

Progress Record of MJZK-6

Depth (m)	Log	Lithology	Drilling hr./m 10' 20'	Method	Progress													
					December, 1989.													
					14	15	16	17	18	19	20	21	22	23	24	25	26	
		Soil and sand beds.		3" 7/8	Drilled with tri-cone bits to the depth of 33.4 m and NW casing pipes were inserted.													
		Dolomite		NW CP														
			NQ	Installation														
			BW CP	Drilled with NQ-WL bits to the depth of 72.2 m and BW casing pipes were set.														
				BQ	Drilled with BQ-WL bits.													
100																		
200					Dismantlement													

Progress Record of MJZK-7

Depth (m)	Log	Lithology	Drilling hr./m 10' 20'	Method	Progress																
					Jan.		December, 1989.														
					30	31	1	2	3	4	5	6	7	8							
		Surface soil		3" 7/8																	
		Dolomite		NW CP																	
100				NQ	Installation Carriage Drilled with NQ-WL bits. NW casing pipes were lowered to 45 m after reaming.																
				BW CP	BW casing pipes were inserted to 120 m.																
				BQ	Drilled with BQ-WL bits.																
200					Dismantlement																

Progress Record of MJZK-8

Depth (m)	Log	Lithology	Drilling hr/m 10' 20'	Method	Progress														
					February, 1990.														
					9	10	11	12	13	14	15	16	17						
		Surface soil		3" 7/8														Drilled with tri-cone bits to 27.5 m and NW casing pipes were inserted.	
		Phyllite		NW CP														Installation	Drilled with NQ-WL bits.
		Alternation		NQ															
		Dolomite																Hole is cased with BW casing pipes to the depth of 120 m.	
100				BW CP															
				BQ													Drilled with BQ-WL bits.		
200																		Dismantlement	

Progress Record of MJZK-10

Depth (m)	Log	Lithology	Drilling hr./m 10' 20'	Method	Progress													
					March, 1990.													
					9	10	11	12	13	14	15	16	17	18				
		Soil		3" 7/8														Drilled with tri-cone bits and NW casing pipes were fixed at 26.0 m.
		Phyllite		NW CP														
		Dolomite		NQ													Drilled with NQ-WL bits.	
				BW CP														BW casing pipes were inserted to the depth of 105.0 m.
100				BQ													Drilled with BQ-WL bits.	
																		Dismantlement
200																		

Progress Record of MJZK-11

Depth (m)	Log	Lithology	Drilling hr/m 10' 20'	Method	Progress													
					Feb.		March, 1990.											
					27	28	1	2	3	4	5	6	7	8				
	Soil and sand beds.			3" 7/8														<p>Drilled with tri-cone bits, and NW casing pipes were inserted to the depth of 24.0 m.</p>
	Phyllite			NW CP													<p>Drilled with NQ-WL bits. NW casing pipes were extended to 46.4 m.</p>	
	Sand beds			NQ														
100		Dolomite		NQ														<p>BW casing pipes were inserted to the depth of 120.1 m.</p>
				BW CP													<p>Drilled with BQ-WL bits.</p>	
				BQ														
200																		Dismantlement

Progress Record of MJZK-12

Depth (m)	Log	Lithology	Drilling hr./m 10' 20'	Method	Progress														
					March, 1990.														
					19	20	21	22	23	24	25	26	27						
100	[Pattern]	Soil and weathered phyllite		3" 7/8	<p>Drilled with tri-cone bits and NW casing pipes were set to the depth of 27.1 m.</p>														
		Dolomite			NW CP	<p>Drilled with NQ-WL bits and BW casing pipes were inserted to the depth of 112.8 m.</p>													
					NQ														
200	[Pattern]			BW CP	<p>Mast assembling</p>														
				BQ	<p>Drilled with BQ-WL bits.</p>														
					<p>Dismantlement</p>														

JICA

An Interim Report of Mineral Exploration
in the Kabwe West Area(1990)

Annex :

Geological Columns

Legend for mineralization

Py

pyrites

Zn

zinc minerals

I

sulphides

I

decomposed or secondary



Hole No. : MJZK-1
 Line : 19 Elevation : 1,170 m
 Point : 475 Bearing :
 Depth : 201 m Inclination : Vertical

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
5		Cenozoic		Surface soil	Weathered						
10											
15				Clay beds.							
20				Sand beds.							
18.00							18.00	18.84	0.84	0.5	
19.69								19.69	0.85	0.4	
20.53								20.53	0.84	0.7	
21.38								21.38	0.85	0.7	
22.22								22.22	0.84	12.6	
22.80								22.80	0.58	14.2	
23.30				Light-gray, massive, rich in voids.	Oxidized			23.30	0.50	7.0	
23.80								23.80	0.50	6.0	
24.80								24.80	1.00	5.8	
25.90								25.90	1.10	12.8	
26.10								26.10	0.20	12.4	
27.10								27.10	1.00	4.2	
28.10								28.10	1.00	0.6	
29.10								29.10	1.00	8.8	
30.10								30.10	1.00	1.2	
31.10				Stained in reddish brown.				31.10	1.00	0.5	
32.10								32.10	1.00	12.4	
33.10								33.10	1.00	6.0	
34.30								34.30	1.20	1.0	
35.30								35.30	1.00	5.1	
36.30							36.30	1.00	6.3		
37.40							37.40	1.10	1.5		
38.40							38.40	1.00	0.4		
39.40							39.40	1.00	4.8		
40.40							40.40	1.00	1.2		

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results					
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn		
	[Brick pattern]	Upper Roan	Dolomite	Pinkish-gray, stained with decomposed pyrites.	Oxidized	T T T T T T T T T T T T T T T T T T T	T T T T T T T T T T T T T T T T T T T		41.40	1.00	5.2		
								42.40	1.00	4.8			
								43.40	1.00	0.6			
								44.40	1.00	8.4			
45								45.40	1.00	7.8			
								46.40	1.00	11.8			
								47.40	1.00	13.8			
								48.40	1.00	15.6			
								49.40	1.00	4.0			
50								50.40	1.00	5.4			
								51.40	1.00	2.1			
								52.40	1.00	1.0			
								53.40	1.00	7.6			
								54.40	1.00	7.8			
55								55.40	1.00	1.0			
								56.40	1.00	1.8			
								57.40	1.00	4.6			
								58.40	1.00	1.3			
60										Argillaceous intercalation at an angle of 45°.	Oxidized	T T T	T T T
65			ditto, at an angle of 15°.	Primary	T T T	T T T							
70			Light-gray to white										
75			Bedding at an angle of 25°.										
80			Bedding at an angle of 10°.										
85			Bedding at an angle of 20°.										
90													

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results				
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn	
	[Brick pattern]	Upper Roan	Dolomite	Pyrite dissemination and stringers.	Primary	I						
95				Saccaroidal. Disseminated pyrites. Sphalerite specks.			I					
100				Pyrite stringers.								
105												
110				Pyrite impregnation.								
115												
120				Pyrite stringers.								
125				Specks of pyrites.								
130				Specks of pyrites.								
135				Banding at an angle of 10°.								
140												

Depth (m)	Lithology			Zone	Mineralization		Assay Results				
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn
145	Upper Roan	Dolomite	Primary	Sphalerite specks and stringers.	I	I					
150				Clayey veinlets at 5°.							
				Saccaroidal.							
155				Banded at an angle of 15°.							
160				Specks of pyrite. Sphalerite stringers.			H				
				Banded with an angle of 15°.							
165											
170											
175				Pyrite stringers.							
180											
185				Sphalerite stringers.		I					
				Pyrite stringers.							
190				Sphalerite stringers.		I					

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
195	[Brick pattern]	Upper Roan	Dolomite	Sphalerite stringers. White saccharoidal.	Primary		I				
200				Banded at 20°. Pyrite specks. Sphalerite stringers.		I	I				

Hole No. : MJZK-2
 Line : 20 Elevation : 1,170 m
 Point : 475 Bearing :
 Depth : 201 m Inclination : Vertical

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
5		Cenozoic		Surface soil	Weathered						
10				Clay beds.				11.00			
15				Sand beds.				14.40	14.40	3.40	5.0
20		Upper Roan Dolomite		Banded, light-gray with reddish-brown staining.	Oxidized			14.40	15.40	1.00	25.0
25				White, massive.					16.40	1.00	3.0
30				Stained.					17.20	0.80	2.9
35				White to pale-gray, massive					18.20	1.00	3.3
40									19.20	1.00	2.0
									20.20	1.00	2.9
									21.20	1.00	4.4
									22.20	1.00	1.5
									23.20	1.00	1.8
									24.20	1.00	4.1
									25.20	1.00	3.9
									26.20	1.00	3.1
									27.20	1.00	4.5
									28.20	1.00	4.3
									29.20	1.00	3.0
									30.20	1.00	1.5
									31.20	1.00	1.3
							32.20	1.00	1.4		
							33.20	1.00	0.4		
							34.20	1.00	0.4		
							35.20	1.00	2.0		
							36.20	1.00	4.2		
							37.20	1.00	4.4		
							38.20	1.00	0.5		
							39.20	1.00	0.2		
							40.20	1.00	0.4		

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results							
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn				
	Upper Roan	Dolomite		Decomposed pyrites. White, saccaroidal Faintly banded at an angle of 10°. Slightly banded. Banded at an angle of 10°. Pyrite impregnation. Banded at 10°. Sphalerite veinlets. Cavernous with a banded structure.	Oxidized	H		40.20	41.20	1.00	1.8				
								42.20	1.00	3.7					
45								43.20	1.00	1.8					
								44.20	1.00	0.7					
50															
55															
60															
65															
70															
75															
					Non-oxidized				I	I		76.20	77.20	1.00	0.4
												78.20	1.00	0.2	
												79.20	1.00	nil	
80												80.20	1.00	0.2	
												81.20	1.00	2.6	
												82.20	1.00	0.4	
												83.20	1.00	0.3	
												84.20	1.00	0.3	
85												85.20	1.00	2.3	
												86.20	1.00	2.0	
	Oxidized							87.20	1.00	0.4					
								88.20	1.00	1.0					
								89.20	1.00	2.5					
90								90.20	1.00	1.7					

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
					Oxi.			90.20	91.20	1.00	1.1
						I	I		92.20	1.00	0.5
				Pyrite and sphalerite stringers.		I	I		93.20	1.00	0.6
95							I		94.20	1.00	0.3
							I		95.20	1.00	0.3
							I		96.20	1.00	1.5
				Sphalerite veinlets with pyrite impregnation.		I	I		97.20	1.00	2.6
				Pyrite-sphalerite dissemination.		I	I		98.20	1.00	0.7
100						I	I		99.20	1.00	0.3
						I	I		100.20	1.00	0.7
						I	I		101.20	1.00	0.9
						I	I		102.20	1.00	1.0
						I	I		103.20	1.00	0.1
						I	I		104.20	1.00	0.1
105				Sphalerite veinlets.		I	I		105.20	1.00	1.1
						I	I		106.20	1.00	0.6
				Sphalerite veinlets.		I	I				
110						I	I				
				Sphalerite veinlets.		I	I				
115						I	I				
				Faintly banded.							
120											
				Light-gray, massive.							
125											
				Massive.							
130											
				Faint banding.							
135											
140											

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
145	[Brick pattern]	Upper Roan	Dolomite	Fine-grained, saccaroidal.	Primary	I					
150				Rich in voids.							
155				Pyrite specks.							
160											
165				Pyrite specks.							
170				Faint banding at an angle of 25°.							
175				Faint banding at 15°.							
180											
185				Light-gray, compact.							
190											



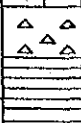
Depth (m)	Lithology				Zone	Minerali- zation		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
195	[Brick pattern]	Upper Roan	Dolomite	Light - gray, fine - grained.		I					
200				Pyrite agregates. Saccaroidal. Banded at 15°. White, banded.							

Hole No. : MJZK-3
 Line : 20 Elevation : 1,170 m
 Point : 575 Bearing :
 Depth : 201 m Inclination : Vertical

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
0		Cenozoic		Surface soil	Weathered						
5				Sand beds							
10		Upper Roan Dolomite		Porous, banded with an angle of 10°. Sphalerite stringers.	Oxidized		I				
15				Penetrated by recrystallized dolomite veins.							
20				Sphalerite stringers.			I				
20				Pyrite-sphalerite stringers.		I	I				
25				Sphalerite stringers.	Primary		I				
30				Banded at an angle of 20°.		I	I				
35				Specks of pyrite.		I	I				
40				Recrystallized dolomite patches predominate.		I	I				

Depth (m)	Lithology				Zone	Mineralization		Assay Results				
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn	
45	[Brick pattern]	Upper	Roan	Dolomite	Primary							
												Fine-grained, saccaroidal. Faintly banded with an angle of 15°.
												Pyrite impregnation.
50												Micaceous - argillaceous banding at an angle of 10°.
55												Pyrite specks and stringers associated with recrystallized dolomite patches.
60												
65												Porous along recrystallized dolomite veinings.
70												
75												Specks of pyrite.
												Decomposed pyrite specks and stringers.
80												
85	Faint banding with an angle of 15°.											
90	Faint banding at an angle of 10°.											

Depth (m)	Lithology			Zone	Mineralization		Assay Results				
	Logging	Horizon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn
95	[Brick pattern]	Upper Roan	Dolomite	Porous along recrystallized dolomite patches and veins.	Primary						
100				Pyrite impregnation. Decomposed pyrite veinlets and impregnation.		I					
105				Stained along recrystallized dolomite veinlets.		I					
110						I					
115				Argillaceous bandings at an angle of 10°.		I					
120				Decomposed pyrite impregnation.		I					
125				Pyrite impregnation and stringers.		I					
130				Argillaceous banding at an angle of 20°.		I					
135				Pyrite impregnation along recrystallized dolomite veining.		I					
140				Fine-grained, saccaroidal.		I					

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logg- ing	Hor- izon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
145		Upper Roan	Dolomite	Stained along recrystallized dolomite patches and veinlets. Impregnated pyrites were decomposed.	Primary						
150				Pyrite impregnation and stringers.							
155				Argillaceous banding with an angle of 20°.							
160				Compact, saccaroidal.							
165				Pale-gray dolomite.							
170				Specks of pyrite. Pyrite impregnation along recrystallized dolomite patches.							
175											
180				Light-gray dolomite.							
185											
190											
			Fault clay								

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
195	[Brick pattern]	Upper Roan	Dolomite	Light-gray saccaroidal dolomite.	Primary						
200				Saccaroidal compact dolomite.							

Hole No. : MJZK-4
 Line : 19 Elevation : 1,169 m
 Point : 575 Bearing :
 Depth : 201 m Inclination : Vertical

Depth (m)	Lithology				Zone	Mineralization		Assay Results				
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn	
5		Cenozoic		Surface soil	Weathered							
10												
15		Upper Roan Dolomite		Cavity at 12.2 to 12.7 m.	Oxidized			13.20	14.20	1.00	0.6	
				Brick-brown staining.						15.20	1.00	4.2
				Banding at an angle of 5°.						16.20	1.00	0.3
				Decomposed pyrite specks.						17.20	1.00	1.3
										18.20	1.00	0.3
										19.20	1.00	0.9
										20.20	1.00	1.4
										21.20	1.00	0.8
										22.20	1.00	0.8
										23.20	1.00	1.0
						Rich in voids.				24.20	1.00	0.6
										25.20	1.00	0.8
						Porous and cemented with brick-brown dull crusts.				26.20	1.00	3.0
										27.20	1.00	3.7
										28.20	1.00	13.7
										29.20	1.00	12.1
						Light-gray dolomite.				30.20	1.00	3.0
								31.20	1.00	1.0		
				Decomposed pyrites.				32.20	1.00	0.5		
								33.20	1.00	1.3		
				Porous and cemented by recrystallized dolomite veins with brownish crusts.				34.20	1.00	1.5		
								35.10	0.90	2.6		
								36.10	1.00	3.0		
								37.10	1.00	0.2		
								38.10	1.00	0.2		
								39.10	1.00	0.6		
40								40.10	1.00	0.9		

Depth (m)	Lithology			Zone	Minerali- zation		Assay Results								
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn				
45	[Brickwork pattern]	Upper	Roan	Dolomite	Oxidized							40.10	41.10	1.00	1.4
												42.10	1.00	3.5	
												43.10	1.00	3.5	
												44.10	1.00	1.6	
												45.10	1.00	1.3	
												46.10	1.00	5.5	
												47.10	1.00	9.5	
												48.10	1.00	0.9	
												49.10	1.00	2.1	
												50.10	1.00	1.0	
55	[Brickwork pattern]	Upper	Roan	Dolomite	Oxidized										
60	[Brickwork pattern]	Upper	Roan	Dolomite	Oxidized										
75	[Brickwork pattern]	Upper	Roan	Dolomite	Oxidized										
80	[Brickwork pattern]	Upper	Roan	Dolomite	Oxidized							78.10	79.10	1.00	1.6
												80.10	1.00	10.7	
												81.10	1.00	2.0	
												82.10	1.00	0.1	
												83.10	1.00	1.5	
												84.10	1.00	3.8	
85	[Brickwork pattern]	Upper	Roan	Dolomite	Oxidized							85.10	1.00	0.1	
90	[Brickwork pattern]	Upper	Roan	Dolomite	Oxidized										

Depth (m)	Lithology			Zone	Mineralization		Assay Results															
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn											
95	Upper Roan Dolomite	Dolomite		Saccaroidal dolomite, with prevailing minute veins of recrystallized dolomite.	Oxidized																	
100															Stained with recrystallized dolomite patches and with brownish crusts.							
105															Recrystallized dolomite veins, stained with brown crusts.							
															Recrystallized dolomite veins, stained and filled with boxworks and crusts.							
110																						
115															Decomposed pyrite impregnation.							
120																						
125															Light-gray, fine-grained saccaroidal dolomite.							
130															Decomposed pyrite stringers.							
135				Decomposed pyrite impregnation and stringers.																		
140				Light-gray, saccaroidal dolomite.																		

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
145	[Brick pattern]	Upper Roan	Dolomite	Faint banding with an angle of 10°.	Primary	I I I I I I I I I I					
				Fine-grained, saccaroidal dolomite.							
150				Stained with recrystallized dolomite veins and patches.							
155				Pyrite specks, associated with recrystallized dolomite veins.							
160				Argillaceous banding at an angle of 15°.							
165				Decomposed pyrite stringers.							
				Speckled with recrystallized dolomite patches and veins.							
170				Decomposed pyrite stringers.							
175				Banding at an angle of 10°.							
180				Compact, saccaroidal.							
185	Banding at an angle of 20°.										
190	Prevailing veins of recrystallized dolomite.										

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
195	[Brick pattern]	Upper Roan	Dolomite	Specks of decomposed pyrite.	Primary	-----					
200				Fine-grained, saccaroidal dolomite.							

Hole No. : MJZK-5
 Line : 18 Elevation : 1,169 m
 Point : 575 Bearing :
 Depth : 201 m Inclination : Vertical

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results					
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn		
5		Cenozoic		Surface soil	Weathered								
									4.00				
										8.00	4.00	1.3	
10				Pebble-bearing clay beds.					10.10	2.10	2.2		
									11.10	1.00	0.4		
		Upper Roan Dolomite		Saccaroidal dolomite. Stained in brown.	Oxidized			12.10	1.00	0.9			
15				Decomposed pyrites.					13.10	1.00	3.9		
				Drusy white dolomite.									
20									20.10	21.10	1.00	1.5	
										22.10	1.00	0.1	
25				Sphalerite patches and stringers.		Primary			25.10	26.10	1.00	0.6	
											27.10	1.00	0.5
30				Banded with an angle of 5°.							28.10	1.00	0.8
35													
40													

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
	[Brick pattern]	Upper Roan	Dolomite	Pyrite specks. Banding with an angle of 10°.	Primary	I					
45				Pyrite specks and stringers.		I					
50						I					
55				Light-gray, fine- grained, saccaroidal dolomite.							
60				Banding at an angle of 5°.							
65											
70				Minute specks of pyrite.		I					
75				Saccaroidal dolomite, banded with an angle of 5°.		I					
80				Banding at an angle of 10°. Pyrite patches.		I					
85						I					
90	Chlorite-sericite veinlets at 86.0 to 86.4 m. Argillaceous banding at an angle of 10°.										

Depth (m)	Lithology			Zone	Minerali- zation		Assay Results			
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)
95	[Brick pattern]	Upper Roan	Dolomite	Argillaceous banding at an angle of 15°.	Primary	I				
				Specks of pyrite.						
				Saccaroidal dolomite.						
100				Faint banding with an angle of 10°.						
105				Compact, saccaroidal.						
				Banding with an angle of 20°.						
110				Cemented fault-breccia, at 111.3 to 111.9 m.						
115										
120				Chlorite bandings at 119.1 to 121.5 m. Pyrite specks and stringers.						
125				Argillaceous banding with an angle of 15°. Pyrite stringers.						
130										
135	Chlorite bandings at 131.6 to 133.0 m with an angle of 20°.									
	Pyrite specks and stringers.									
140	Gray argillaceous banding at an angle of 20°.									

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
145	[Brick pattern]	Upper Roan	Dolomite	Fine-grained, saccaroidal dolomite.	Primary						
150				Argillaceous banding with an angle of 20°.							
155				Argillaceous banding with an angle of 15°.							
				Pyrite stringers.		I					
160				Specks of pyrite.		I					
165				Pyrite specks and stringers.		I					
170				Argillaceous banding with an angle of 15°.		I					
175				Faint banding with an angle of 20°.							
				Pyrite stringers at 15°.		I					
180				Porous recrystallized dolomite between 179.2 to 180.8 m. Decomposed pyrite specks.		I					
185				Banded with an angle of 10°.							
190				Pyrite stringers.		I					

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
195	[Brick pattern]	Upper Roan	Dolomite	Banded with an angle of 10°.	Primary						
				Intra-formational folding at 195.8 to 196.9 m.							
200				Fine-grained, saccaroidal.							
				Banding with an angle of 25°.							

Hole No. : MJZK-6
 Line : 18 Elevation : 1,170 m
 Point : 475 Bearing :
 Depth : 201 m Inclination : Vertical

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
0				Surface soil							
5											
10											
12				Clay beds.							
15											
16				Sand beds.							
20											
25											
30											
35		Upper Roan	Dolomite	Light-gray dolomite, fine-grained, banded with an angle of 10°.	Oxidized						
40											

Depth (m)	Lithology			Zone	Mineralization		Assay Results							
	Logging	Horizon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn			
45		Upper Roan	Dolomite	Grayey sericite-dolomite, banded with an angle of 30°.	Oxidized	T								
				Cavity at 45.1 to 45.7.										
50				Brecciated and cemented at 47.6 to 48.9 and 49.4 to 50.2 m.										
				Cavity at 51.1 to 53.0 m. Assays are of brownish fallen sands.			50.00	51.00	1.00	0.1				
				Cavity at 53.4 to 53.7 m.										
								51.30	0.30	3.5				
								53.00	1.70	3.6				
								54.00	1.00	0.4				
55														
60														
											63.00	64.00	1.00	0.5
65				Drusy, stained in reddish brown to yellowish brown.								65.00	1.00	3.2
												66.00	1.00	1.9
												67.00	1.00	0.6
												68.00	1.00	1.0
												69.00	1.00	6.8
70				Drusy, filled with box-works and brick-brown staining.								70.00	1.00	3.8
												71.00	1.00	2.8
												72.00	1.00	2.2
												73.00	1.00	2.7
							74.00	1.00	0.2					
75	Sphalerite veinlet at 73.7 m.						75.00	1.00	0.7					
	Drusy with orange-brown staining.						76.00	1.00	1.0					
							77.00	1.00	1.9					
							78.00	1.00	0.5					
							79.00	1.00	0.9					
80	Contorted staining bands and veinlets in brown.						80.00	1.00	1.8					
							81.00	1.00	0.9					
							82.00	1.00	1.4					
							83.00	1.00	0.6					
							84.00	1.00	0.9					
85							85.00	1.00	0.8					
							86.00	1.00	1.6					
	Stained in orange to yellowish brown.						87.00	1.00	0.1					
							88.00	1.00	0.8					
							89.00	1.00	1.4					
90	Drusy and stained.						90.00	1.00	1.7					

Depth (m)	Lithology			Zone	Mineralization		Assay Results											
	Logging	Horizon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn							
95	[Brick pattern]	Upper Roan	Dolomite	Light-gray dolomite. Slightly stained. Staining stringers.	Oxidized	I	I	90.00	91.00	1.00	0.7							
									92.00	1.00	1.0							
									93.00	1.00	0.4							
									94.00	1.00	1.0							
									95.00	1.00	0.6							
									96.00	1.00	1.0							
									97.00	1.00	0.2							
									98.00	1.00	5.5							
									99.00	1.00	0.4							
								100			Specks of pyrite. Sphalerite veinlet at 98.3 m.		I	I				
105	[Brick pattern]	Upper Roan	Dolomite	Druse at 102.0 to 102.5 m. Stained with orange- brown rims, stringers and veinlets.	Oxidized	I	I											
									104.00	105.00	1.00	1.8						
									106.00	1.00	8.6							
									107.00	1.00	5.0							
									108.00	1.00	2.9							
									109.00	1.00	2.4							
									110.00	1.00	2.9							
									111.00	1.00	0.8							
									112.00	1.00	5.3							
									113.00	1.00	2.4							
115	[Brick pattern]	Upper Roan	Dolomite	Contorted staining bands. Gossanous fillings of yellowish brown to reddish brown.	Oxidized	I	I											
									114.00	1.00	1.5							
									115.00	1.00	0.9							
									116.00	1.00	0.7							
									117.00	1.00	1.7							
									118.00	1.00	2.2							
									119.00	1.00	1.1							
									120.00	1.00	0.3							
								120			Light-gray, fine- grained, saccaroidal.							
								125	[Brick pattern]	Upper Roan	Dolomite	Banded with an angle of 5°.	Primary	I	I			
130			Slightly stained in pale orange-brown.															
135	[Brick pattern]	Upper Roan	Dolomite		Primary	I	I											
140																		

Depth (m)	Lithology				Zone	Mineralization		Assay Results					
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn		
145	[Brick pattern]	Upper Roan	Dolomite	Pyrite stringers. ditto.	Primary	I							
150													
155				Banded with an angle of 10°.		I							
160				Porous recrystallized dolomite vein at 157.2 to 158.2 m.									
165				Light-gray, fine- grained, saccaroidal.									
170				Light-gray, fine- grained, banded and saccaroidal.									
175				Specks of pyrite.		I							
180				Banded with an angle of 20°.									
185				Decomposed pyrite patches and stringers.		I							
190				Banded with an angle of 10°. Pyrite specks and patches.		I							

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results			
	Logg- ing	Flori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
	[Brick pattern]	Upper Roan	Dolomite	Pyrite-sphalerite veinlet of 1 cm wide at 190.1 m.	Primary	I	I	190.00	191.00	1.00	0.7
195				Pyrite-sphalerite veinlet of 0.3 cm wide at 194.0 m.		I					
				Pyrite stringers.		I					
200				Chlorite phyllite at 200.3 to 200.5 m with an angle of 10°.							

Hole No. : MJZK-7
 Line : 17 Elevation : 1,170 m
 Point : 475 Bearing :
 Depth : 201 m Inclination : Vertical

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
5				Surface soil							
10											
15											
20		Cenozoic			Weathered						
25											
30											
35											
40				Light-gray dolomite							

Depth (m)	Lithology			Zono	Minerali- zation		Assay Results				
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn
				Argillaceous banding with an angle of 15°.	Oxidized						
45				Cavity at 43.5 to 44.1 m.							
				Rich in voids along recrystallized dolomite patches.							
50				Argillaceous banding with an angle of 10°.							
				Fine-grained, banded, saccaroidal dolomite.							
55				Speckled and rich in voids along recrystal- lized dolomite patches and veins.							
								58.10	59.10	1.00	1.0
60				Stained with brick- brown stringers.					60.10	1.00	1.9
									61.10	1.00	1.4
									62.10	1.00	0.6
				Stained with brick- brown stringers.				63.10	1.00	0.9	
								64.10	1.00	1.3	
65								65.10	1.00	0.3	
								66.10	1.00	0.1	
				Sphalerite stringers. White dolomite. Pyrite specks.				67.10	1.00	1.7	
								68.10	1.00	3.4	
								69.10	1.00	0.3	
70								70.10	1.00	0.5	
								71.10	1.00	Nil	
				Sphalerite stringers.				72.10	1.00	0.2	
								73.10	1.00	0.6	
75											
				Sphalerite specks.							
				White, saccaroidal dolomite.							
80											
				Sphalerite stringers and veinlets.				81.10	82.10	1.00	1.6
								83.10	1.00	2.1	
								84.10	1.00	Nil	
85				Sphalerite veinlets.				85.10	1.00	Nil	
								86.10	1.00	4.4	
				Argillaceous banding with an angle of 5°.				87.10	1.00	Nil	
90				Sphalerite veinlets.				89.10	90.10	1.00	0.4

Depth (m)	Lithology			Zone	Minerali- zation		Assay Results					
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn	
95				Non-oxidized			90.10	91.10	1.00	3.2		
								92.10	1.00	1.9		
100				Oxidized								
105												
110				Oxidized		I	109.10	110.10	1.00	0.2		
115												
120												
125				Primary		I						
130												
135												
140												

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
145	[Brick pattern]	Upper Roan	Dolomite	Argillaceous banding at 10°.	Primary	I					
				Pyrite stringers.							
150				Fine-grained, sacca- roidal.							
155				Speckled with recrystal- lized dolomite patches.							
160				Banded with an angle of 20°.							
165				Argillaceous banding with an angle of 15°.							
170				Pyrite specks.							
175				Speckled with recrystal- lized dolomite patches.							
180				Argillaceous banding with an angle of 20°.							
185				Speckled with recrystal- lized dolomite patches.							
190											

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
195	[Brick pattern]	Upper Roan	Dolomite	Speckled with recrystal- lized dolomite patches.	Primary	-----					
200				Decomposed pyrite impregnation.							
				Recrystallized dolomite veins prevail.							

Hole No. : MJZK-8
 Line : 17 Elevation : 1,172 m
 Point : 375 Bearing :
 Depth : 201 m Inclination : Vertical

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
5				Surface soil	Weathered						
10											
15											
20											
25											
30		Cenozoic		Pale greenish-gray talcose phyllite.							
35				Dolomite/phyllite							
40				Phyllitic with an angle of 55°.							
			Alt.	Dolomite/phyllite							
				Pale greenish-gray.							
				Oxidized							

Depth (m)	Lithology				Zone	Mineralization		Assay Results					
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn		
45		Mwasinia	Phyllite	Pale greenish-gray.	Oxidized								
			Alt.	Dolomite/phyllite									
		Dol.	Banded dolomite										
		Alt.	Dolomite/phyllite										
		Dol.	Dark-brown dolomite										
		Phy.	Pale-gray phyllite										
		Dol.	Dark-brown dolomite										
		Phy.	Pale-gray phyllite										
		Dolomite	Pinkish-brown dolomite with intercalations of phyllite at 51.7 to 52.1 and 54.7 to 55.2 m.										
		Alter-nation	Alternation of dolomite and phyllite with iron-bands.										
60		Upper Roan	Dolomite	Banded with an angle of 40°.	Oxidized								
				Phyllite intercalations at 60.2, 62.6 to 62.8 and 68.6 to 69.3 m.									
				Porous veinlets of recrystallized dolomite at 30°.									
				Stained with brownish crusts.									
70		Upper Roan	Dolomite	Porous veinlets of recrystallized dolomite at 30°.	Oxidized								
				Stained with brownish crusts.									
75		Upper Roan	Dolomite	Speckled with recrystallized dolomite patches.	Oxidized								
				Clay								Brownish fault-clay between 77.5 and 80.3 m	Weathered
				Dolomite								Gray banded dolomite with an angle of 25°.	Oxidized
Dolomite	Decomposed pyrite specks.												
85		Upper Roan	Dolomite	Rich in voids along recrystallized dolomite veinlets.	Oxidized								
				Dolomite								Rich in voids along recrystallized dolomite veinlets.	Non-oxidized
90													













Depth (m)	Lithology				Zone	Mineralization		Assay Results							
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn				
95	[Brick pattern]	Upper Roan	Dolomite	Stained in brick-brown to dark-brown along recrystallized dolomite veins.	Non-oxidized	I-I		93.10	94.10	1.00	0.2				
							95.10	1.00	5.0						
							96.10	1.00	0.2						
100				Banded with recrystallized dolomite veins at an angle of 30°.	Non-oxidized										
105				Argillaceous banding with an angle of 25°.											
110															
115				Brecciated and cemented fault with an angle of 35°, stained in brown to khaki at 113.3 to 114.3 m.	Oxidized						112.10	113.10	1.00	0.1	
												114.10	1.00	2.0	
												115.10	1.00	1.9	
												116.10	1.00	0.2	
120				Vuggy micro-banding of recrystallized dolomite with an angle of 20°.	Non-oxidized										
125				Stained in brick-brown, pale-brown to khaki along recrystallized dolomite patches and veinlets.								125.00	126.00	1.00	0.5
													127.00	1.00	1.1
130					Oxidized							128.00	1.00	0.2	
								129.00	1.00	0.8					
								130.00	1.00	0.1					
								131.00	1.00	1.5					
								132.00	1.00	0.2					
								133.00	1.00	1.6					
								134.00	1.00	0.2					
135	White saccaroidal dolomite.							135.00	1.00	0.8					
	Banded with an angle of 15°.														
	Stained along recrystallized dolomite patches.							138.00	139.00	1.00	0.2				
140								140.00	1.00	1.2					

Depth (m)	Lithology			Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)
145	[Brick pattern]	Upper Roan	Dolomite	Porous with recrystallized dolomite patches, stained in brick-brown to dark-brown.	Oxidized	T I I	140.00	141.00	1.00	0.9
								142.00	1.00	1.3
								143.00	1.00	0.6
								144.00	1.00	1.6
								145.00	1.00	6.6
								146.00	1.00	1.2
150	[Brick pattern]	Upper Roan	Dolomite	Porous with recrystallized dolomite patches and veinlets, stained in dark-brown to brick-brown or khaki.	Oxidized	T I I	149.00	150.00	1.00	0.2
								151.00	1.00	6.6
								152.00	1.00	5.8
								153.00	1.00	6.2
								154.00	1.00	0.2
								155.00	1.00	1.8
155	[Brick pattern]	Upper Roan	Dolomite	Argillaceous banding with an angle of 20°. Decomposed pyrite stringers.	Oxidized	T I I		156.00	1.00	1.1
								157.00	1.00	1.6
160	[Brick pattern]	Upper Roan	Dolomite	Speckled with recrystallized dolomite patches and veinlets, rich in voids and stained with dark-brown crusts.	Oxidized	T I I				
165	[Brick pattern]	Upper Roan	Dolomite	Saccaroidal dolomite, speckled with recrystallized patches and veins.	Oxidized	T I I				
170	[Brick pattern]	Upper Roan	Dolomite	Banded with an angle of 20°.	Oxidized	T I I				
175	[Brick pattern]	Upper Roan	Dolomite	Decomposed specks of pyrite.	Oxidized	T I I				
180	[Brick pattern]	Upper Roan	Dolomite	Stained along recrystallized dolomite patches and veinlets with brick-brown, to chocolate-brown dull crusts.	Oxidized	T I I	180.00	181.00	1.00	0.6
								182.00	1.00	6.2
								183.00	1.00	0.7
								184.00	1.00	2.0
								185.00	1.00	1.5
								186.00	1.00	0.6
185	[Brick pattern]	Upper Roan	Dolomite	Banded with an angle of 30°.	Oxidized	T I I		187.00	1.00	0.7
								188.00	1.00	2.1
								189.00	1.00	0.6
190	[Brick pattern]	Upper Roan	Dolomite		Oxidized	T I I		190.00	1.00	1.4

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
195	[Brick pattern]	Upper Roan	Dolomite	Stained in brick-brown.	Oxidized	-	-	190.00	191.00	1.00	6.2
									192.00	1.00	5.6
									193.00	1.00	2.1
									194.00	1.00	1.4
									195.00	1.00	0.2
200	[Brick pattern]			Argillaceous banding with an angle of 20°.							


Hole No. : MJZK-9
 Line : 18 Elevation : 1,173 m
 Point : 375 Bearing :
 Depth : 201 m Inclination : Vertical

Depth (m)	Lithology			Zone	Minerali- zation		Assay Results						
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn		
0				Surface soil	Weathered								
5				Sand beds									
10				Clay beds									
15		Cenozoic			Weathered								
20													
25													
30			Mwashia	Phyllite		White to pale-gray, foliated with an angle of 10° to 40°.	Oxidized						
35				Dol.		Gray, banded.							
				Alter-nation		Dolomite/phyllite with iron bands.							
40		Upper Roan	Dolomite	Phyllite-intercalations in places.									

Depth (m)	Lithology				Zone	Mineralization		Assay Results				
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn	
				Cavity at 41.7 to 42.0 m.	Oxidized	H						
45				Decomposed pyrite.								
				Intercalation of phyllite at 47.2 to 47.6 m.								
50				Banded with an angle of 30°.	Non-oxidized	H						
55				Intercalations of thin phyllite between 51.6 and 55.0 m.								
60				Rapid banding of vuggy recrystallized veinlets of dolomite.								
65		Upper Roan	Dolomite	Gray saccharoidal dolomite.								
70				Argillaceous intercalation with an angle of 30°.								
75				Porous veinlets of recrystallized dolomite.								
80				Sericite-chlorite veinlets at 74.2 to 74.7, 77.7 and 77.8 m. Iron staining.								
85				Sericite-chlorite veinlets at 82.5 and 83.3 to 83.5 m.								
90				Porous veinlets of recrystallized dolomite, slightly stained in brick-brown.								

Depth (m)	Lithology			Zone	Minerali- zation		Assay Results			
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)
	[Brick pattern]	Upper Roan	Dolomite	Non-oxi.	T	I	92.10	93.10	1.00	0.6
95							Stained with dull brick-brown crusts along recrystallized dolomite veinlets.	94.10	1.00	16.4
								95.10	1.00	5.6
								96.10	1.00	0.6
100							Banded with an angle of 20°.	97.10	1.00	0.8
								98.10	1.00	4.0
								99.10	1.00	1.2
								100.10	1.00	1.1
								101.10	1.00	4.0
								102.10	1.00	1.2
105							Stained in pale-yellowish brown.	103.10	1.00	2.2
								104.10	1.00	4.8
								105.10	1.00	3.6
110							Stained veins of recrystallized dolomite, with brick-brown crusts.	106.10	1.00	8.0
								107.10	1.00	8.6
								108.10	1.00	16.6
								109.10	1.00	16.2
								110.10	1.00	4.2
				111.10	1.00	0.8				
115				Brick-brown stringers.	112.10	1.00	1.7			
					113.10	1.00	2.2			
					114.10	1.00	5.6			
					115.10	1.00	1.2			
					116.10	1.00	1.0			
					117.10	1.00	2.1			
120				Dark-brown to brick-brown stringers.	118.10	1.00	2.1			
					119.10	1.00	2.6			
					120.00	1.00	1.6			
					121.00	1.00	4.8			
					122.00	1.00	2.8			
					123.00	1.00	6.8			
125				Rich in voids, filled with dull brown crusts.	124.00	1.00	14.0			
					125.00	1.00	9.6			
					126.00	1.00	0.9			
					127.00	1.00	3.2			
					128.00	1.00	2.8			
					129.00	1.00	4.0			
130				Rich in voids, stained in yellowish to brick-brown.	130.00	1.00	6.8			
	131.00	1.00	6.4							
	132.00	1.00	7.6							
	133.00	1.00	7.2							
	134.00	1.00	0.7							
	135.00	1.00	5.6							
135	Brick-brown stringers.	136.00	1.00	2.4						
		137.00	1.00	10.0						
		138.00	1.00	1.2						
		139.00	1.00	4.4						
		140.00	1.00	3.2						
		140	Argillaceous banding with an angle of 20°.							

Depth (m)	Lithology			Zone	Mineralization		Assay Results				
	Logging	Horizon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn
145	Upper Roan Dolomite			Stained in brick-brown.	Oxidized		T	140.00	141.00	1.00	3.2
									142.00	1.00	11.6
								143.00	1.00	18.0	
								144.00	1.00	18.0	
								145.00	1.00	7.2	
								146.00	1.00	0.5	
								147.00	1.00	1.2	
								148.00	1.00	0.6	
								149.00	1.00	4.1	
								150.00	1.00	1.3	
								151.00	1.00	0.5	
								152.00	1.00	2.5	
								153.00	1.00	3.4	
								154.00	1.00	12.4	
								155.00	1.00	10.8	
								156.00	1.00	12.0	
								157.00	1.00	14.0	
								158.00	1.00	10.3	
								159.00	1.00	5.8	
								160.00	1.00	5.1	
								161.00	1.00	2.6	
								162.00	1.00	2.3	
	163.00	1.00	3.4								
	164.00	1.00	5.8								
	165.00	1.00	11.8								
	166.00	1.00	4.1								
	167.00	1.00	2.1								
	168.00	1.00	5.8								
	169.00	1.00	13.2								
	170.00	1.00	8.0								
	171.00	1.00	0.8								
	172.00	1.00	3.0								
	173.00	1.00	6.4								
	174.00	1.00	Nil								
175				Argillaceous banding with an angle of 15°.							
				Speckled with recrystallized dolomite patches.							
180				Specks of pyrite.							
				White saccaroidal, speckled with recrystallized dolomite patches.	Primary						
185											
190				White, fine-grained saccaroidal dolomite							

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
195 200		Upper Roan	Dolomite	Faint banding with an angle of 25°. Compact, saccaroidal, faintly banded and speckled with recrystallized dolomite patches.	Primary						

Hole No. : MJZK-10
 Line : 19 Elevation : 1,172 m
 Point : 375 Bearing :
 Depth : 201 m Inclination : Vertical

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
0				Surface soil							
5		Cenozoic									
				Gravel beds.							
10		Mwashia	Phyllite	Pale-brown, clayey.	Weathered						
15				Brownish gray, mottled in white, yellow, gray, brown, etc.							
20											
25		Upper Roan	Dolomite	Gray dolomite, intercalations of phyllite with an angle of 35°.	Oxidized						
30				Banded with iron-staining.							
35				Cavity between 35.1 and 35.5 m. Iron bands at 35.9 to 38.4 m.							
40											

Depth (m)	Lithology				Zone	Mineralization		Assay Results						
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn			
45	[Brick pattern]	Upper Roan	Dolomite	Decomposed pyrite stringers and iron-bands.	Oxidized	T T T T								
				Porous with recrystallized dolomite veins.										
50				Light-gray, banded.										
				Rapidly banded black dolomite with strata-bound sphalerite veinlets.										
55									52.10	53.10	1.00	3.5		
										54.10	1.00	8.7		
										55.10	1.00	3.3		
							Sphalerite stringers, associated with recrystallized dolomite veinlets.	Non-oxidized	H H H H					
60														
							Light-gray dolomite, banded with vuggy recrystallized dolomite veinlets.							
65														
				Argillaceous banding with an angle of 25°.										
70				Banded with recrystallized dolomite stringers.										
75														
				Cavity at 77.2 to 77.3 m.										
80					Oxidized	T T T T								
				Brick-brown stains.										
				Brick-brown streaks. Sphalerite and willemite.										
85				Brick-brown stringers.										
				Cavity at 86.8 to 87.3 m.										
90				Brick-brown stains.										

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
95	[Brickwork pattern]	Upper Roan	Dolomite	Brick-brown to reddish-brown staining. Reddish-brown stains. Banded with an angle of 15°. Brown streaks.	Oxidized	T	T				
								91.10	92.10	1.00	4.5
									93.10	1.00	6.7
									94.10	1.00	7.4
									95.10	1.00	4.7
									96.10	1.00	3.7
									97.50	1.40	1.3
									98.50	1.00	3.6
									99.50	1.00	5.1
									100.50	1.00	1.4
100	[Brickwork pattern]	Upper Roan	Dolomite	Banded with vuggy recrystallized dolomite veinlets.	Oxidized	T	T				
									101.50	1.00	2.0
									102.50	1.00	4.1
									103.50	1.00	3.8
105	[Brickwork pattern]	Upper Roan	Dolomite	Brick-brown stringers and patches.	Oxidized	T	T				
									104.50	1.00	7.7
									105.00	0.50	15.0
110	[Brickwork pattern]	Upper Roan	Dolomite	Light-gray, rapidly banded dolomite with yellow ochre stains. Washed fractures at 111.2 to 112.1 m.	Oxidized	T	T				
									106.00	1.00	2.4
115	[Brickwork pattern]	Upper Roan	Dolomite	White dolomite with staining patches. Porous and stained.	Oxidized	T	T				
									121.00	1.00	4.8
120	[Brickwork pattern]	Upper Roan	Dolomite	Sphalerite patches, surrounded with brick-brown crust rings. Willemite patches, surrounded with brick-brown crust rings.	Oxidized	T	T				
									122.00	1.00	1.6
									123.00	1.00	5.0
125	[Brickwork pattern]	Upper Roan	Dolomite	Speckled and rich in voids along recrystallized dolomite patches.	Oxidized	T	T				
									124.00	1.00	5.1
130	[Brickwork pattern]	Upper Roan	Dolomite	Slightly stained in brown.	Oxidized	T	T				
									125.00	1.00	3.6
135	[Brickwork pattern]	Upper Roan	Dolomite	Faintly banded with an angle of 15°.	Oxidized	T	T				
									126.00	1.00	4.7
140	[Brickwork pattern]	Upper Roan	Dolomite		Oxidized	T	T				

Depth (m)	Lithology				Zone	Minerali- zation		Assay Results							
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn				
145	[Brick pattern]	Upper Roan	Dolomite	Speckled and rich in voids with recrystallized dolomite patches.	Oxidized	T	T								
150				Reddish brown staining.		T									
151.7				Brick-brown stringers and patches. Sphalerite patches at 151.7 m.		T						151.00	152.00	1.00	4.0
152				Brick-brown stains.		T						153.00	1.00	6.0	
153						T						154.00	1.00	4.2	
154						T						155.00	1.00	3.8	
155				Brownish stains of irregular stringers and veinlets.		T						156.00	1.00	0.4	
156						T						157.00	1.00	5.6	
157						T						158.00	1.00	3.8	
158						T						159.00	1.00	3.2	
159						T									
160						T									
165				Reddish-brown staining.		T									
170				Speckled and porous with recrystallized dolomite patches.		T									
175	Sphalerite-pyrite streak at 170.0 m with an angle of 20°.	I													
176	Light-gray dolomite.														
180	Pyrite impregnation.	T													
181.9	Pyrite patches at 179.7, 181.9 and 182.2 m.	T													
182.2	White, saccaroidal.														
185	Pyrite patches.	T													
190	Pyrite patches and stringers.	T													

Depth (m)	Lithology			Zone	Minerali- zation		Assay Results				
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn
195	[Brick pattern]	Upper Roan	Dolomite	Pyrite specks.	Primary	I					
200				Fine-grained, saccaroidal, speckled with recrystallized dolomite veinlets.		I					

Hole No. : MJZK-11
 Line : 18 Elevation : 1,173 m
 Point : 375 Bearing : N 40° E
 Depth : 201 m Inclination : -45°

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
0				Surface soil	Weathered						
5		Cenozoic									
10											
15				Soil beds							
20											
25				Sand beds							
30		Mwashia Phyllite									
35				Pale-brownish gray, deeply weathered, talcose in places.							
40											

Depth (m)	Lithology			Zone	Mineralization		Assay Results							
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn			
		Mwa.	Phy.											
		Cenozoic		Sand beds	Weathered									
45														
		Upper Roan	Dolomite	Gray dolomite, banded with vuggy veinlets of recrystal-lized dolomite at an angle of 70°.	Non-oxidized									
50														
55														
							Brick-brown dull crusts.							
60							Porous, stained in brown to brick-brown.							
							Argillaceous banding with an angle of 65°.							
65							Stained with yellowish brown crusts.							
70							Brick-brown staining.							
							Brick-brown stringers.	Oxidized						
75							Gray, banded dolomite, speckled with recrystal-lized dolomite patches.				73.30	74.30	1.00	2.8
									75.30	1.00	5.6			
									76.30	1.00	2.3			
80				Porous and stained with brick-brown crusts.										
				Black manganese wad in voids at 86.3 and 88.3 m.										
85														
				Brick-brown stringers.										
90														

Depth (m)	Lithology			Zone	Mineralization		Assay Results				
	Logging	Horizon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn
95	[Brick pattern]	Upper Roan	Dolomite	Light-gray, fine-grained dolomite, saccaroidal.	Non-oxidized	[Vertical dashes]	[Vertical dashes]				
				Brick-brown stringers at an angle of 40°.							
100				Speckled and rich in voids with recrystallized dolomite patches and veinlets.							
105				Decomposed pyrite stringers and patches.							
110				Banded with an angle of 55°.							
115				Argillaceous banding with an angle of 25°.	Oxidized						
120				Light-gray dolomite.							
				Porous and stained in brick-brown.							
125				Brick-brown stringers.							
				White saccaroidal dolomite.							
130	Brick-brown to yellowish-brown veinlets.										
135	Decomposed pyrites and iron-staining.	[Vertical dashes]									
	Fractures with brick-brown crusts.		137.80	138.60	0.80	2.5					
				139.60	1.00	2.5					
140						140.60	1.00	6.7			

Depth (m)	Lithology				Zone	Mineralization		Assay Results				
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn	
145	[Brick pattern]	Upper Roan	Dolomite	Yellowish-brown patches.	Oxidized							
150				Yellowish-brown crusts.								
155				White dolomite, speckled with recrystallized dolomite veinlets.								
160					Non-oxidized							
165				Sphalerite stringers, with an angle of 40°.								
170					Oxidized							
175				Brown to brick-brown stringers.								
180					Non-oxidized							
185				Decomposed pyrite-recrystallized dolomite vein at 181.4 to 181.6 m. Banded with an angle of 40°.								
190					Oxidized							
	Yellowish-brown crusts in fractures.											

Depth (m)	Lithology			Zone	Mineralization		Assay Results				
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn
195	[Brick pattern]	Upper Roan	Dolomite	Sphalerite patches and veinlets.	Oxi.						
200				Pyrite specks and stringers.	Non-oxidized						
				White, fine-grained, saccaroidal dolomite, speckled and banded with recrystallized dolomite at an angle of 50°.							

Hole No. : MJZK-12
 Line : 19 Elevation : 1,172 m
 Point : 375 Bearing : N 40° E
 Depth : 201 m Inclination : -45°

Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logging	Horizon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
0				Surface soil	Weathered						
5		Cenozoic									
10											
15				Soil beds							
20					Non-oxidized						
21		Mwa.	Phy.	Weathered phyllite (?)							
22		Cen.		Soil beds							
23		Mwa.	Phy.	Weathered phyllite (?)							
24		Cenozoic									
25						Pebble-bearing soil beds.					
30		Upper Roan	Dolomite	Banded with an angle of 60°.							
32				Iron-stain banding.							
33.5				Cavity between 33.5 and 34.7 m.							
36.8				Cavity at 36.8 to 37.0 m.							
40.4				Cavity at 39.9 to 40.4							

Depth (m)	Lithology			Zono	Minerali- zation		Assay Results													
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn									
45	[Brick pattern]	Upper Roan	Dolomite	Gray banded, sericite dolomite.	Non-oxidized															
				Banding with vuggy veinlets of recrystallized dolomite.																
50				Banded with an angle of 60°.																
				Brownish stains.								52.90	53.90	1.00	3.9					
55				Rich in voids and stained along recrystallized dolomite veinlets.									54.90	1.00	4.4					
				Yellowish-brown stringers.									55.90	1.00	1.9					
60				Speckled with recrystallized dolomite patches and veins.									56.90	1.00	6.5					
				Phyllite intercalations at 67.1 and 67.2 m.									57.10	1.00	3.1					
65				White, banded dolomite rich in voids.								Oxidized								
70				Cavity at 73.8 to 74.0 m.																
	Speckled and stained with brown to dark- brown stringers.																			
75	Argillaceous banding with an angle of 45°.																			
	Speckled and stained in brown.																			
80																				
85																				
90																				

Depth (m)	Lithology			Zone	Mineralization		Assay Results									
	Logging	Horizon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)	% Zn					
	[Brick pattern]	Upper Roan	Dolomite	White saccharoidal dolomite.	Oxidized	T I L	T I L	89.90	90.90	1.00	5.2					
95									Speckled and stained in brown.							
									Decomposed pyrite impregnation.							
100									Speckled and porous along recrystallized dolomite patches.							
									Decomposed pyrite specks.							
105																
110																
115			Chocolate-brown gossany iron stains at 113.4 m. Speckled and rich in voids.													
120			Chlorite banding at 119.0 m with an angle of 35°. Speckled with recrystallized dolomite patches.													
125																
130			Decomposed pyrite crystals of 6 to 10 mm in diameter. Argillite-intercalations at 130.4 to 130.7 m with an angle of 40°.													
135																
140			Speckled and porous with recrystallized dolomite veins.													

Depth (m)	Lithology			Zone	Mineralization		Assay Results			
	Logg- ing	Hori- zon	Rock		Remarks	Py	Zn	from (m)	to (m)	run (m)
145	Upper Roan	Dolomite	Speckled with recrystallized dolomite patches, rich in voids.	Oxidized	I	I				
			Banded with an angle of 45°.							
			Pyrite and sphalerite stringers.	Non.	I	I				
150			Dolomite - sphalerite veins. Brecciated dolomite filled with sphalerite. Sphalerite patches and stringers.	Non-oxidized	I	I	149.80	150.80	1.00	6.2
										151.80
155			Banded with brownish stringers at an angle of 35°.	Oxi- dized	I	I	155.80	156.80	1.00	4.8
160			Sphalerite patches and veinlets.							
165			White compact, saccaroidal dolomite.	Primary	I	I				
			Sphalerite stringers.							
170			Iron-stain bands and decomposed pyrite stringers.							
175										
180	Banded with an angle of 40°.									
	White, saccaroidal sericite dolomite.									
185										
190	Banded with an angle of 40°.									

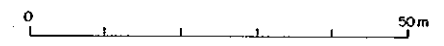
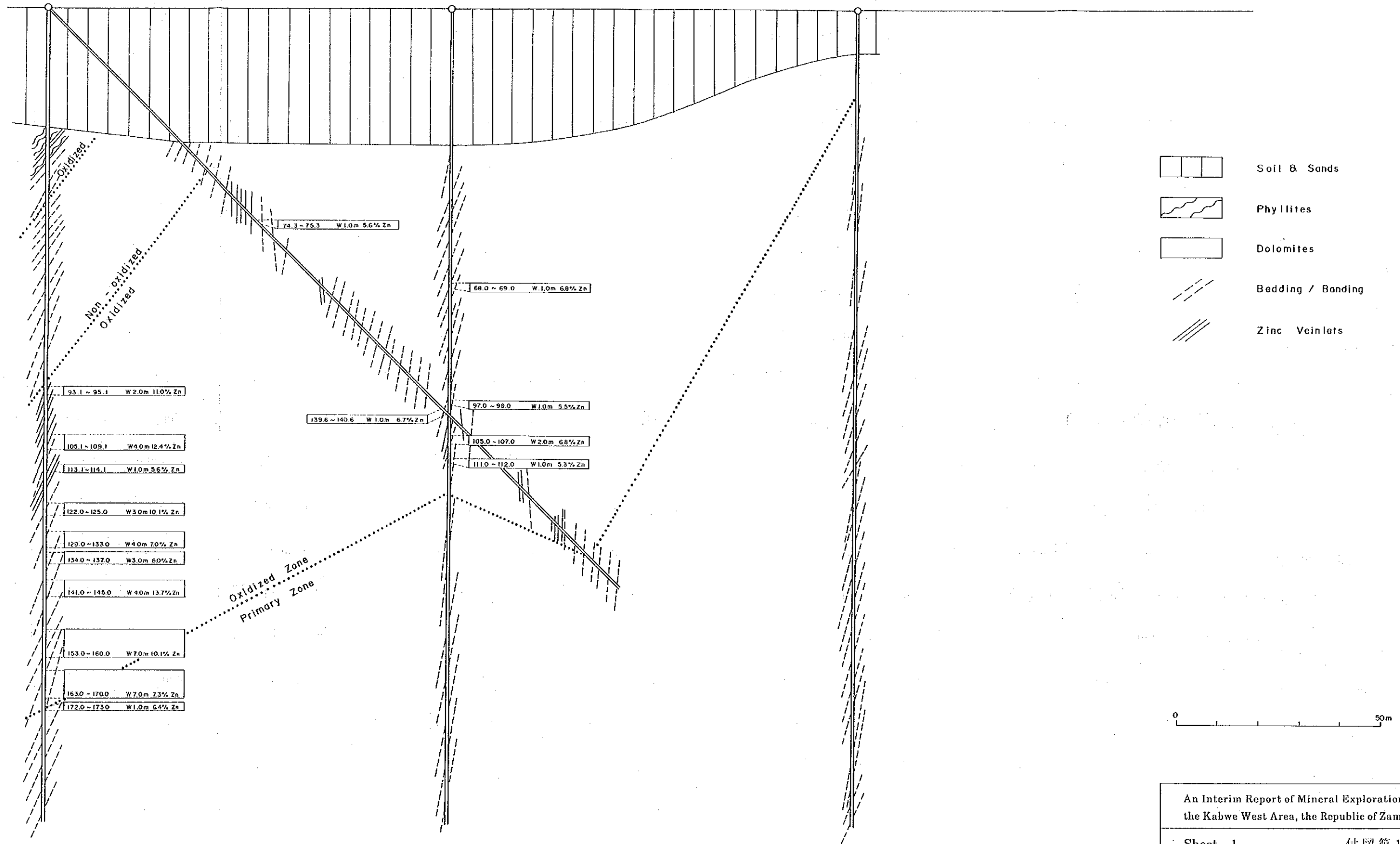
Depth (m)	Lithology				Zone	Mineralization		Assay Results			
	Logg- ing	Hori- zon	Rock	Remarks		Py	Zn	from (m)	to (m)	run (m)	% Zn
195	[Brick pattern]	Upper Roan	Dolomite	Pyrite specks and stringers.		I					
200				White compact, saccaroidal dolomite.							

LIE

MJZK-9 (90°, 201m)
MJZK-11 (-45°, 201m)

MJZK-6 (90°, 201m)

MJZK-5 (90°, 201m)



An Interim Report of Mineral Exploration in
the Kabwe West Area, the Republic of Zambia

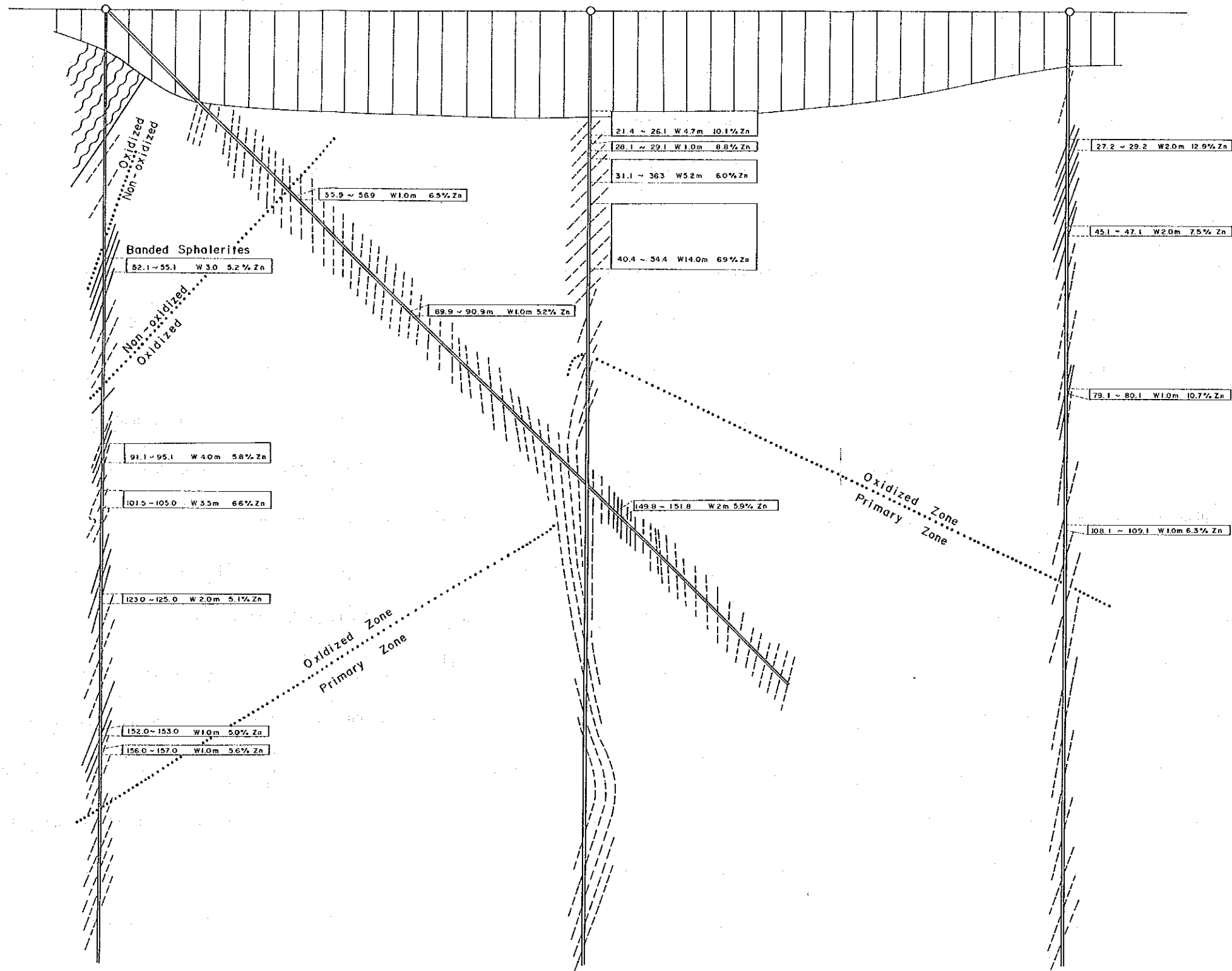
Sheet 1 付図第1図
カプエウエスト地質断面図
Geological Section in Kabwe West
- Line 18 -






Japan International Cooperation Agency
& Metal Mining Agency of Japan (1990)

MJZK - 10 (90°, 201 m)
 MJZK - 12 (-45°, 201 m)

MJZK - 1 (90°, 201 m)

MJZK - 4 (90°, 201 m)



-  Soil & Sands
-  Phyllites
-  Dolomites
-  Bedding / Bonding
-  Zinc Veinlets

0 50m

An Interim Report of Mineral Exploration in
 the Kabwe West Area, the Republic of Zambia

Sheet 2 付図第2図
 カブエウエスト地質断面図
 Geological Section in Kabwe West
 - Line 19 -

Japan International Cooperation Agency
 & Metal Mining Agency of Japan (1990)

LINE - 17

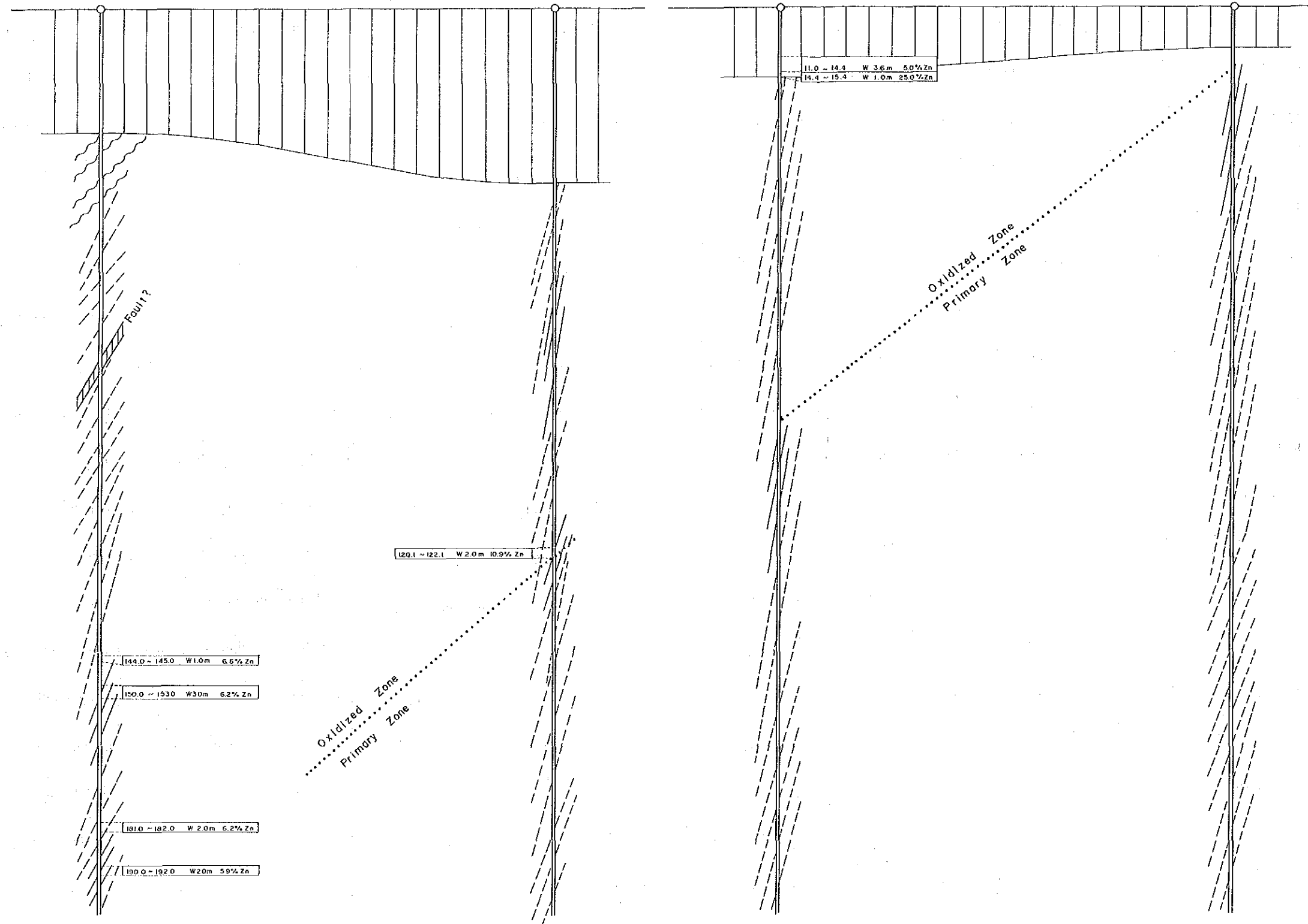
LINE - 20



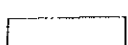


MJ2K-8 (90°, 201m)

MJ2K-7 (90°, 201m)

MJ2K-2 (90°, 201m)

MJ2K-3 (90°, 201m)



-  Soil & Sands
-  Phyllites
-  Dolomites
-  Bedding / Banding
-  Zinc Veinlets



An Interim Report of Mineral Exploration in
the Kabwe West Area, the Republic of Zambia

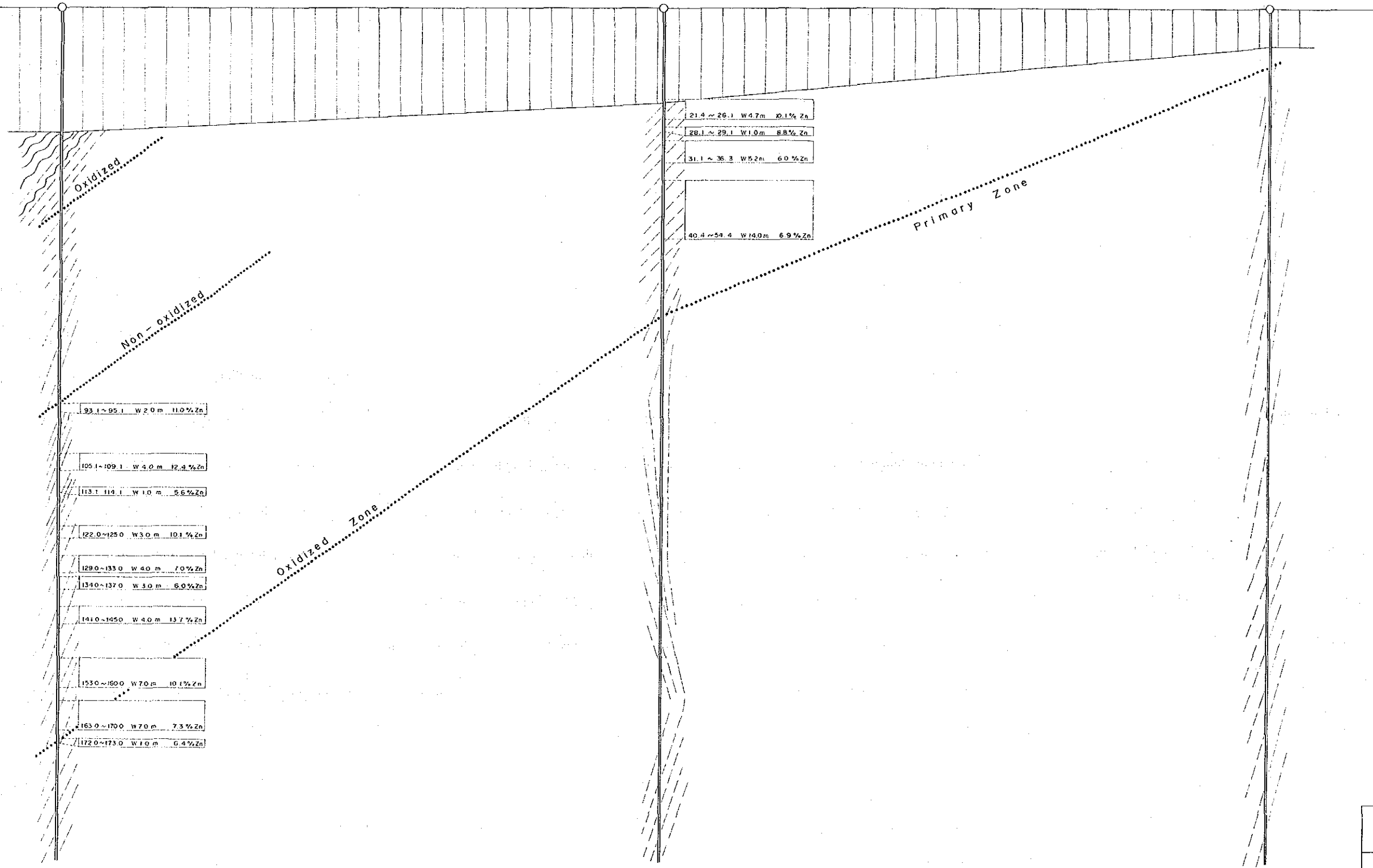
Sheet 3 付図第3図
カプエウエスト地質断面図
Geological Section in Kabwe West
- Lines 17 & 20 -

Japan International Cooperation Agency
& Metal Mining Agency of Japan (1990)

MJZK - 9 (90°, 201m)

MJZK - 1 (90°, 201m)

MJZK - 3 (90°, 201m)



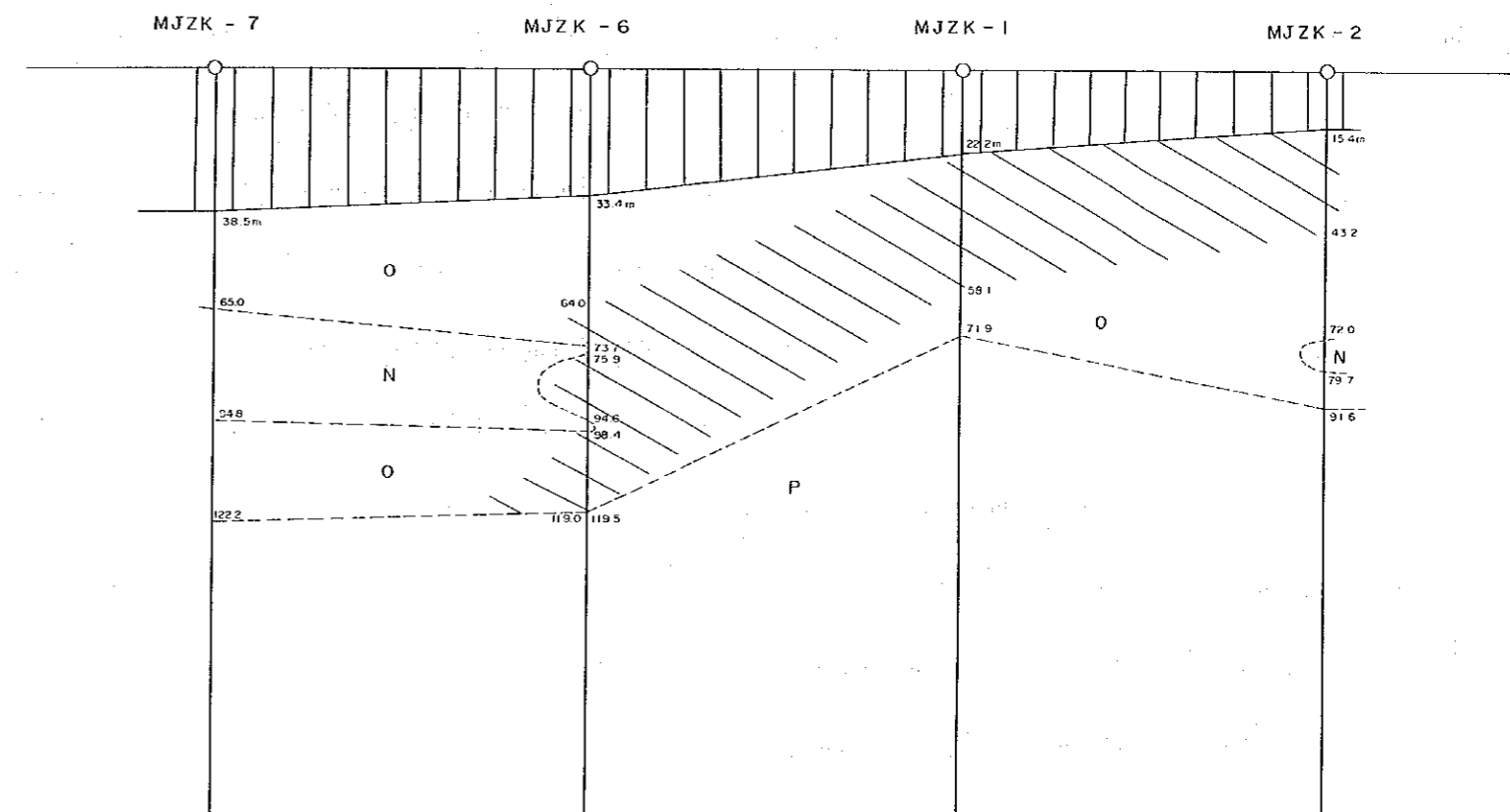
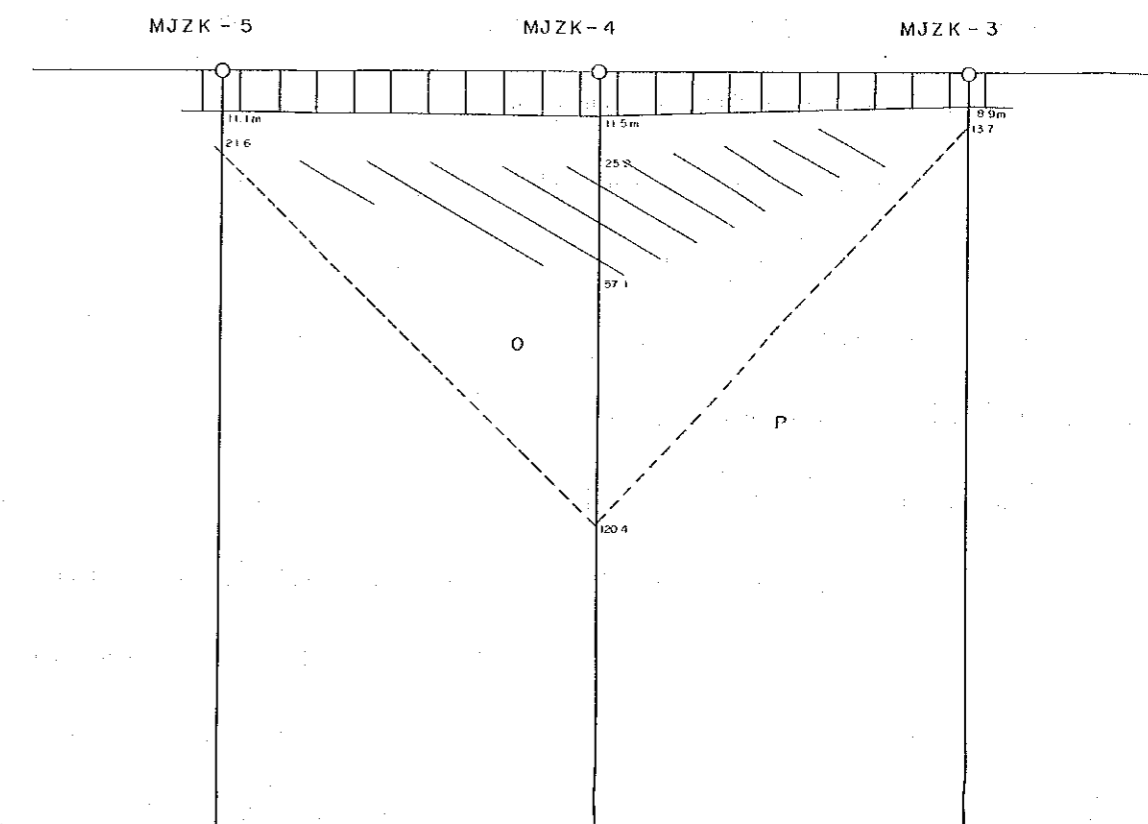
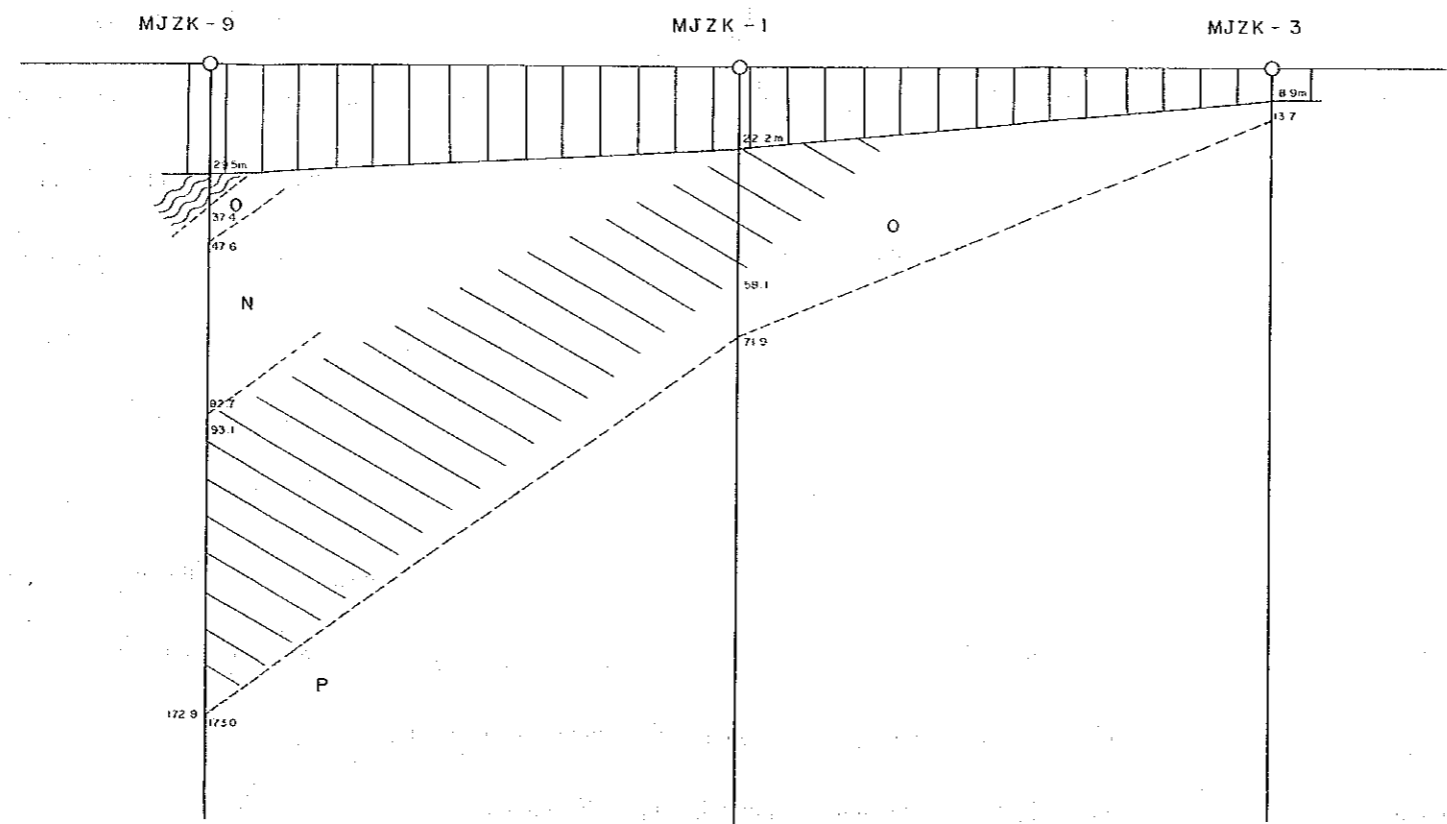
- Soil & Sands
- Phyllites
- Dolomites
- Bedding / Bonding
- Zinc Veinlets



An Interim Report of Mineral Exploration in
the Kabwe West Area, the Republic of Zambia

Sheet 4 付図第4図
カブエウエスト地質断面図
Geological Section in Kabwe West
West - East Lines

Japan International Cooperation Agency
& Metal Mining Agency of Japan (1990)

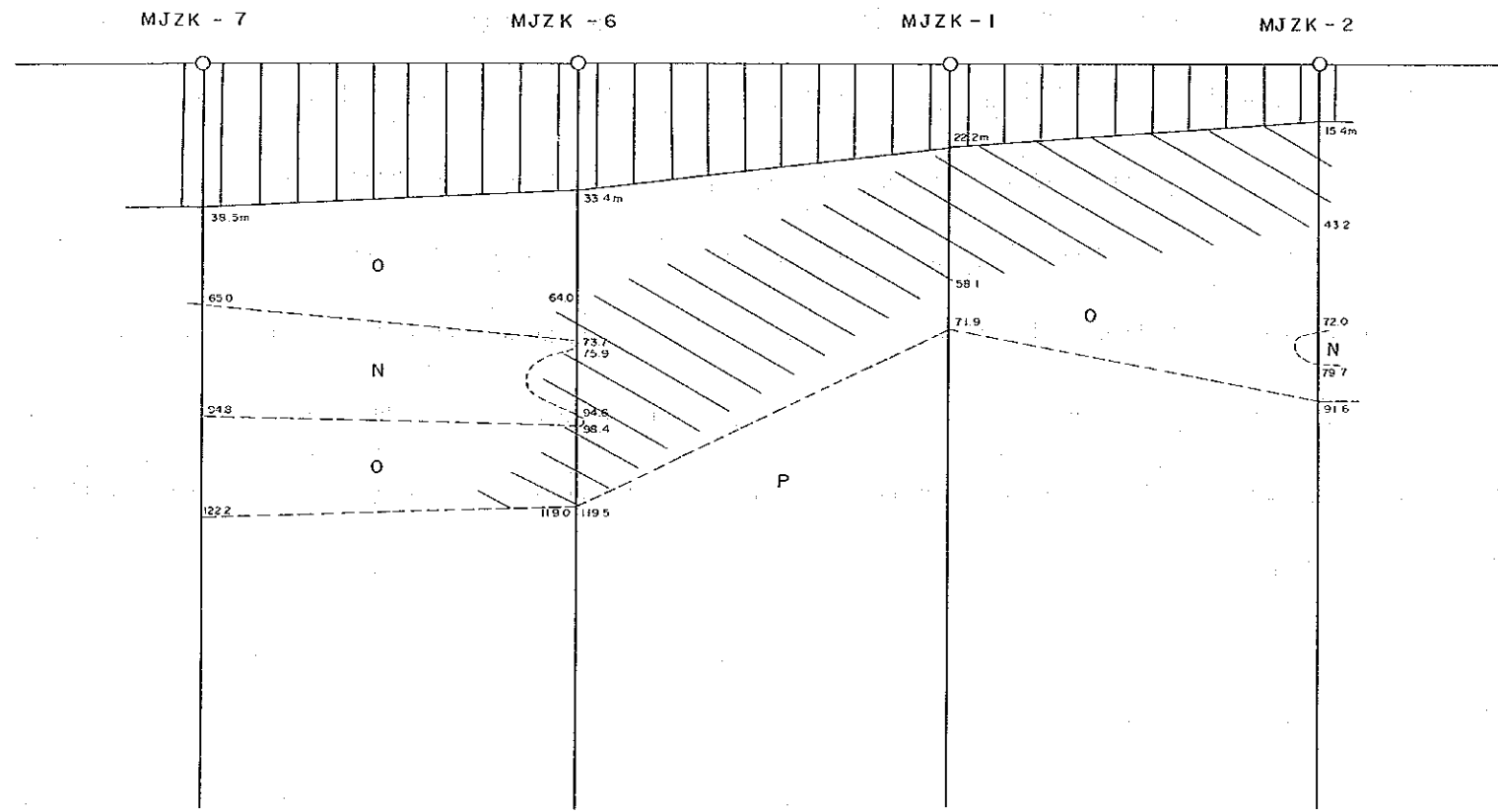
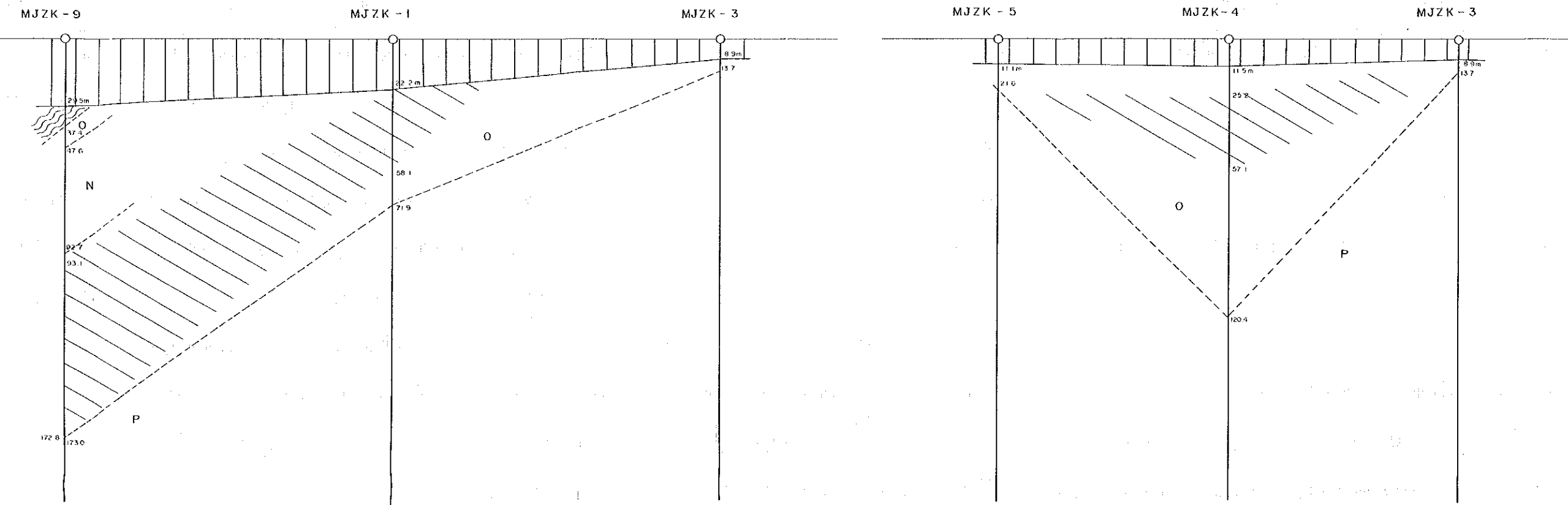


MJZK - 8

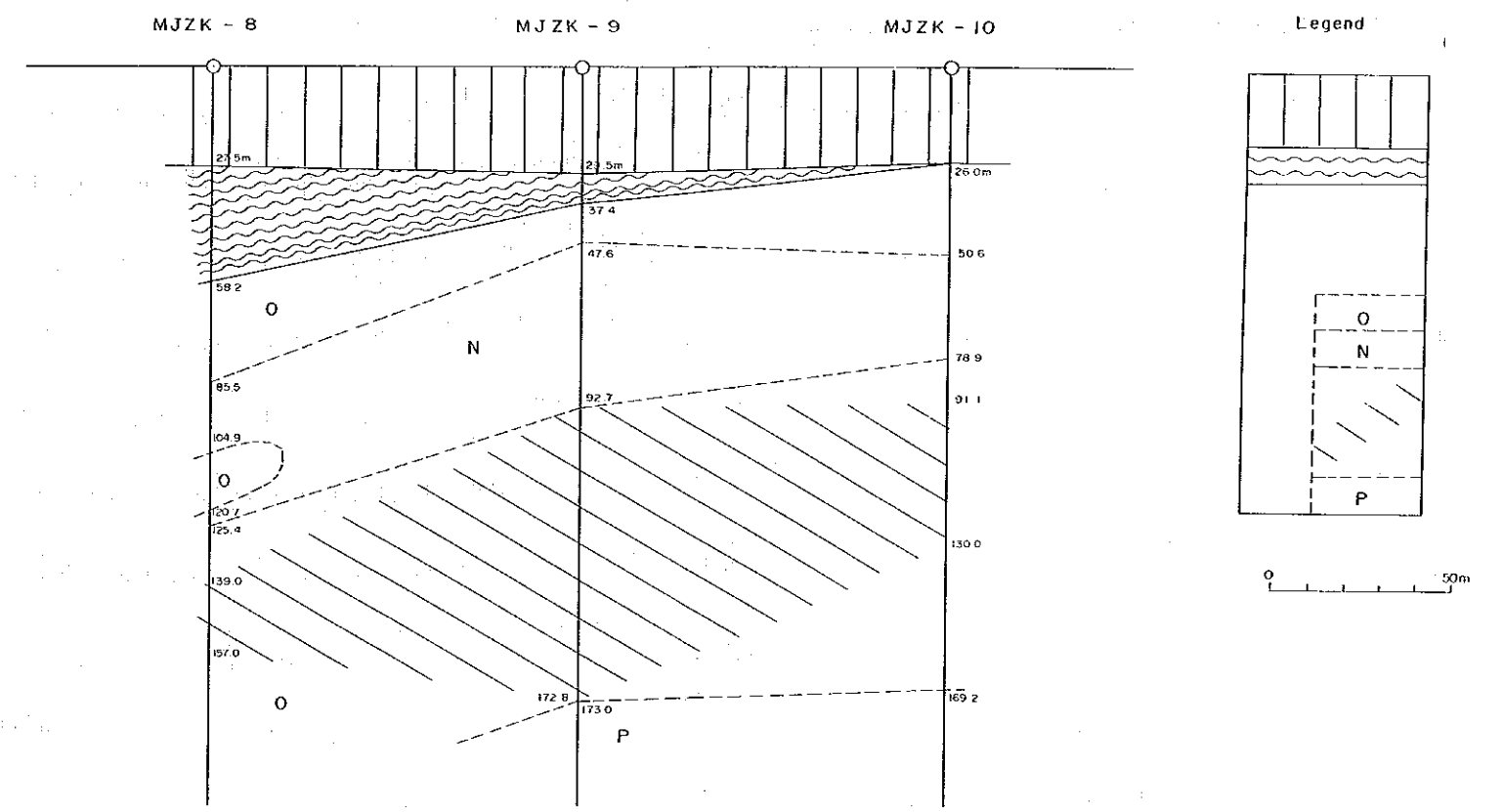
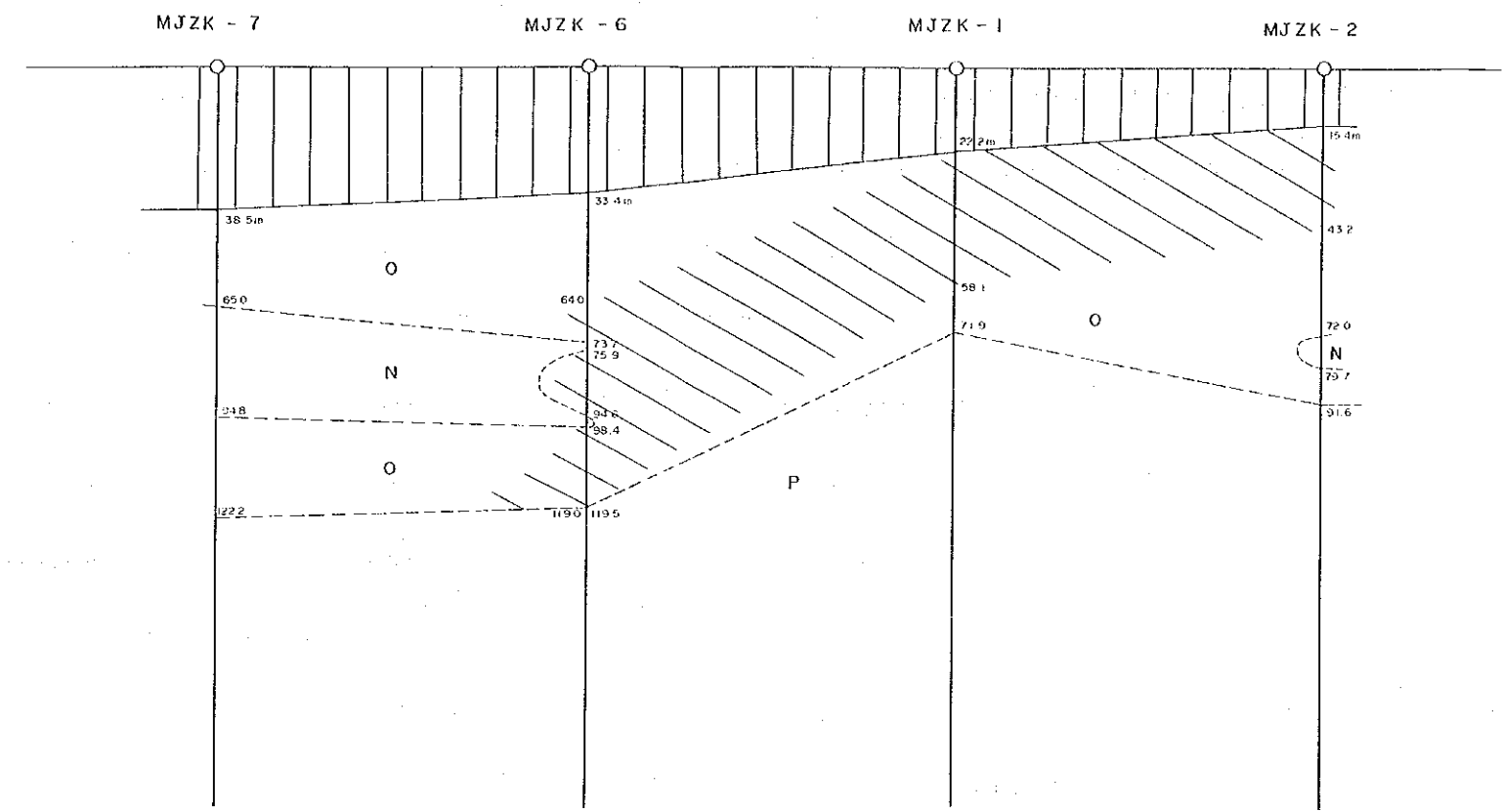
MJZK - 9

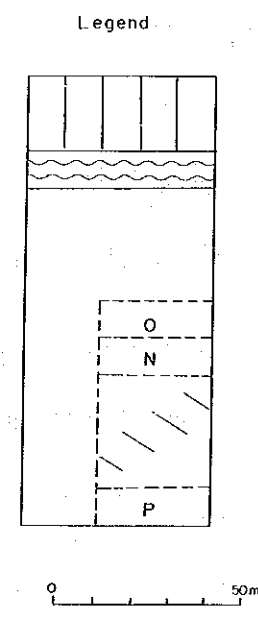
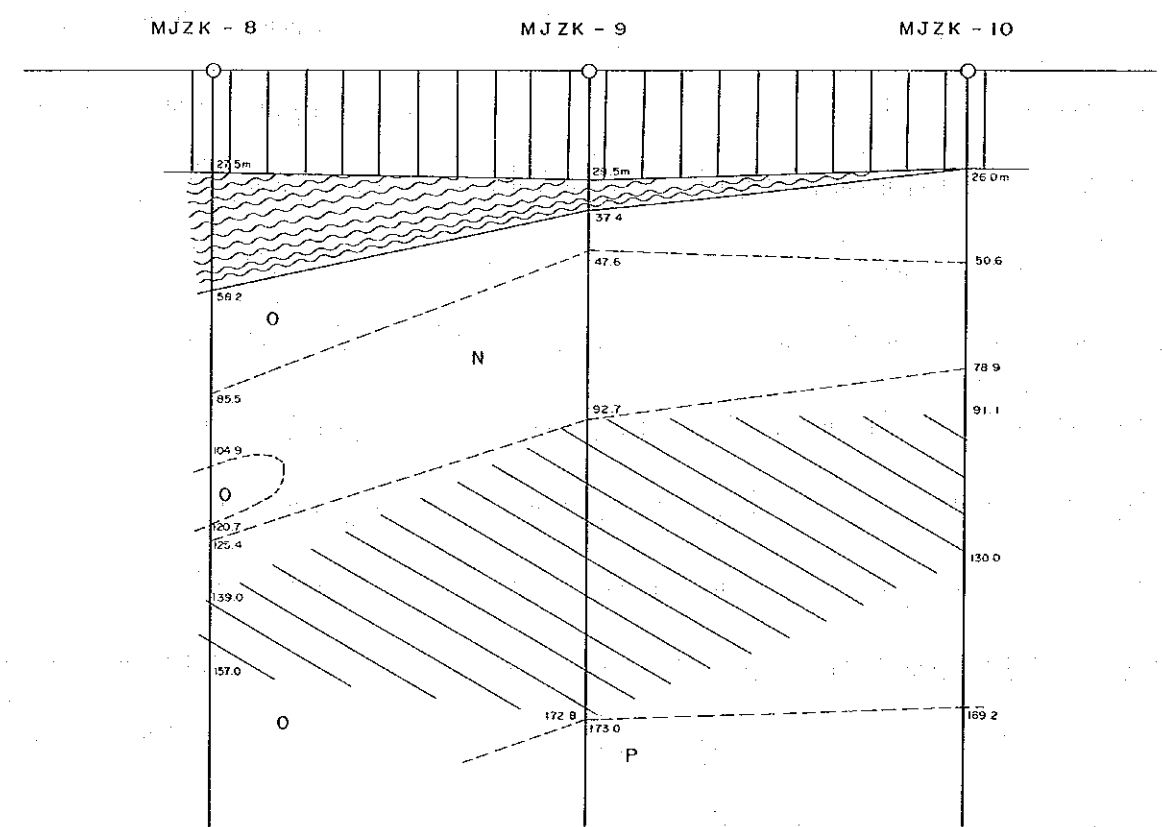
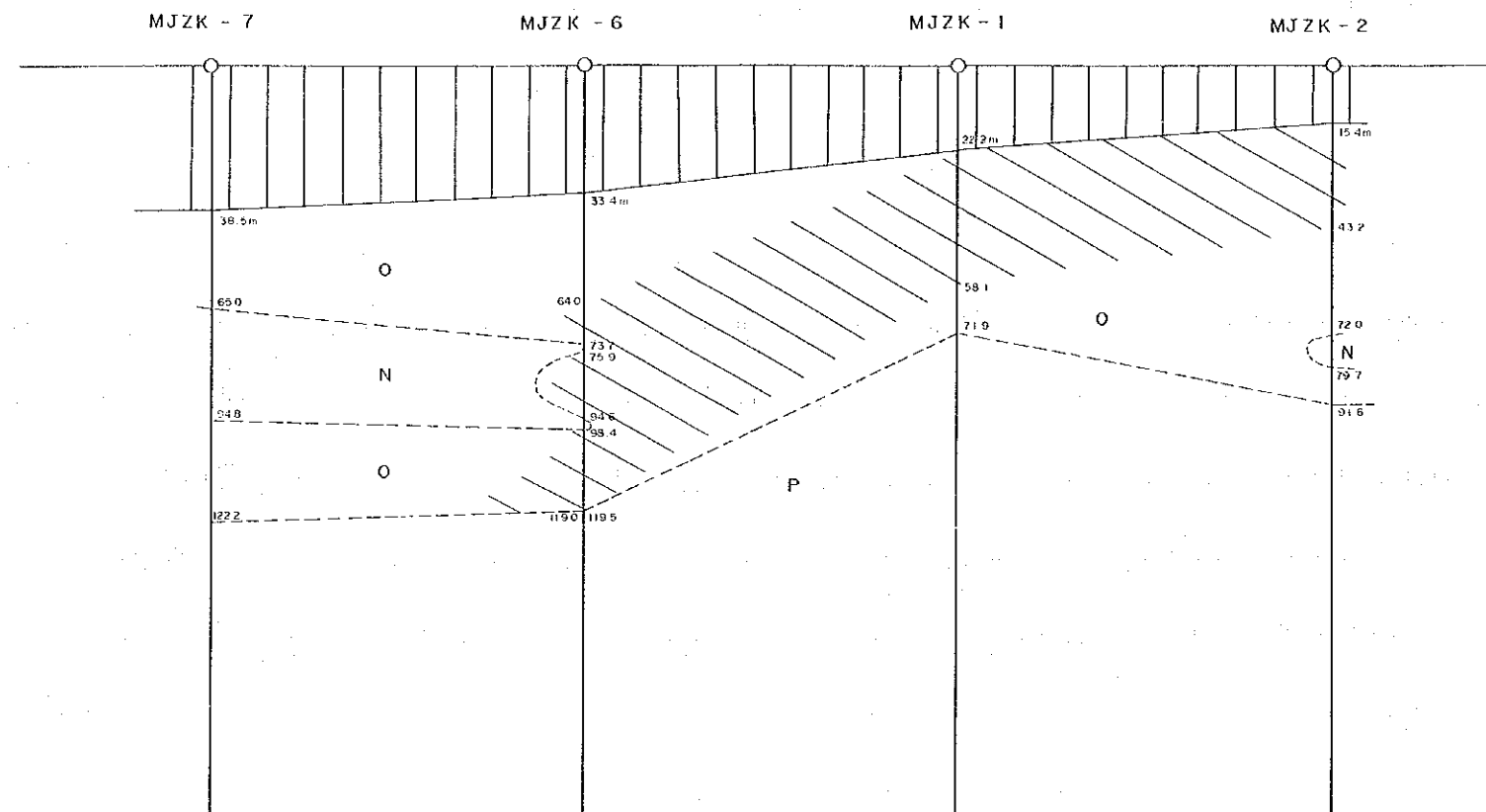
MJZK - 10

Legend



凡例
 風化帶 Weathered Zone





凡例

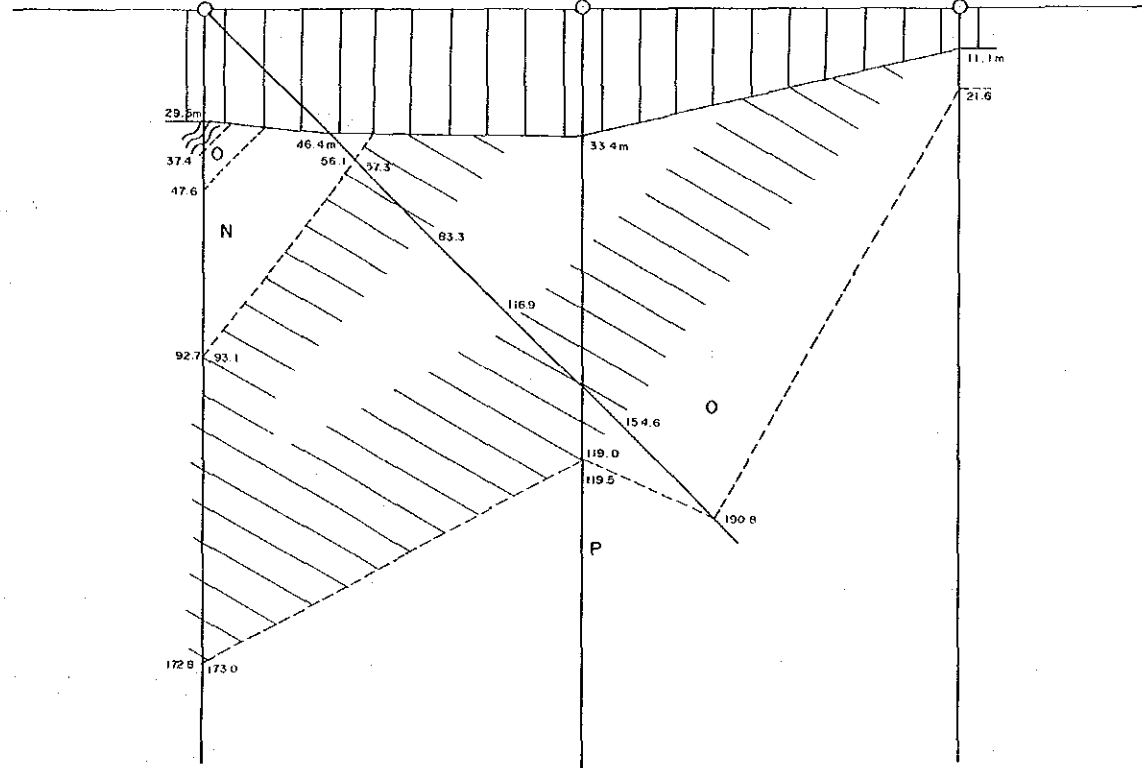
風化帯 Weathered Zone
 千枚岩類 Phyllites
 ドロマイト Dolomites
 酸化帯 Oxidized
 非酸化帯 Non-oxidized
 鉱化帯 Mineralized
 (Approx. > 1% Zn)
 初生帯 Primary

An Interim Report of Mineral Exploration in
 the Kabwe West Area, the Republic of Zambia

Sheet 5 付図第5図
 カブエウエスト模式断面図
 Schematic Sections in Kabwe West
 (A)

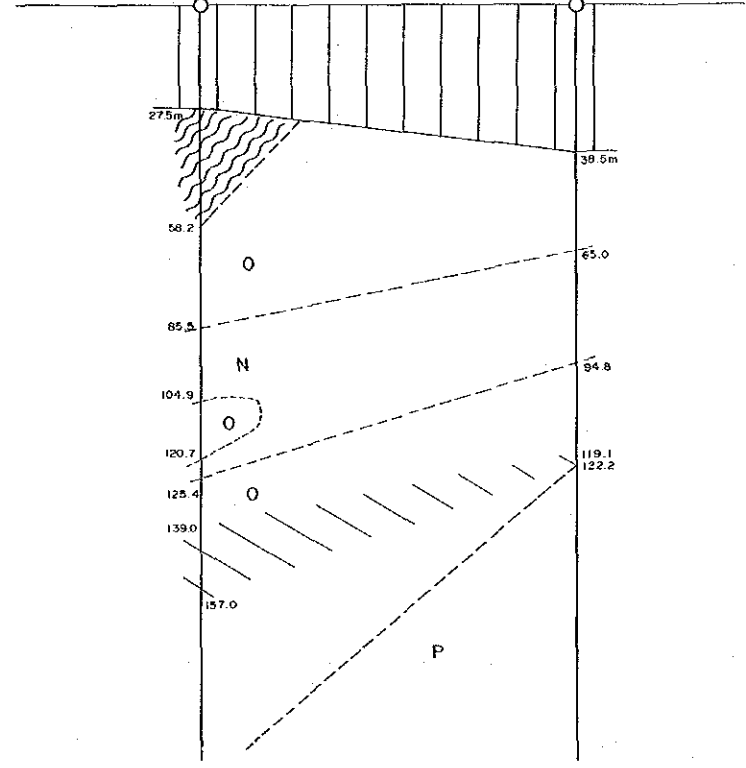
Japan International Cooperation Agency
 & Metal Mining Agency of Japan (1990)

MJZK - 9
MJZK - 11 (-45°)

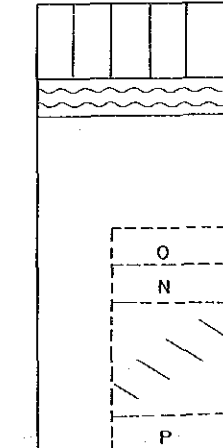


MJZK - 8

MJZK - 7



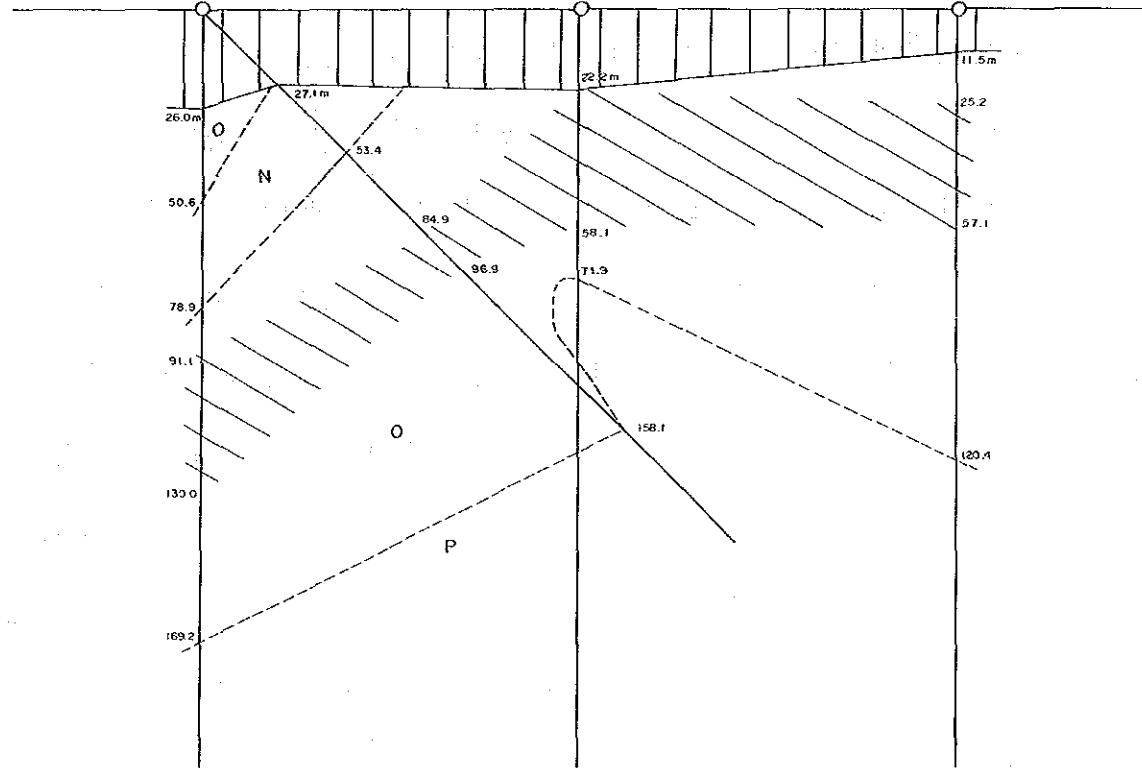
Legend



凡 例

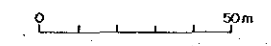
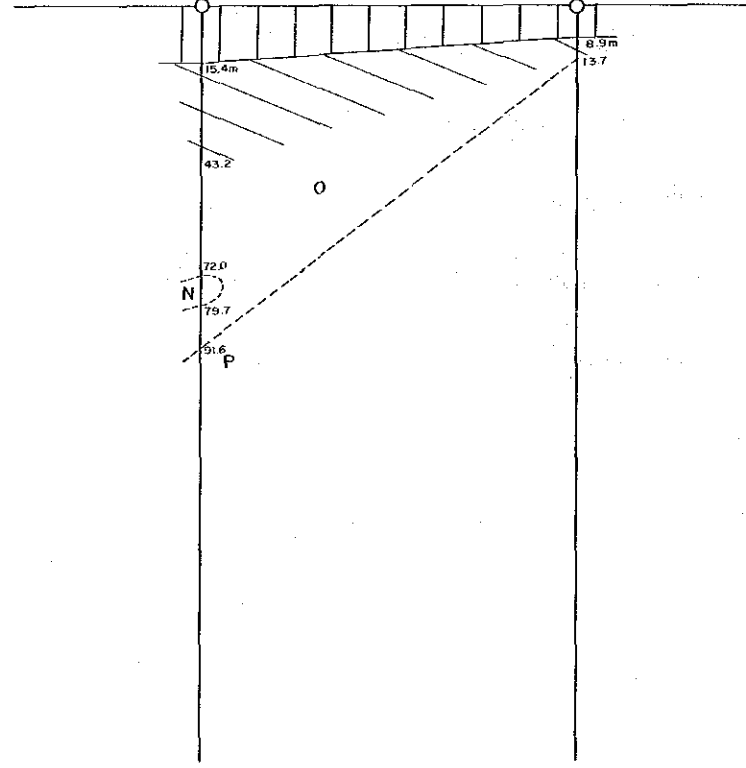
- 風化帯 Weathered Zone
- 千枚岩類 Phyllites
- ドロマイト Dolomites
- 酸化帯 Oxidized
- 非酸化帯 Non-oxidized
- 鉱化帯 Mineralized
(Approx. > 1% Zn)
- 初生帯 Primary

MJZK - 10
MJZK - 12 (-45°)



MJZK - 2

MJZK - 3



An Interim Report of Mineral Exploration in
the Kabwe West Area, the Republic of Zambia

Sheet 6 付図第6図

カブエウエスト模式断面図
Schematic Sections in Kabwe West

(B)

Japan International Cooperation Agency
& Metal Mining Agency of Japan (1990)

