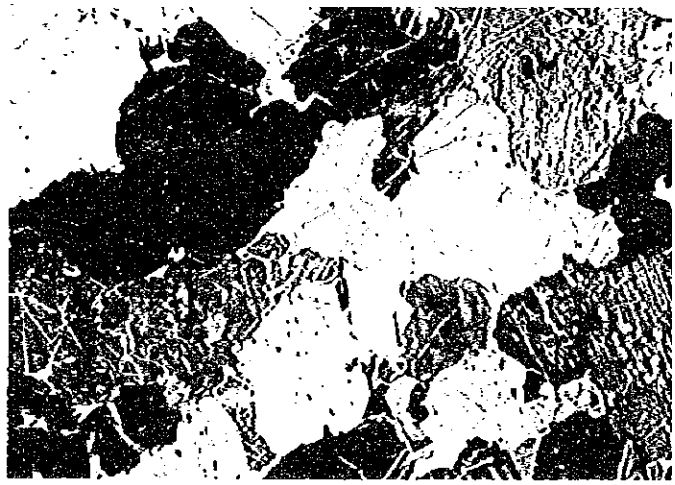
Cross nicols ——— 1.0 mm



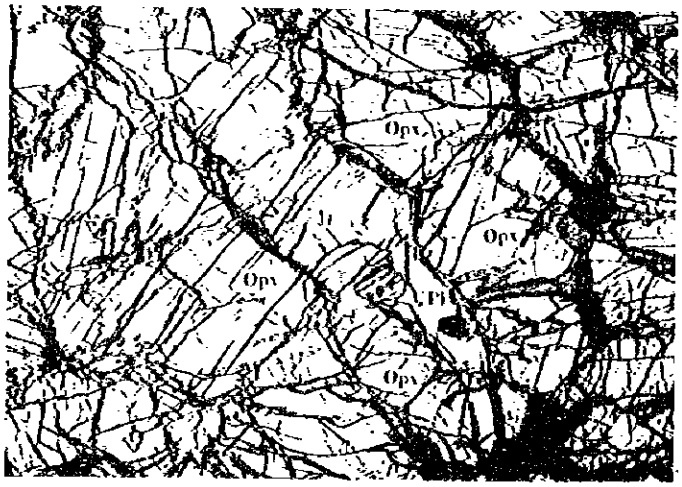
Sample No. 1-01 Open nicol ——— 1.0 mm

Rock name Plagioclase bearing websterite

Locality MIZS-1 : 170.00m



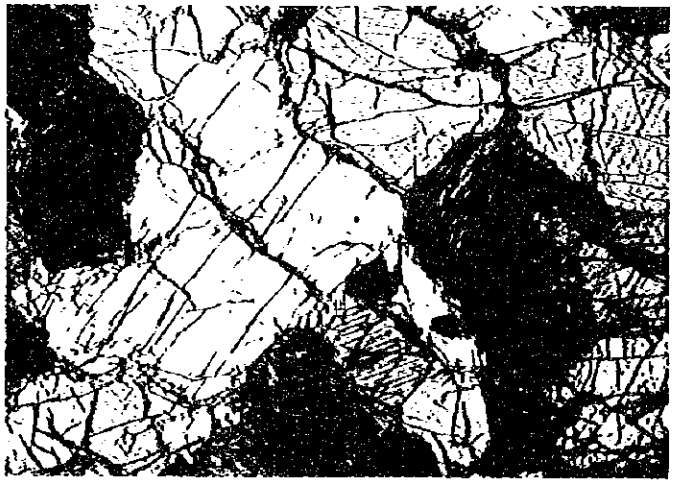
Cross nicols ——— 1.0 mm



Sample No. 1-03 Open nicol ——— 1.0 mm

Rock name Bronzitite

Locality MIZS-1 : 247.00m



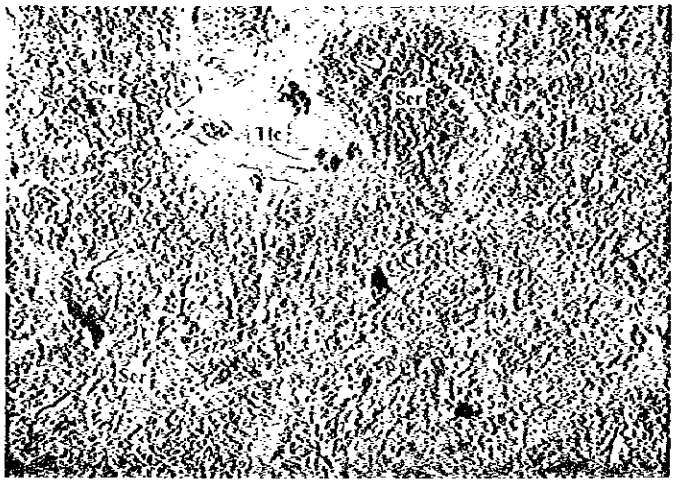
Cross nicols ——— 1.0 mm

Sample No. T-09 Open nicol ⟵⟶ 1.0 mm

Rock name Talc(vein?)

Locality MJZS-5 : 317.20m

Cross nicols ⟵⟶ 1.0 mm

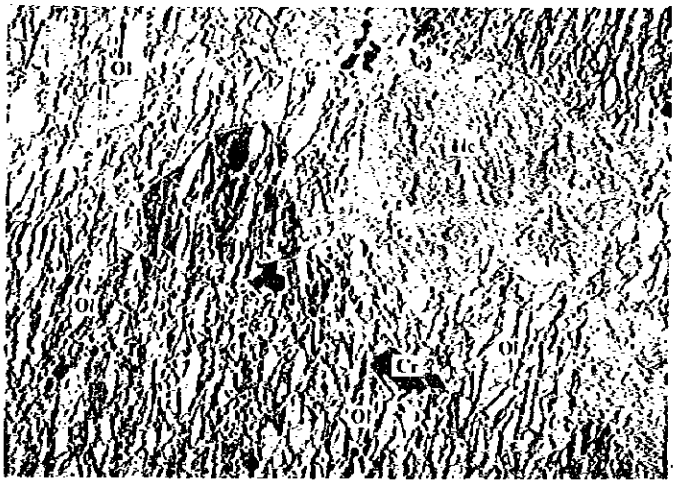


Sample No. T-10 Open nicol ⟵⟶ 1.0 mm

Rock name Serpentinite

Locality MJZS-5 : 340.52m

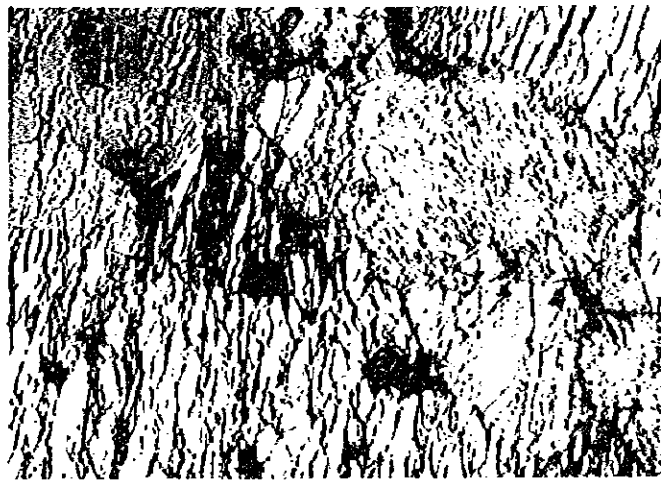
Cross nicols ⟵⟶ 1.0 mm



Sample No. T-08 Open nicol ⟵⟶ 1.0 mm

Rock name Dunite

Locality MJZS-2 : 486.00m



Cross nicols ⟵⟶ 1.0 mm

A-2　鉱石顕微鏡写真

Abbreviations of mineral names in the plate

Po : Pyrrhotite

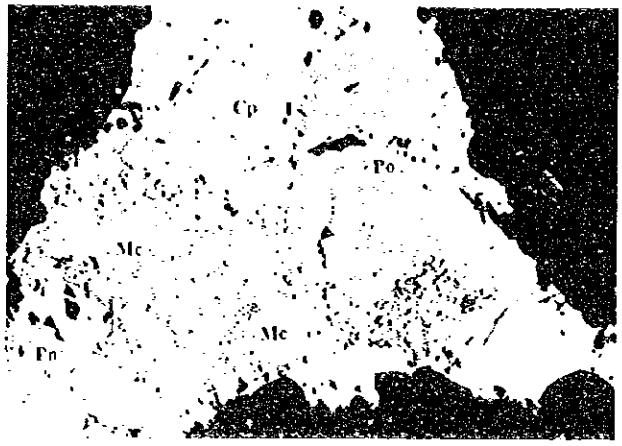
Pn : Pentlandite

Cp : Chalcopyrite

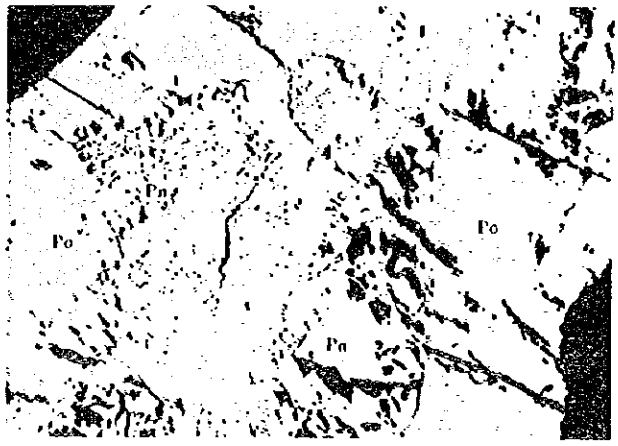
Py : Pyrite

Mc : Marcasite

Cr : Chromite



Sample No. P-11 Open nicol 0.1 mm
Rock name Bronzitite
Locality MJZS-1, 243.30m
Remarks Po-Cp-Pn-Mc Ore

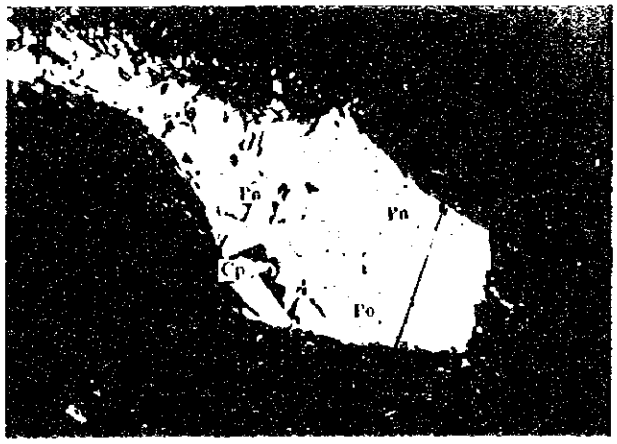


Sample No. P-5 Open nicol 0.1 mm
Rock name Bronzitite
Locality MJZS-2, 270.30m
Remarks Po-Cp-Pn-Mc Ore

Sample No. P-6 Open nicol 0.1 mm
Rock name Bronzitite
Locality MJZS-2, 270.30m
Remarks Po-Cp-Pn Ore

Sample No. P-2 Open nicol 0.1 mm
Rock name Bronzitite
Locality MJZS-3, 341.30m
Remarks Cr Ore

Sample No. P-2 Open nicol 0.1 mm
Rock name Bronzitite
Locality MJZS-3, 341.30m
Remarks Po-Cp-Pn-Mc Ore



Sample No. P-13 Open nicol 0.1 mm
Rock name Bronzitite
Locality MJZS-4, 82.15m
Remarks Po-Pn exsolution Ore

A-3　掘進実績表

表Ⅱ－2－5　掘進実績表（ＭＪＺＳ－１）

工事期間			
区分	工事期間		
	期間		
設営作業	96/09/24	～ 96/09/25	
掘進作業	96/09/26	～ 96/10/07	
解体撤去作業	96/10/08	～ 96/10/12	
合計	96/09/24	～ 96/10/12	
掘進深度			
計画深度	400.00 m	表土	m
増掘長	0.00 m	コア長	390.50 m
検尺深度	400.00 m	コア採取率	97.63 %
作業時間			
掘削時間	112.0 h	58.3 %	40.3 %
ロッド揚降	12.0 h	6.3 %	4.3 %
インナー揚降	22.0 h	11.5 %	7.9 %
付帯作業	2.0 h	1.0 %	0.7 %
事故回復作業	44.0 h	22.9 %	15.8 %
その他	h	0.0 %	0.0 %
小計	192.0 h	100.0 %	69.1 %
移設作業			
設営作業	46.0 h		16.5 %
解体作業	40.0 h		14.4 %
合計	278.0 h		100.0 %

ケーシングパイプ			
ケーシングパイプ挿入深度およびケーシングサイズ (m)	ケーシング率 (%)	ケーシングパイプ回収率 (m)	(%)
86 mm 24.00 m	6.0	21.00	87.5
mm m	0.0		

期間内訳							
延		休業		実働			
日数	方数	日数	方	日数	方	掘進方	工数
2	4	0	1	2	3	0	15
12	24	0	4	12	20	14	100
5	10	0	5	5	5	0	25
19	38	0	10	19	28	14	140

１００m毎のコア採取率				
深度 (m)	コア長及び採取率			累計
0.00 ～ 15.00	5.50 m	36.67 %		36.67 %
15.00 ～ 123.40	108.40 m	100.00 %		92.30 %
123.40 ～ 205.70	82.30 m	100.00 %		95.38 %
205.70 ～ 307.70	102.00 m	100.00 %		96.91 %
307.70 ～ 400.00	92.30 m	100.00 %		97.63 %
～	m		%	%

掘進能率		
掘進深度(m)／延日数	21.05	m／日
掘進深度(m)／延方数	10.53	m／方
掘進深度(m)／実働日数	21.05	m／日
掘進深度(m)／実働方数	14.29	m／方
掘進深度(m)／延掘進日数	33.33	m／日
掘進深度(m)／延掘進方数	16.67	m／方
掘進深度(m)／実掘進日数	33.33	m／日
掘進深度(m)／実掘進方数	20.00	m／方
掘進深度(m)／純掘進方数	28.57	m／方
掘進深度(m)／延工数	2.11	m／工
純掘進工数／掘進深度(m)	0.18	工／m

表Ⅱ－2－6　掘進実績表（ＭＪＺＳ－２）

工事期間			
区分	工事期間		
	期間		
設営作業	96/09/08	～ 96/09/12	
掘進作業	96/09/13	～ 96/09/23	
解体撤去作業	96/09/24	～ 96/09/24	
合計	96/09/08	～ 96/09/24	
掘進深度			
計画深度	500.00 m	表土	m
増掘長	0.00 m	コア長	485.50 m
検尺深度	500.00 m	コア採取率	97.10 %
作業時間			
掘削時間	129.0 h	70.9 %	50.2 %
ロッド揚降	10.0 h	5.5 %	3.9 %
インナー揚降	20.0 h	11.0 %	7.8 %
付帯作業	3.0 h	1.6 %	1.2 %
事故回復作業	20.0 h	11.0 %	7.8 %
その他	h	0.0 %	0.0 %
小計	182.0 h	100.0 %	70.8 %
移設作業			
設営作業	56.0 h		21.8 %
解体作業	19.0 h		7.4 %
合計	257.0 h		100.0 %

ケーシングパイプ			
ケーシングパイプ挿入深度およびケーシングサイズ (m)	ケーシング率 (%)	ケーシングパイプ回収率 (m)	(%)
86 mm 24.00 m	4.8	21.00	87.5
mm m	0.0		

期間内訳							
延		休業		実働			
日数	方数	日数	方	日数	方	掘進方	工数
5	10	0	5	5	5	0	25
11	22	0	2	11	20	17	100
1	2	0	0	1	2	0	10
17	34	0	7	17	27	17	135

１００m毎のコア採取率				
深度 (m)	コア長及び採取率			累計
0.00 ～ 24.60	9.50 m	39.58 %		39.58 %
24.60 ～ 175.60	151.60 m	100.00 %		91.74 %
175.60 ～ 292.60	117.00 m	100.00 %		95.01 %
292.60 ～ 391.60	99.00 m	100.00 %		96.30 %
391.60 ～ 500.00	108.40 m	100.00 %		97.10 %
～	m		%	%

掘進能率		
掘進深度(m)／延日数	29.41	m／日
掘進深度(m)／延方数	14.71	m／方
掘進深度(m)／実働日数	29.41	m／日
掘進深度(m)／実働方数	18.52	m／方
掘進深度(m)／延掘進日数	45.45	m／日
掘進深度(m)／延掘進方数	22.73	m／方
掘進深度(m)／実掘進日数	45.45	m／日
掘進深度(m)／実掘進方数	25.00	m／方
掘進深度(m)／純掘進方数	29.41	m／方
掘進深度(m)／延工数	2.94	m／工
純掘進工数／掘進深度(m)	0.17	工／m

表Ⅱ－2－7　掘進実績表（ＭＪＺＳ－3）

工事期間													
区分	工事期間		期間内訳										
			延		休業		実働						
	期間		日数	方数	日数	方	日数	方	掘進方	工数
設営作業	96/08/01	～ 96/08/12	12	12	5	5	7	7	25	35
掘進作業	96/08/13	～ 96/09/07	26	26	0	0	26	26	17	130
解体撤去作業	96/09/08	～ 96/09/08	1	1	0	0	1	1	0	5
合計	96/08/01	～ 96/09/08	39	39	5	5	34	34	42	170

掘進深度					100m毎のコア採取率			
計画深度	500.00 m	表土	m		深度 (m)	コア長及び採取率		累計
増掘長	0.30 m	コア長	478.60 m		0.00 ～ 37.00	15.30 m	41.35 %	41.35 %
検尺深度	500.30 m	コア採取率	95.66 %		37.00 ～ 94.50	57.50 m	100.00 %	77.04 %
作業時間					94.50 ～ 191.00	99.50 m	100.00 %	88.81 %
掘削時間	152.0 h	63.1 %	52.6 %		191.00 ～ 293.10	99.10 m	100.00 %	92.60 %
ロッド揚降	10.0 h	4.1 %	3.5 %		293.10 ～ 404.10	111.00 m	100.00 %	94.63 %
インナー揚降	30.0 h	12.4 %	10.4 %		404.10 ～ 500.30	96.20 m	100.00 %	95.66 %
付帯作業	1.0 h	0.4 %	0.3 %		掘進能率			
事故回復作業	43.0 h	19.9 %	16.6 %		掘進深度(m)／延日数	12.83	m／日	
その他	h	0.0 %	0.0 %		掘進深度(m)／延方数	12.83	m／方	
小計	241.0 h	100.0 %	83.4 %		掘進深度(m)／実働日数	14.71	m／日	
移設作業					掘進深度(m)／実働方数	14.71	m／方	
設営作業	32.0 h		11.1 %		掘進深度(m)／延掘進日数	19.24	m／日	
解体作業	16.0 h		5.5 %		掘進深度(m)／延掘進方数	19.24	m／方	
合計	289.0 h		100.0 %		掘進深度(m)／実掘進日数	19.24	m／日	
ケーシングパイプ					掘進深度(m)／実掘進方数	19.24	m／方	
ケーシングパイプ挿入深度およびケーシングサイズ (m)	ケーシング率 (%)	ケーシングパイプ回収率 (m)	(%)		掘進深度(m)／純掘進方数	29.43	m／方	
86 mm 37.00 m	7.4	31.00	91.9		掘進深度(m)／延工数	2.57	m／工	
mm m	0.0				純掘進工数／掘進深度(m)	0.17	工／m	

表Ⅱ－2－8　掘進実績表（ＭＪＺＳ－4）

工事期間													
区分	工事期間		期間内訳										
			延		休業		実働						
	期間		日数	方数	日数	方	日数	方	掘進方	工数
設営作業	96/09/30	～ 96/10/03	4	8	0	2	4	6	0	30
掘進作業	96/10/04	～ 96/10/12	9	18	0	2	9	16	17	80
解体撤去作業	96/10/13	～ 96/10/21	9	18	0	9	9	9	0	45
合計	96/09/30	～ 96/10/21	22	44	0	13	22	31	17	155

掘進深度					100m毎のコア採取率			
計画深度	300.00 m	表土	m		深度 (m)	コア長及び採取率		累計
増掘長	0.00 m	コア長	300.00 m		0.00 ～ 115.60	115.60 m	100.00 %	100.00 %
検尺深度	300.00 m	コア採取率	100.00 %		115.60 ～ 232.40	116.80 m	100.00 %	100.00 %
作業時間					232.40 ～ 300.00	67.60 m	100.00 %	100.00 %
掘削時間	101.0 h	76.5 %	41.9 %		～	0.00 m	%	%
ロッド揚降	10.0 h	7.4 %	4.0 %		～	0.00 m	%	%
インナー揚降	20.0 h	14.7 %	8.1 %		～	m	%	%
付帯作業	2.0 h	1.5 %	0.8 %		掘進能率			
事故回復作業	0.0 h	0.0 %	0.0 %		掘進深度(m)／延日数	13.64	m／日	
その他	h	0.0 %	0.0 %		掘進深度(m)／延方数	6.82	m／方	
小計	135.0 h	100.0 %	54.8 %		掘進深度(m)／実働日数	13.64	m／日	
移設作業					掘進深度(m)／実働方数	9.68	m／方	
設営作業	56.0 h		22.6 %		掘進深度(m)／延掘進日数	33.33	m／日	
解体作業	56.0 h		22.6 %		掘進深度(m)／延掘進方数	16.67	m／方	
合計	248.0 h		100.0 %		掘進深度(m)／実掘進日数	33.33	m／日	
ケーシングパイプ					掘進深度(m)／実掘進方数	18.75	m／方	
ケーシングパイプ挿入深度およびケーシングサイズ (m)	ケーシング率 (%)	ケーシングパイプ回収率 (m)	(%)		掘進深度(m)／純掘進方数	17.65	m／方	
86 mm 12.70 m	4.2	9.00	70.9		掘進深度(m)／延工数	1.36	m／工	
mm m	0.0				純掘進工数／掘進深度(m)	0.28	工／m	

表Ⅱ－2－9　掘進実績表（ＭＪＺＳ－５）

工　事　期　間

区　分	工事期間 期間
設営作業	96/08/21 ～ 96/09/03
掘進作業	96/09/04 ～ 96/09/28
解体撤去作業	96/09/29 ～ 96/09/29
合　計	96/08/21 ～ 96/09/29

掘進深度

計画深度	400.00 m	表　土	m
増掘長	0.40 m	コア長	393.20 m
検尺深度	400.40 m	コア採取率	98.20 %

作業時間

掘削時間	192.0 h	58.2 %	45.9 %
ロッド揚降	10.0 h	3.0 %	2.5 %
インナー揚降	23.0 h	7.0 %	5.9 %
付帯作業	12.0 h	3.6 %	3.1 %
事故回復作業	93.0 h	28.2 %	23.7 %
その他	h	0.0 %	0.0 %
小　計	330.0 h	100.0 %	84.0 %

移設作業

設営作業	51.0 h		13.7 %
解体作業	9.0 h		2.3 %
合　計	393.0 h		100.0 %

ケーシングパイプ

ケーシングパイプ挿入深度およびケーシングサイズ (m)	ケーシング率 (%)	ケーシングパイプ回収率 (m)	(%)
86 mm 37.70 m	9.4	31.00	90.2
mm m	0.0		

期　間　内　訳

延 日数	延 方数	休 日数	休 方	実働 日数	実働 方	実働 掘進方	実働 工数
14	28	3	15	11	13	15	65
25	50	0	15	25	35	17	175
1	2	0	0	1	2	0	10
40	80	3	30	37	50	32	250

１００m毎のコア採取率

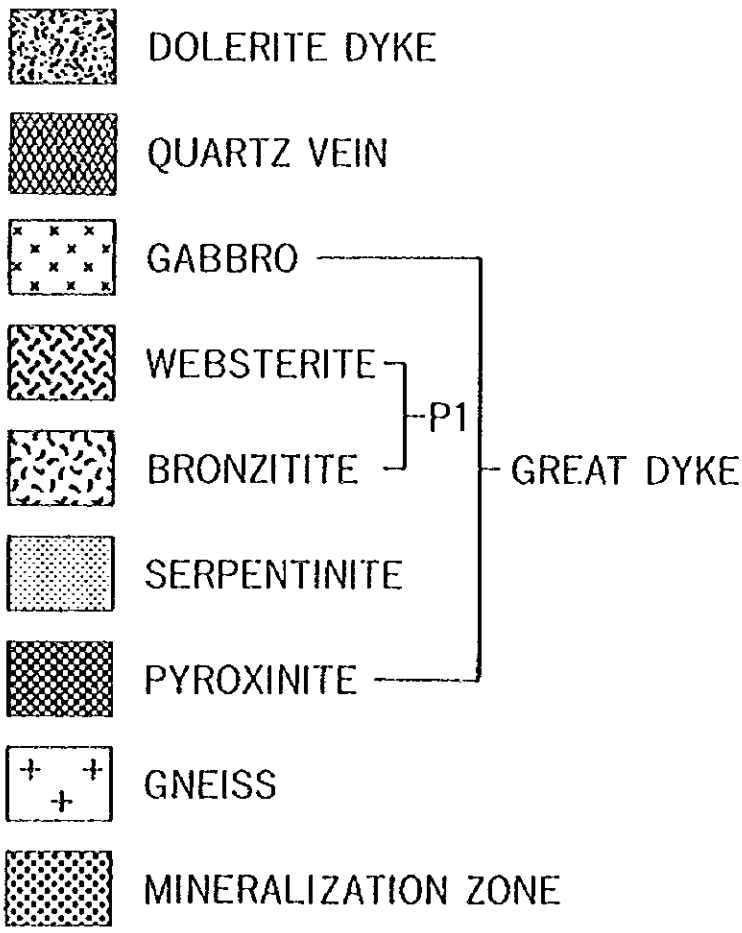
深　度 (m)	コア長及び採取率			累計
0.00 ～ 15.00	7.80 m	52.00 %		52.00 %
15.00 ～ 115.40	100.40 m	100.00 %		93.76 %
115.40 ～ 208.40	93.00 m	100.00 %		96.55 %
208.40 ～ 316.40	108.00 m	100.00 %		97.72 %
316.40 ～ 400.40	84.00 m	100.00 %		98.20 %
～	m	%		%

掘進能率

掘進深度(m)／延日数	10.01	m／日
掘進深度(m)／延方数	5.01	m／方
掘進深度(m)／実働日数	10.82	m／日
掘進深度(m)／実働方数	8.01	m／方
掘進深度(m)／延掘進日数	16.02	m／日
掘進深度(m)／延掘進方数	8.01	m／方
掘進深度(m)／実掘進日数	16.02	m／日
掘進深度(m)／実掘進方数	11.41	m／方
掘進深度(m)／純掘進方数	23.55	m／方
掘進深度(m)／延工数	1.00	m／工
純掘進工数／掘進深度(m)	0.21	工／m

A-4　ボーリング柱状図

Index



MJZS-1-(1)

0m-100m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER.	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
5.00		Soil and Gabbro	Red soil - White soil, and Gabbro breccia Weathered zone.												
8.90															
10.00		Gabbro	8.90m~ Green-deep green, compact, hard, fine grain, white spot, holocrystalline, equigranular, plagioclase>orthopyroxene>clinopyroxene 8.90~17.00m rather white, weathered												
15.00															
20.00															
25.00															
30.00															
35.00															
36.70			35.00~36.70m Green-pale green-white, banding, calcite vein?, or segregation?, angle+-50degree												
40.00															
45.00															
50.00						R- 1	50.00								
55.00															
58.70															
60.00			58.70~61.50m Green-pale green-white, mottled color, coarse grain,												
61.50															
65.00															
70.00															
71.00			71.00~73.70m Calcite-Serpentine? vein many,												
73.70															
75.00															
80.00						R- 2	80.00								
85.00															
90.00															
95.00															
100.00			99.20m Calcite veinlet many,												

Sample (OA:Ore Analysis, TS:Thin Section, PS:Polish, R:Rock)

図II－2－2　ボーリング柱状図（ＭＪＺＳ－１）

MJZS-1-(2)　　100m-200m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
		Gabbro													
105.00															
110.00						R- 3	110.00								
115.00															
120.00															
125.00															
130.00															
135.00															
140.00															
145.00															
150.00						R- 4	150.00								
155.00															
160.00															
162.80						R- 5	161.00								
165.00		Websterite	162.80m– Green-deep green, medium-coarse grain, compact,			R- 6	164.00								
166.00			holocrystalline, equigranular, orthopyroxene>clinopyroxene, very weak sulphide disseminate, 162.80–166.00m weak serpentinite bearing.												
170.00						R- 7	170.00								
						T- 1	170.00								
175.00															
180.00															
182.00			182.00–184.50m Crack, chlorite vein?,												
185.00															
190.00						R- 8	190.00								
195.00															
200.00															

Sample (OA-;Ore Analysis, TS-;Thin Section, PS-;Polish, R-;Rock)

図Ⅱ－２－２　ボーリング柱状図（ＭＪＺＳ－１）

MJZS-1-(3)

200m-300m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
205.00		Websterite	Green-deep green, medium grain, holocrystalline, equigranular, orthopyroxene>clinopyroxene, very weak sulphide disseminate.			R- 9	210.00								
210.00															
215.00															
220.00						P- 8	230.80								
						P- 9	232.20								
						P- 10	232.70								
						P- 11	243.30								
						P- 16	250.00								
						R- 10	223.50								
						R- 11	229.50								
225.00						1- 2	229.50								
						R- 12	238.00								
227.00						OA 1	226.70	227.70	1.00	< 1	0.09	< 10	< 10	< 10	0.15
		Serpentinite	227.00m– Pale green-yellow green-dark color, fine grain, soapy, olivine bearing,			OA 2	227.70	228.50	0.80	1	0.10	14	< 10	< 10	0.16
						OA 3	228.50	229.00	0.50	< 1	0.07	< 10	< 10	< 10	0.16
						OA 4	229.00	229.50	0.50	2	0.05	< 10	< 10	< 10	0.19
230.00						OA 5	229.50	230.00	0.50	< 1	0.11	< 10	< 10	< 10	0.13
			sulphide disseminate rather strong, calcite veinlet many,			OA 6	230.00	230.50	0.50	< 1	0.18	< 10	< 10	< 10	0.09
232.00						OA 7	230.50	231.00	0.50	1	0.14	< 10	< 10	< 10	0.16
		Bronzitite	232.00m– Dark green-dark gray, fine grain, mainly orthopyroxene, holocrystalline, equigranular,			OA 8	231.00	231.50	0.50	3	0.12	< 10	< 10	< 10	0.19
						OA 9	231.50	232.00	0.50	1	0.12	< 10	< 10	< 10	0.18
						OA 10	232.00	232.50	0.50	< 1	0.10	< 10	< 10	< 10	0.17
235.00						OA 11	232.50	233.00	0.50	< 1	0.05	< 10	< 10	< 10	0.18
			sulphide disseminate strong(226.70m-260.00m)			OA 12	233.00	233.50	0.50	2	0.12	< 10	< 10	< 10	0.18
						OA 13	233.50	234.00	0.50	2	0.09	< 10	< 10	< 10	0.19
						OA 14	234.00	234.50	0.50	2	0.12	< 10	< 10	< 10	0.17
						OA 15	234.50	235.00	0.50	2	0.13	< 10	< 10	< 10	0.17
240.00						OA 16	235.00	235.50	0.50	3	0.14	< 10	< 10	< 10	0.19
						OA 17	235.50	236.00	0.50	2	0.11	< 10	< 10	< 10	0.20
						OA 18	236.00	236.50	0.50	3	0.16	< 10	< 10	< 10	0.14
						OA 19	236.50	237.00	0.50	3	0.11	14	< 10	< 10	0.20
						OA 20	237.00	237.50	0.50	5	0.11	< 10	< 10	< 10	0.22
245.00						OA 21	237.50	238.00	0.50	5	0.12	< 10	11	< 10	0.20
						OA 22	238.00	238.50	0.50	3	0.05	< 10	< 10	< 10	0.20
						OA 23	238.50	239.00	0.50	7	0.16	32	< 10	< 10	0.20
						OA 24	239.00	239.50	0.50	5	0.05	13	< 10	< 10	0.19
250.00						OA 25	239.50	240.00	0.50	4	0.10	13	< 10	< 10	0.19
						OA 26	240.00	240.50	0.50	3	0.10	< 10	15	< 10	0.12
						OA 27	240.50	241.00	0.50	10	0.09	< 10	12	< 10	0.26
						OA 28	241.00	241.50	0.50	7	0.09	21	< 10	< 10	0.18
						OA 29	241.50	242.00	0.50	12	0.18	< 10	44	< 10	0.18
255.00						OA 30	242.00	242.50	0.50	25	0.65	< 10	< 10	< 10	0.18
						OA 31	242.50	243.00	0.50	33	0.19	11	< 10	< 10	0.23
						OA 32	243.00	243.50	0.50	14	0.17	13	< 10	< 10	0.19
						OA 33	243.50	244.00	0.50	17	0.09	< 10	< 10	< 10	0.26
						OA 34	244.00	244.50	0.50	5	0.07	< 10	41	< 10	0.09
						OA 35	244.50	245.00	0.50	3	0.03	17	20	< 10	0.18
260.00						OA 36	245.00	245.50	0.50	13	0.13	13	< 10	< 10	0.18
						OA 37	245.50	246.00	0.50	15	0.16	22	12	< 10	0.18
						OA 38	246.00	246.50	0.50	17	0.13	30	31	< 10	0.21
						OA 39	246.50	247.00	0.50	12	0.13	15	37	< 10	0.08
265.00						OA 40	247.00	247.50	0.50	28	0.08	76	76	< 10	0.20
						OA 41	247.50	248.00	0.50	33	0.20	151	162	< 10	0.26
						OA 42	248.00	248.50	0.50	27	0.10	102	122	< 10	0.21
						OA 43	248.50	249.00	0.50	30	0.12	277	168	< 10	0.22
						OA 44	249.00	249.50	0.50	45	0.15	396	228	< 10	0.22
270.00						OA 45	249.50	250.00	0.50	63	0.16	553	434	12	0.24
			270.20–271.40m Dolerite dyke,			OA 46	250.00	251.00	1.00	33	0.13	490	425	15	0.16
						OA 47	251.00	252.00	1.00	22	0.08	356	421	15	0.13
						OA 48	252.00	253.00	1.00	12	0.05	213	353	14	0.08
						OA 49	253.00	254.00	1.00	12	0.05	176	377	< 10	0.08
275.00						OA 50	254.00	255.00	1.00	8	0.45	75	391	< 10	0.10
						OA 51	255.00	256.00	1.00	3	0.02	91	302	< 10	0.06
						OA 52	256.00	257.00	1.00	4	0.02	106	315	< 10	0.06
						OA 53	257.00	258.00	1.00	< 1	0.04	42	248	< 10	0.04
						OA 54	258.00	259.00	1.00	< 1	0.07	< 10	299	< 10	0.04
280.00						OA 55	259.00	260.00	1.00	< 1	0.03	< 10	111	< 10	0.08
						1- 3	237.00								
						1- 12	250.00								
						R- 13	249.50								
						R- 14	268.00								
283.50						R- 15	281.00								
285.00		Serpentinite	283.50m– Gray-pale green, fine grain, soapy,			R- 16	284.00								
			calcite veinlet many,												
288.20		Harzburgite	288.20m– Black, fine grain, compact,			R- 17	289.70								
290.00			290.00m– Black-gray-white banding,												
293.00		Pyroxenite	293.00m– Deep green, medium-coarse grain, mainly orthopyroxene>>clinopyroxene,			R- 18	294.00								
295.00						R- 19	295.70								
300.00															

Sample (OA:Ore Analysis, TS:Thin Section, PS:Polish, R:Rock)

図II－2－2　ボーリング柱状図（ＭＪＺＳ－１）

MJZS-1-(4)

300m-400m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
305.00		Pyroxenite													
310.00															
315.00															
320.00			317.50m~ Calcite-serpentine-chlorite vein many,			R- 20	316.40								
325.00															
330.00															
335.00															
340.00						R- 21	339.50								
345.00			341.00~342.30m Felsite dyke?? angle+-45degree												
350.00						R- 22	349.00								
355.00															
357.30						R- 23	355.40								
359.00		Harzbergite or Serpentine	357.30m~ Gray, compact, fine grain, olivine many, banded,												
360.00			359.00m~366.50m Dark green-olive green, and soapy,			R- 24	358.20								
365.00			mainly serpentine,			R- 25	362.50								
366.50			366.50m~ Gray, banded,												
370.00															
372.50		Pyroxenite	372.50m~ Dark green, fine grain, orthopyroxene+clinopyroxene,												
374.30		Harzbergite or Serpentinite	374.30m~ Gray-dark gray-dark green, fine grain, soapy,												
375.00			calcite veinlet many, mottled color, pyroxenite breccia bearing,			R-26	376.40								
380.00															
385.00															
390.00						R- 27	389.70								
390.10		Pyroxenite	angle+-50degree 390.10m~ Green-deep green, medium grain, orthopyroxene+clinopyroxene, holocrystalline,												
395.00						R- 28	395.00								
400.00			calcite-serpentine veinlet??, 400.00m Stop.												

Sample (OA:Ore Analysis; TS:Thin Section; PS:Polish; R:Rock)

図II－2－2　ボーリング柱状図（ＭＪＺＳ－１）

MJZS-2-(1)

0m-100m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
1.69		Red soil	Weathered zone,												
5.00		Gabbro	1.69m– Green-dark green, fine gram, hard, compact, white and green mottled color, plagioclase>orthopyroxene>clinopyroxene,												
10.00															
15.00															
15.86			15.86m–18.86m Pale green, clay, weathered zone,												
18.86															
20.00															
25.00															
30.00															
35.00															
40.00															
45.00															
50.00						K- 1	47.28								
55.00															
60.00															
60.50			60.50m–61.50m Crushed and veinlet, (chlorite ?)												
65.00															
70.00															
75.00			Gradually change, Plagioclase=orthopyroxene>clinopyroxene,												
80.00															
85.00															
90.00															
95.00															
100.00															

Sample (OA:Ore Analysis; TS:Thin Section; PS:Polish; R:Rock)

図Ⅱ－２－３　ボーリング柱状図（ＭＪＺＳ－２）

MJZS-2-(2)

100m-200m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
105.00		Gabbro	Green-dark green and white, mottled color, fine grain, hard, compact, equigranular, holocrystalline,												
110.00															
115.00						I- 4	115.88								
115.60			115.60m Pegmatite?			R- 2	115.88								
120.00			gradually change to plagioclase<orthopyroxene=clinopyroxene,												
125.00															
130.00															
135.00															
140.00															
145.00															
150.00															
155.00															
160.00															
165.00															
170.00						R- 1	169.15								
175.00															
180.00															
184.18						R- 4	181.88								
185.00		Websterite	184.18m~ Deep green color,			R- 5	181.84								
190.00			medium-coarse grain, hard, compact, holocrystalline, equigranular, orthopyroxene>=clinopyroxene, very weak sulphide dissemenate,												
195.00			191.00m weak chlorite vein(et(W=2cm)			R- 6 I- 5	190.18 190.18								
200.00															

Sample (OA-,Ore Analysis; TS-,Thin Section; PS-,Polish; R-,Rock)

図Ⅱ－２－３　ボーリング柱状図（ＭＪＺＳ－２）

MJZS-2-(3)

200m-300m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	FROM (m)	TO (m)	L (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
205.00		Websterite	204.00m–206.00m Chlorite-epidote vein												
210.00						R- 7	210.08								
215.00															
220.00															
225.00															
230.00															
235.00						R- 8	235.85								
240.00															
245.00															
250.00															
255.00															
260.00						R- 9	257.32								
265.00			265.00m– Calcite, veinlet many,			R- 10	270.00								
266.00		Bronzitite	266.00m– Gradually change, Green-deepgreen, coarse grain, holocrystalline, equigranular, orthopyroxene>>clinopyroxene, 266.00m–274.00m sulphide(Py, Po, Cp) disseminate,	Sul diss		P- 6	270.30								
270.00						P- 7	271.00								
						OA 1	266.00	266.50	0.50	5	0.32	19	< 10	< 10	0.22
						OA 2	266.50	267.00	0.50	4	0.29	19	< 10	< 10	0.18
						OA 3	267.00	267.50	0.50	5	0.26	17	10	< 10	0.20
						OA 4	267.50	268.00	0.50	4	0.15	< 10	< 10	< 10	0.16
						OA 5	268.00	268.50	0.50	3	0.12	15	29	< 10	0.13
						OA 6	268.50	269.00	0.50	7	0.17	69	36	< 10	0.23
						OA 7	269.00	269.50	0.50	15	0.33	133	93	< 10	0.31
						OA 8	269.50	270.00	0.50	14	0.51	46	62	< 10	0.29
						OA 9	270.00	270.50	0.50	17	0.21	167	100	< 10	0.20
						OA 10	270.50	271.00	0.50	15	0.19	220	148	< 10	0.25
275.00						OA 11	271.00	271.50	0.50	25	0.23	389	373	19	0.17
						OA 12	271.50	272.00	0.50	4	0.12	172	251	< 10	0.08
						OA 13	272.00	272.50	0.50	< 1	0.06	24	72	< 10	0.03
						OA 14	272.50	273.00	0.50	3	0.03	56	158	< 10	0.04
						OA 15	273.00	273.50	0.50	2	0.21	106	193	< 10	0.06
280.00						OA 16	273.50	274.00	0.50	2	0.05	54	175	< 10	0.04
						R- 11	274.00								
						I- 6	274.00								
						R- 12	281.28								
285.00															
290.00															
295.00															
						R- 13	295.78								
300.00															

Sample (OA-;Ore Analysis; TS-;Thin Section; PS-;Polish; R-;Rock)

図Ⅱ－2－3　ボーリング柱状図（ＭＪＺＳ－２）

MJZS-2-(4)

300m-400m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
		Bronzitite													
302.40		Harzbergite or Serpentinite	320.40m– Green-olive green-white, mottled color, Soapy, pale green serpentine and olivine ?												
305.00						R- 14	304.50								
307.98						R- 15	306.38								
310.00		Pyroxenite	307.98m– Dark green, coarse grain, equigranular, orthopyroxene=clinopyroxene,			R- 16	310.50								
315.00				cal vein											
318.93															
320.00		Dolerite	318.93m–321.78m Dyke, olive green, breccuated,												
321.78		Pyroxenite	321.78m– Dark green, coarse grain, orthopyroxene=clinopyroxene, clinopyroxene clear and many,												
325.00															
330.00															
335.00															
340.00						R- 17	340.50								
345.00															
350.00															
351.50															
354.00		Dolerite	351.50m–354.00m Dyke, olive green, breccuated, both side boundary 50 degree about same to upper 307.98m–												
355.00		Pyroxenite	Dark green, coarse grain, orthopyroxene=clinopyroxene, clinopyroxene clear and many,												
360.00															
365.00															
370.00															
375.00															
380.00						R- 18	380.50								
384.08															
385.00		Harzbergite or Serpentinite	384.08m– Gray-green-dark green-black, fine grain, soapy, center part olivine and green serpentine many, both side banding,			R- 19	384.99								
						R- 20	386.88								
390.00						R- 21	389.60								
394.70						R- 22	393.00								
395.00		Pyroxenite	394.70m– Green-light green, medium grain, equigranular, orthopyroxene>>clinopyroxene,			R- 23	395.60								
399.00															

Sample (OA; Ore Analysis, TS; Thin Section, PS; Polish, R; Rock)

図Ⅱ－2－3　ボーリング柱状図（ＭＪＺＳ－２）

MJZS-2-(5)

400m-500m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
405.00		Pyroxenite	Green-light green, medium grain, equigranular, orthopyroxene>>clinopyroxene.			R- 24 I- 7	401.50 401.50								
410.00															
415.00															
420.00															
425.00						R- 25	424.00								
430.00															
435.00															
440.00															
445.00						R- 26	444.00								
450.00															
455.00															
460.00															
465.00						R- 27	463.00								
470.00						R- 28	470.50								
472.38						R- 29	472.60								
475.00		Harzbergite	472.38m– Green-pale green, fine grain, soft, banding, serpentine many.												
480.00			477.08m– Black, olivine many, white mottled pattern.			R- 30 R- 31	476.70 478.30								
485.00						R- 32	482.00								
490.00						R- 33 I- 8	486.00 486.00								
495.00						R- 34	491.00								
500.00			500.00m Stop			R- 35	497.00								

Sample (OA-;Ore Analysis; TS-;Thin Section; PS-;Polish; R-;Rock)

図Ⅱ－２－３　ボーリング柱状図（ＭＪＺＳ－２）

MJZS-3-(1)　　0m-100m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
5.00		Red soil	Weathered zone.												
5.00		Gabbro	5.00m– Deep green, hard, compact, medium grain, equigranular, holocrystalline, plagioclase>>clinopyroxene(light purple color)>orthopyroxene(pale green color)												
10.00															
12.76			12.76m– Pale green, soft, part sandy and clayish, weathered part.												
15.00															
20.00															
25.00															
30.00															
35.60			35.60m– White-gray, mottled color, hard, compact, medium-coarse grain, equigranular, holocrystalline, plagioclase>>orthopyroxene(pale green -green)>clinopyroxene(very weak), very weak Py disseminate, 39.66m weak crashed, clay zone (W=20cm)			R- 1	37.50								
40.00															
45.00															
50.00															
53.50			53.50m–55.70m weak crashed, calcite-chlorite veinlet many.												
55.00															
60.00															
61.25			61.25m– Green-deep green, hard, medium grain, equigranular, plagioclase>>clinopyroxene>Orthopyroxene			R- 2	63.05								
65.00															
67.50			67.50m– gradual change, plagioclase>orthopyroxene>>clinopyroxene.												
70.00															
71.30			71.30m– Green-deep green-black, medium-fine grain, equigranular, holocrystalline, plagioclase>clinopyroxene=orthopyroxene.												
75.00															
80.00															
82.25			82.25m–82.55m Calcite-chlorite vein (W=1cm)												
85.00															
90.00						R- 3	88.00								
91.00			91.00m–95.00m Chlorite veinlet many.												
95.00															
100.00															

Sample (OA-,Ore Analysis; TS-,Thin Section; PS-,Polish; R-,Rock)

図Ⅱ－２－４　ボーリング柱状図（ＭＪＺＳ－３）

MJZS-3-(2)

100m-200m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
105.00		Gabbro	Green-deep green-part black, medium grain, equigranular, holocrystalline texture, plagioclase>clinopyroxene>orthopyroxene.												
110.00															
115.00															
120.00			120.00–120.40m Quartz-calcite-chlorite (weak Py) vein, W=10cm			R- 4	121.40								
125.00															
130.00															
135.00															
140.00															
145.00															
150.00						R- 5	150.00								
155.00															
160.00															
165.00			163.90m– Boundary weak Py disseminate, Green-pale green, white, pale green, part black mottled color, medium-coarse grain, equigranular, holocrystalline, 169.50m calcite-chlorite vein, W=5cm,			R- 6	165.00								
170.00			some part banded structure(chlorite?) plagioclase>orthopyroxene>>clinopyroxene,												
175.00															
180.00															
185.00						R- 7	185.00								
188.49															
190.00		Websterite	188.49m– Green-deep green, purple spot, medium-fine grain, equigranular, holocrystalline, plagioclase<clinopyroxene=orthopyroxene												
195.00						R- 8	193.00								
200.00															

Sample (OA-,Ore Analysis; TS-,Thin Section; PS-,Polish; R-,Rock)

図Ⅱ－２－４　ボーリング柱状図（ＭＪＺＳ－３）

MJZS-3-(3)

200m-300m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	FROM (m)	TO (m)	L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rb (ppb)	S (%)
205.00		Websterite	Green-deep green, medium-fine grain, equigranular, holocrystalline, plagioclase<clinopyroxene<orthopyroxene												
210.00			208.25m–210.60m Gradual boundary, medium-coarse grain, orthopyroxene many												
215.00			210.60m– medium-fine grain, orthopyroxene>clinopyroxene>plagioclase												
220.00															
225.00						R- 9	221.00								
230.00			227.60m–229.40m Green, coarse grain, orthopyroxene=plagioclase>clinopyroxene												
235.00			229.30m– medium-fine grain,												
240.00															
245.00			241.50m–246.56m Light green-green, coarse grain, orthopyroxene=plagioclase, 245.66m Calcite-chlorite vein,												
250.00			246.56m– Green-deep green, fine grain, equigranular, purple spot (clinopyroxene)			R- 10	245.00								
255.00															
260.00															
263.58						R- 11	260.00								
265.00		Bronzitite	263.58m– Green-olive green color,			R- 12	267.75								
						P- 1	269.20								
						OA 1	263.50	264.50	1.00	2	2.70	< 10	< 10	< 10	0.17
						OA 2	264.50	265.50	1.00	2	0.17	< 10	< 10	< 10	0.17
			hard, compact, coarse grain(d=0.5-1cm) holocrystalline, equigranular, orthopyroxene(green-deep green)>>clinopyroxene(light purple color), uppermost sulphide(Py,Po?) disseminate, (sulphide d=1-0.5mm), partly chlorite veinlet, Lower part medium grain, sulphide disseminate become weak to very weak (d<<0.5mm).	chl		OA 3	265.50	266.50	1.00	< 1	0.42	< 10	< 10	< 10	0.16
						OA 4	266.50	267.50	1.00	< 1	0.16	< 10	< 10	< 10	0.17
						OA 5	267.50	268.00	0.50	< 1	0.28	13	< 10	< 10	0.16
270.00						OA 6	268.00	268.50	0.50	< 1	3.57	< 10	< 10	< 10	0.17
						OA 7	268.50	269.00	0.50	< 1	1.40	< 10	< 10	< 10	0.17
						OA 8	269.00	269.50	0.50	2	1.20	< 10	< 10	< 10	0.17
						OA 9	269.50	270.50	1.00	< 1	0.60	< 10	< 10	< 10	0.15
						OA 10	270.50	271.50	1.00	1	0.40	< 10	< 10	< 10	0.17
275.00						OA 11	271.50	272.50	1.00	< 1	0.43	< 10	< 10	< 10	0.14
						OA 12	272.50	273.50	1.00	< 1	0.31	< 10	< 10	< 10	0.16
280.00															
						R- 13	280.00								
285.00															
290.00															
295.00															
300.00															

Sample (OA:Ore Analysis, TS:Thin Section, PS:Polish, R:Rock)

図Ⅱ－２－４　ボーリング柱状図（ＭＪＺＳ－３）

MJZS-3-(4)

300m-400m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rb (ppb)	S (%)
305.00		Breccialite or Orthopyroxenite	Green-light green-five green color, coarse-medium grain, orthopyroxene>>clinopyroxene,												
						R- 14	309.00								
310.00															
315.00															
320.00															
325.00			325.00m–325.75m brecciated, chlorite rich,												
330.00															
						P- 2	331.10								
						R- 15	332.30								
335.00			335.00m–350.00m Gradualy change, sulphide dissemination, d=0.5-1mm, partly>=2% of sulphide, and filled between grain boundary,			OA 13	335.00	336.00	1.00	3	0.10	< 10	< 10	< 10	0.18
						OA 14	336.00	337.00	1.00	6	0.30	< 10	< 10	< 10	0.18
						OA 15	337.00	338.00	1.00	5	1.02	< 10	14	< 10	0.18
						OA 16	338.00	339.00	1.00	11	0.71	< 10	15	< 10	0.20
						OA 17	339.00	340.00	1.00	7	0.12	< 10	13	< 10	0.18
340.00						OA 18	340.00	341.00	1.00	14	1.43	11	< 10	< 10	0.21
						OA 19	341.00	341.50	0.50	6	0.15	< 10	< 10	< 10	0.16
						OA 20	341.50	342.00	0.50	9	0.49	< 10	< 10	< 10	0.14
						OA 21	342.00	342.50	0.50	12	0.56	< 10	24	< 10	0.20
345.00						OA 22	342.50	343.00	0.50	11	0.10	< 10	< 10	< 10	0.20
						OA 23	343.00	343.50	0.50	24	0.20	< 10	16	< 10	0.25
						OA 24	343.50	344.00	0.50	24	0.13	29	16	< 10	0.27
						OA 25	344.00	345.00	1.00	20	0.14	45	23	< 10	0.23
						OA 26	345.00	346.00	1.00	20	0.20	48	29	< 10	0.20
350.00						OA 27	346.00	347.00	1.00	45	0.10	166	108	< 10	0.22
						OA 28	347.00	348.00	1.00	36	0.10	321	175	< 10	0.25
						OA 29	348.00	349.00	1.00	48	0.10	583	331	14	0.25
						OA 30	349.00	350.00	1.00	40	0.24	516	355	51	0.18
355.00						OA 31	350.00	351.00	1.00	25	0.18	438	391	47	0.15
360.00															
365.00															
370.00						R- 16	370.00								
375.00															
380.00															
385.00															
390.00						R- 17	390.00								
393.50															
395.00		Dunite or Harzbergite	Boundary graduary change, Black-Nack and white mottled color, soft, soapy face, serpentinized ?, olivine, magnetite, chromite many,			R- 18	395.00								
						R- 19	398.00								
400.00															

Sample (OA-,Ore Analysis; TS-,Thin Section; PS-,Polish; R-,Rock)

図II－2－4　ボーリング柱状図（ＭＪＺＳ－３）

MJZS-3-(5)　　400m-500m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
405.00		Bronzitite or Orthopyroxenite	400.00m– Grsdualy change, olive green color, medium grain, holocrystalline, equigranular, orthopyroxene>clinopyroxene, sulphide dissemmation (mainly Py) very weak,												
410.00			405.80m–408.00m chlorite banding,			R- 20	410.00								
415.00			413.00m–416.00m chlorite banding,												
420.00			no sulphide mineralization, weak pale green veinlet, (chlorite and serpentine ?)												
425.00															
430.00															
435.00															
440.00						R- 21	440.00								
445.00															
450.00															
455.00															
460.00															
465.00															
470.00						R- 22	470.00								
475.00															
475.88		Dunite or Harzbergite (Serpentinite)	475.88m– Gradualy change, black color, fine grain, rather soft, mainly olivin, and pale green serpentine may be magnetite include.			R- 23	479.00								
480.00						R- 24	481.50								
485.00						R- 25	485.00								
487.64		Pyroxenite	487.64m– Green-olive green color, medium grain, holocrystalline, equi-granular, mainly orthopyroxene>clinopyroxene,												
490.00															
495.00						R- 26	495.00								
500.00			500.50m Stop												

Sample (OA;Ore Analysis; TS-;Thin Section; PS-;Polish; R-;Rock)

図Ⅱ－２－４　ボーリング柱状図（ＭＪＺＳ－３）

MJZS-4-(1)　　0m-100m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	FROM (m)	TO (m)	L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Pb (ppb)	S (%)
0.00		Soil and Websterite													
5.00															
10.00															
12.70															
15.00		Websterite	12.70m– Green-dark green color, medium green, hard, holocrystalline, orthopyroxene>clinopyroxene, weak sulphide disseminate.												
20.00															
25.00															
30.00															
35.00															
40.00															
45.00															
50.00															
55.00															
56.70															
60.00		Bronzitite	56.70m– Green-olive green, coarse grain, holocrystalline, equigranular, orthopyroxene>clinopyroxene.												
65.00															
70.00			68.5m–85m sulphide disseminate, (Po,Py,Cp?), may be MSZ			P- 12 P- 13	79.70 82.15								
75.00						OA 1 OA 2 OA 3 OA 4 OA 5 OA 6 OA 7 OA 8 OA 9 OA 10	70.00 71.00 72.00 73.00 74.00 75.00 76.00 77.00 78.00 79.00	71.00 72.00 73.00 74.00 75.00 76.00 77.00 78.00 79.00 80.00	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	1 < 1 2 2 2 3 4 5 7 7	0.08 0.10 0.12 0.12 0.18 0.10 0.12 0.42 0.13 0.11	< 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 17 < 10	< 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	0.16 0.16 0.17 0.16 0.19 0.19 0.18 0.19 0.24 0.18
80.00						OA 11 OA 12 OA 13 OA 14 OA 15	80.00 81.00 82.00 83.00 84.00	81.00 82.00 83.00 84.00 85.00	1.00 1.00 1.00 1.00 1.00	9 7 25 15 19	0.12 0.14 0.15 0.13 0.53	< 10 < 10 < 10 < 10 < 10	< 10 < 10 < 10 < 10 10	< 10 < 10 < 10 < 10 14	0.20 0.18 0.25 0.17 0.32
85.00						OA 16 OA 17	85.00 86.00	86.00 87.00	1.00 1.00	31 37	0.17 0.11	114 224	68 133	< 10 < 10	0.24 0.23
90.00			90m– Weak calcite veinlet												
95.00															
100.00															

Sample (OA:Ore Analysis; TS:Thin Section; PS:Polish; R:Rock)

図Ⅱ－2－5　ボーリング柱状図（ＭＪＺＳ－４）

MJZS-4-(2)　　100m-200m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER.	SAMPLE No.	FROM (m)	TO (m)	L. (m)	Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
105.00		Bronzitite													
110.00			110.60m–111.20m Dolerite dyke,												
115.00															
120.00															
125.00			121.50m–127.80m Crushed part,												
130.00															
130.70		Harzbergite or Serpentinite	130.70m–136.00m Gray-black-green, fine grain, banding, soapy,												
135.00															
136.00		Bronzitite	136.00m– Green-olive green, coarse grain, holocrystalline, equigranular, orthopyroxene>clinopyroxene,												
140.00															
145.00						OA 18	143.00	144.00	1.00	11	0.23	< 10	< 10	< 10	0.18
						OA 19	144.00	145.00	1.00	8	0.19	< 10	< 10	< 10	0.21
			140m–155m sulphide disseminate, mainly Py, Cp, Po, may be LSZ,			OA 20	145.00	146.00	1.00	8	0.14	< 10	< 10	< 10	0.17
						OA 21	146.00	147.00	1.00	9	0.15	35	< 10	< 10	0.18
						OA 22	147.00	148.00	1.00	14	0.14	< 10	< 10	< 10	0.20
						OA 23	148.00	149.00	1.00	23	0.24	86	< 10	< 10	0.23
150.00						OA 24	149.00	150.00	1.00	22	1.10	215	19	< 10	0.22
			145m–155m small calcite-serpentine veinlet many,			OA 25	150.00	151.00	1.00	52	0.42	302	45	< 10	0.19
						OA 26	151.00	152.00	1.00	29	0.52	426	111	< 10	0.18
						OA 27	152.00	153.00	1.00	14	0.19	270	81	< 10	0.09
155.00						P- 11	148.75								
						P- 15	150.50								
						1- 11	150.59								
160.00															
165.00			163.00m–166.00m Dolerite dyke, gray-deep green, fine grain, both side contact altered, angle= 70-80 degree												
170.00															
175.00															
180.00			176.50m–178.50m Dolerite dyke, both side contact 70-80 degree												
185.00															
190.00			190.00m–190.80m Dolerite dyke,												
195.00															
200.00															

Sample (OA-,Ore Analysis; TS-,Thin Section; PS-,Polish; R-,Rock)

図II－2－5　ボーリング柱状図（ＭＪＺＳ－４）

MJZS-4-(3)

200-300m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
205.00		Bronzitite													
210.00															
215.00															
216.06		Harzburgite or Serpentinite	216.06m–222.00m Black-gray-white, fine grain, banding, soapy, olivin and serpentine many,												
220.00															
222.00		Bronzitite and Websterite	222.00m– Olive green, coarse grain, orthopyroxene>clinopyroxene, holocrystalline,												
225.00															
230.00															
235.00															
240.00			237.50m–238.00m felsic rock dyke angle 60 degree												
245.00															
250.00			251.00m–251.60m felsic rock dyke angle 70 degree												
255.00			256.50m–257.00m felsic rock dyke,70 degree angle 70 degree Calcite-green clay(chlorite?) and serpentine veinlet many,												
260.00															
265.00															
270.00															
275.00															
280.00															
285.00															
290.00															
295.00															
300.00			300.00m Stop												

Sample (UA:,Ore Analysis; TS:,Thin Section; PS:,Polish; R:,Rock)

図Ⅱ－２－５　ボーリング柱状図（ＭＪＺＳ－４）

MJZS-5-(1)　　0m-100m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
5.00		Soil and Gabbro brock	Red clay and green gabbro (brock)												
6.89															
10.00		Gabbro	6.89m– Green-deep green, hard, fine grain, white-green mottled color,												
15.00															
20.00			15.00m– Pale green soil, 18.50m–20.46m White whetherd gabbro,												
25.00			24.80m–25.00m Pegmatite ?			R- 1	22.47								
25.07		Websterite	25.07m– Green-deep green color, hard, compact, medium grain, holocrystaline, equigranular, orthopyroxene=clinopyroxene, sulphide (Py,Cp,Po?) weak disseminate,	Sul		R- 2	28.20								
35.00			33.50m–33.70m Chlorite-serpentine vein												
40.00															
45.00															
50.00															
55.00															
60.00						R- 3	60.00								
65.00															
70.00															
75.00			74.20m Pegmatite ? (W=20cm)												
80.00															
85.00			85m– Gradualy strong sulphide mineralization (Py,Cp,Po?)												
90.00						R- 4	90.00								
95.00															
100.00															

Sample (OA:Ore Analysis, TS:Thin Section, PS:Polish, R:Rock)

図Ⅱ－2－6　ボーリング柱状図（ＭＪＺＳ－５）

MJZS-5-(2)

100m-200m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
105.00		Websterite	Medium grain, equigranular, holocrystalline texture, orthopyroxene=clinopyroxene,												
110.00															
115.00			sulphide mineralization become weak,												
120.00															
125.00						R- 5	120.00								
130.00															
135.00															
140.00															
145.00															
148.34						R- 6	145.00								
150.00		Harzburgite (Serpentinite)	148.34m– Boundary gradualy change, black-deep green-pale green, black and white mottled color or network rather soft, olivin many,												
155.00						R- 7	151.00								
159.00						R- 8	153.30								
160.00		Bronzitite	159.00m– Green-deep green, medium grain, orthopyroxene>clinopyroxene, 166m–172.5m sulphide disseminate,			P- 3	164.80								
165.00						P- 4	165.70								
170.00						R- 9	160.00								
175.00						R- 10	165.00								
180.00						OA 1	160.00	161.00	1.00	< 1	0.09	9	36	< 10	0.03
185.00						OA 2	161.00	162.00	1.00	5	0.30	13	< 10	< 10	0.22
190.00						OA 3	162.00	163.00	1.00	12	0.81	32	< 10	< 10	0.22
195.00			192.50m–193.00m Dolerite dyke ? (W=20cm, angle=70degree)			OA 4	163.00	164.00	1.00	15	0.46	56	< 10	< 10	0.25
200.00			195m– Almost orthopyroxene>>clinopyroxene,			OA 5	164.00	164.50	0.50	10	0.40	43	< 10	< 10	0.24
						OA 6	164.50	165.00	0.50	8	0.26	37	< 10	< 10	0.22
						OA 7	165.00	165.50	0.50	18	0.22	47	< 10	< 10	0.22
						OA 8	165.50	166.00	0.50	18	0.24	109	< 10	< 10	0.26
						OA 9	166.00	166.50	0.50	18	0.23	90	< 10	< 10	0.22
						OA 10	166.50	167.50	1.00	26	0.26	148	< 10	< 10	0.21
						OA 11	167.50	168.50	1.00	98	0.16	385	27	< 10	0.23
						OA 12	168.50	169.50	1.00	22	0.20	598	147	17	0.12
						OA 13	169.50	170.50	1.00	13	0.17	518	138	15	0.10
						OA 14	170.50	171.50	1.00	8	0.16	467	152	29	0.08
						OA 15	171.50	172.50	1.00	7	0.08	431	188	23	0.07
						R- 11	190.00								

Sample (OA-,Ore Analysis; TS-,Thin Section; PS-,Polish; R-,Rock)

図II－2－6　ボーリング柱状図（ＭＪＺＳ－５）

MJZS-5-(3)

200m-300m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER	SAMPLE No.	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
205.00		Bronzitite	Almost no mineralization,												
210.00															
215.00															
220.00						R- 12	217.50								
225.00															
229.50						R- 13	227.00								
235.00		Harzburgite or Serpentinite	229.50m– Gray-olive green banding, olivine-serpentine many,			R- 14	230.00								
240.00			234m–240m mottled color,			R- 15	233.00								
243.04			240m– banding again,			R- 16	236.00								
245.00		Bronzitite	240.00m– Gray-green-olive green, coarse grain equigranular, mainly orthopyroxene holocrystalline,			R- 17	241.00								
250.00						R- 18	244.00								
255.00			253m–254m chlorite?-serpentine vein,												
260.00			258.00m unit boundary, coarse grain,			R- 19	258.00								
265.00															
270.00			267m–268m Dolerite dyke W=10cm, angle 70 degree												
275.00															
280.00						R- 20	280.00								
285.00															
290.00															
295.00															
300.00															

Sample (OA:Ore Analysis, TS:Thin Section, PS:Polish, R:Rock)

図Ⅱ－２－６　ボーリング柱状図（ＭＪＺＳ－５）

MJZS-5-(4)

300m-400m

DEPTH (m)	GEOLOGIC COLUMN	ROCK NAME	DESCRIPTION	VEIN	ALTER.	SAMPLE No	SAMPLE FROM (m)	SAMPLE TO (m)	SAMPLE L. (m)	CHEMICAL ANALYSIS Au (ppb)	Ag (ppm)	Pt (ppb)	Pd (ppb)	Rh (ppb)	S (%)
305.00		Harzbergite				R- 21	304.00								
310.00						R- 22	309.44								
310.30		Harzbergite or Serpentinite	310.30m– White-pale green-green-dark green, banding and mottled color, fine grain, soapy.			R- 23	311.44								
315.00															
320.00						R- 24 I- 9	317.20 317.20								
325.00						R- 25	322.00								
326.76		Diorite	326.76m Boundary calcite vein (W=5cm), dark green-black, fine grain, compact.			R- 26	328.30								
330.00						R- 27	331.70								
335.00			334m calcite vein many.												
337.74		Harzbergite or Serpentinite	337.74m calcite vein many, deep green, fine-medium grain, deep green, adder skin pattern, compact, not much soapy.			R- 28 I- 10	340.50 340.50								
340.00															
345.00															
350.00						R- 29	350.20								
355.00															
360.00			360m– White spot many (calcite ?).			R- 30	360.00								
365.00															
370.00						R- 31	371.00								
375.00															
380.00			377.0m– White-pale green, banding, serpentine strong, soapy and brecciate.			R- 32	380.60								
385.00															
390.00			389m– Dark green-black color.												
395.00															
400.00			400.44m Stop			R- 33	397.50								

Sample (UA-,Ore Analysis; TS-,Thin Section; PS-,Polish; R-,Rock)

図II－2－6　ボーリング柱状図（ＭＪＺＳ－５）

JICA