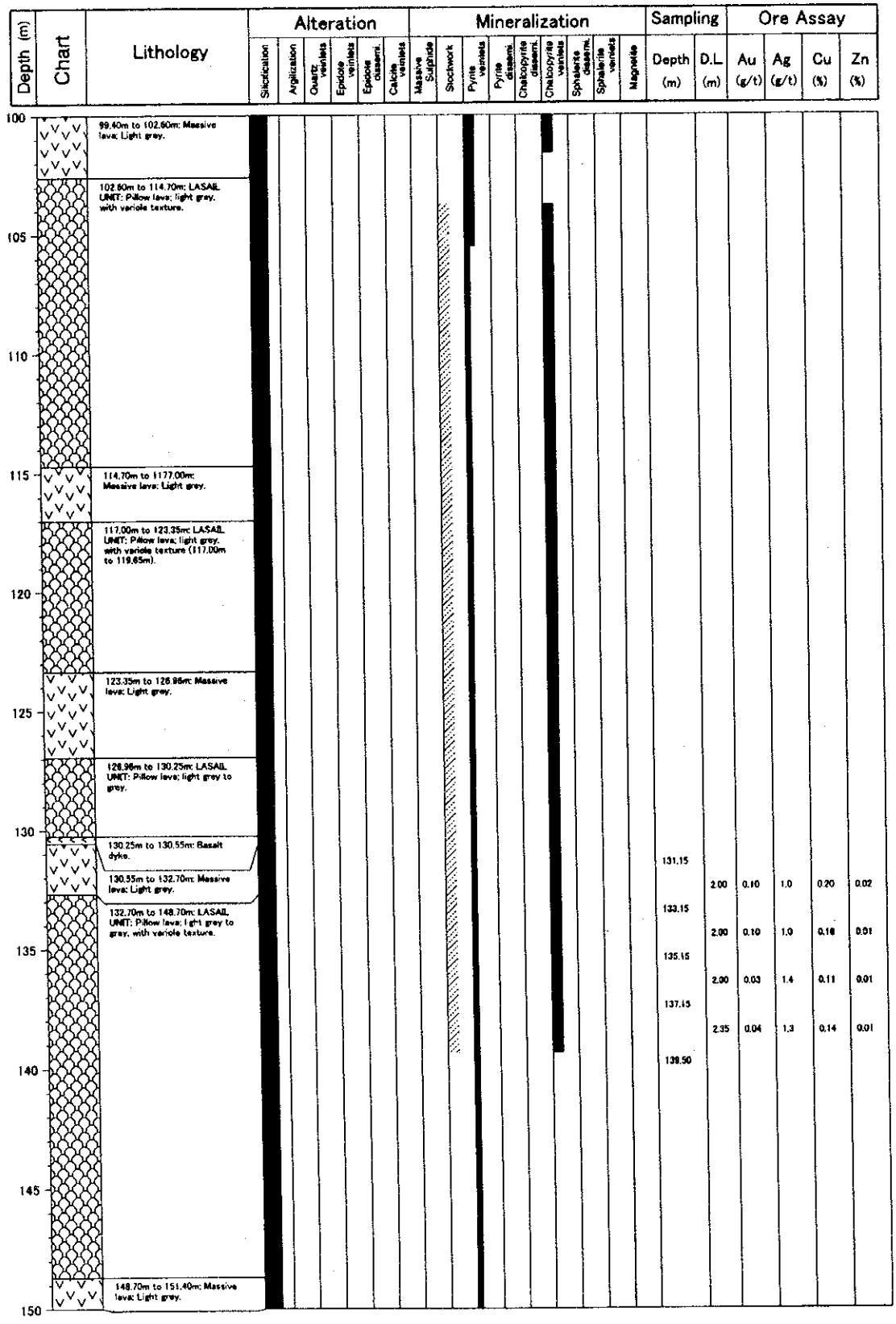
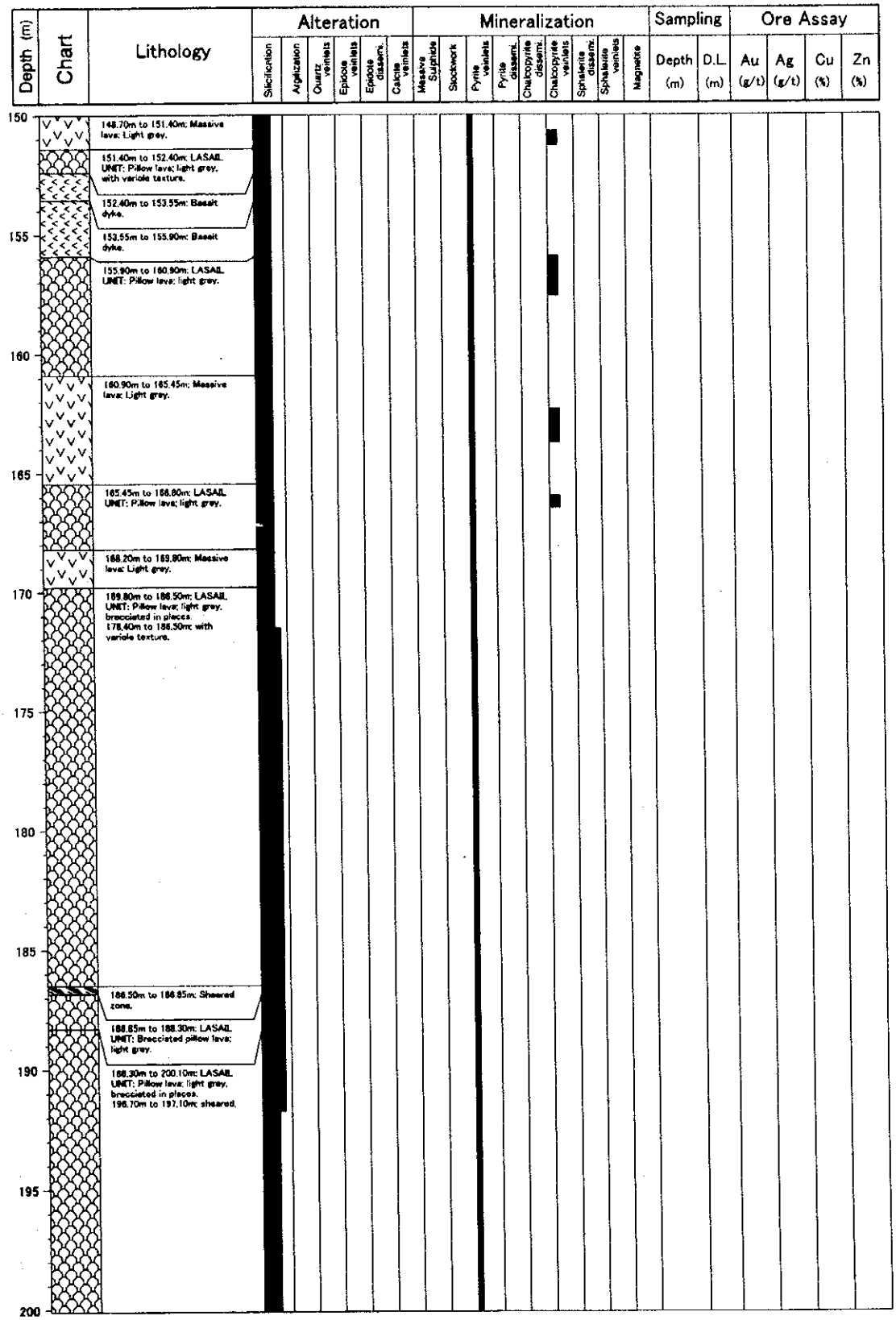
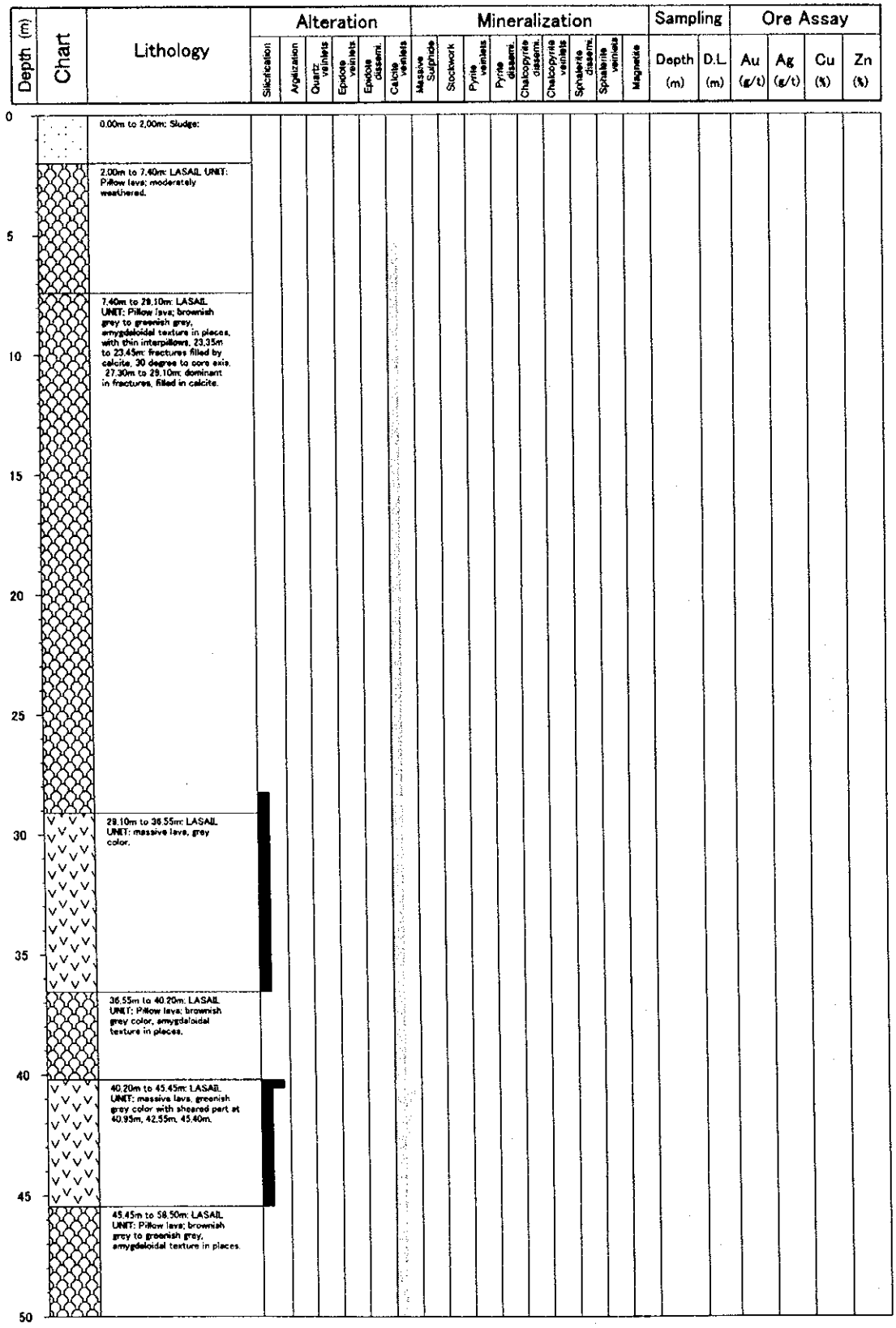
Hole No. MJOY-4 (200.10m ; from 100.00 m to 150.00 m)



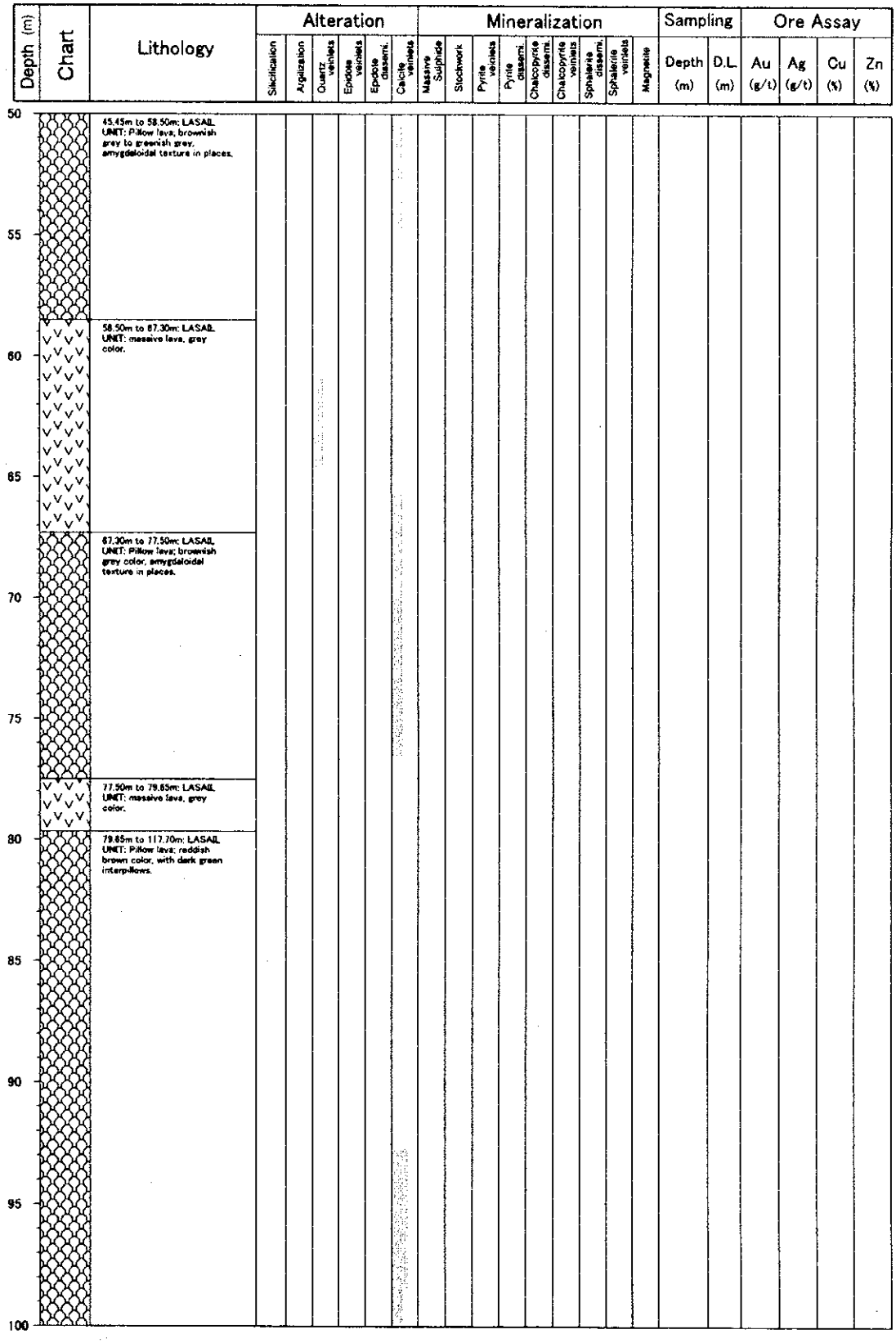
Hole No. MJOY-4 (200.10m ; from 150.00 m to 200.10 m)



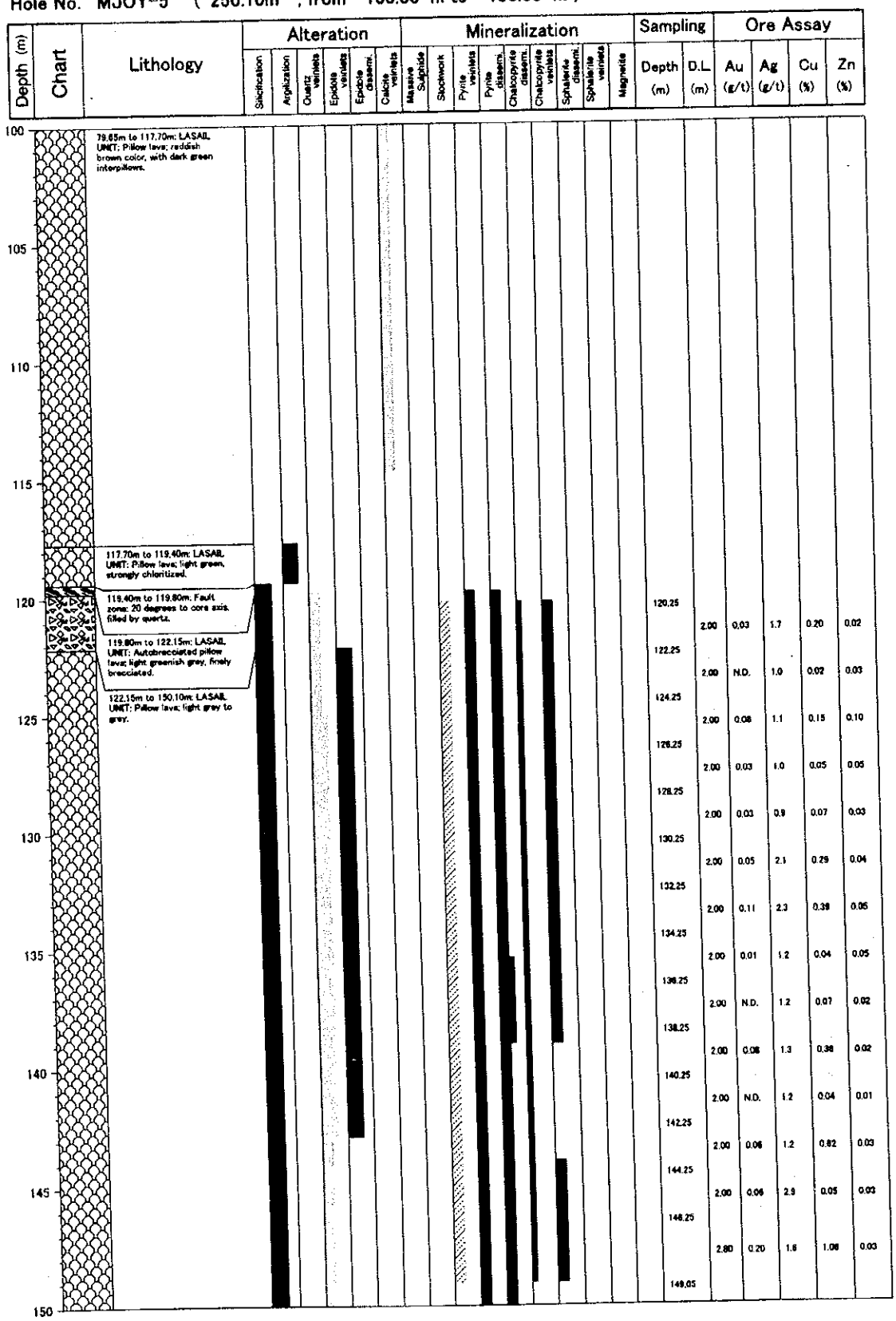
Hole No. MJOY-5 (250.10m ; from 0.00 m to 50.00 m)



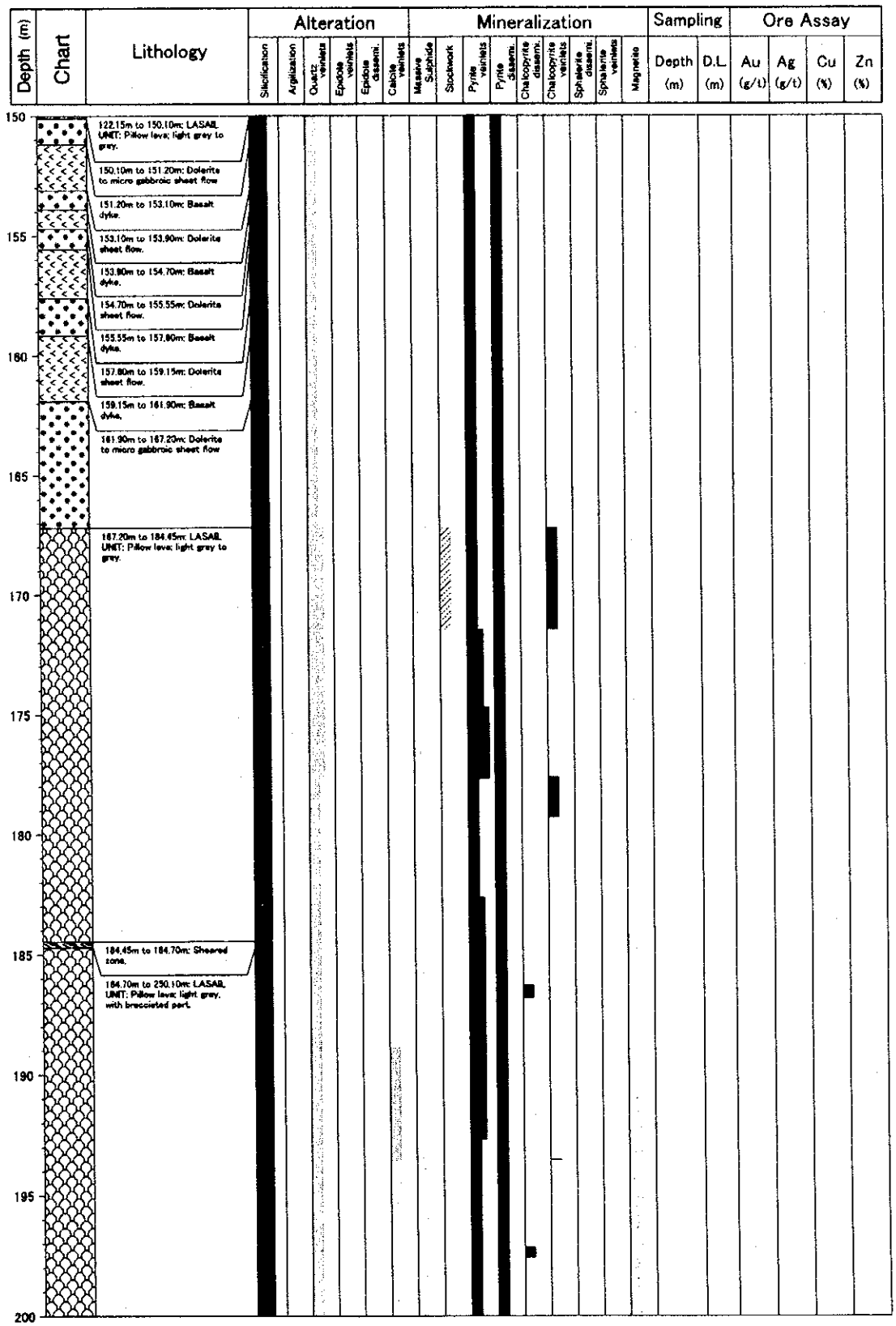
Hole No. MJOY-5 (250.10m ; from 50.00 m to 100.00 m)



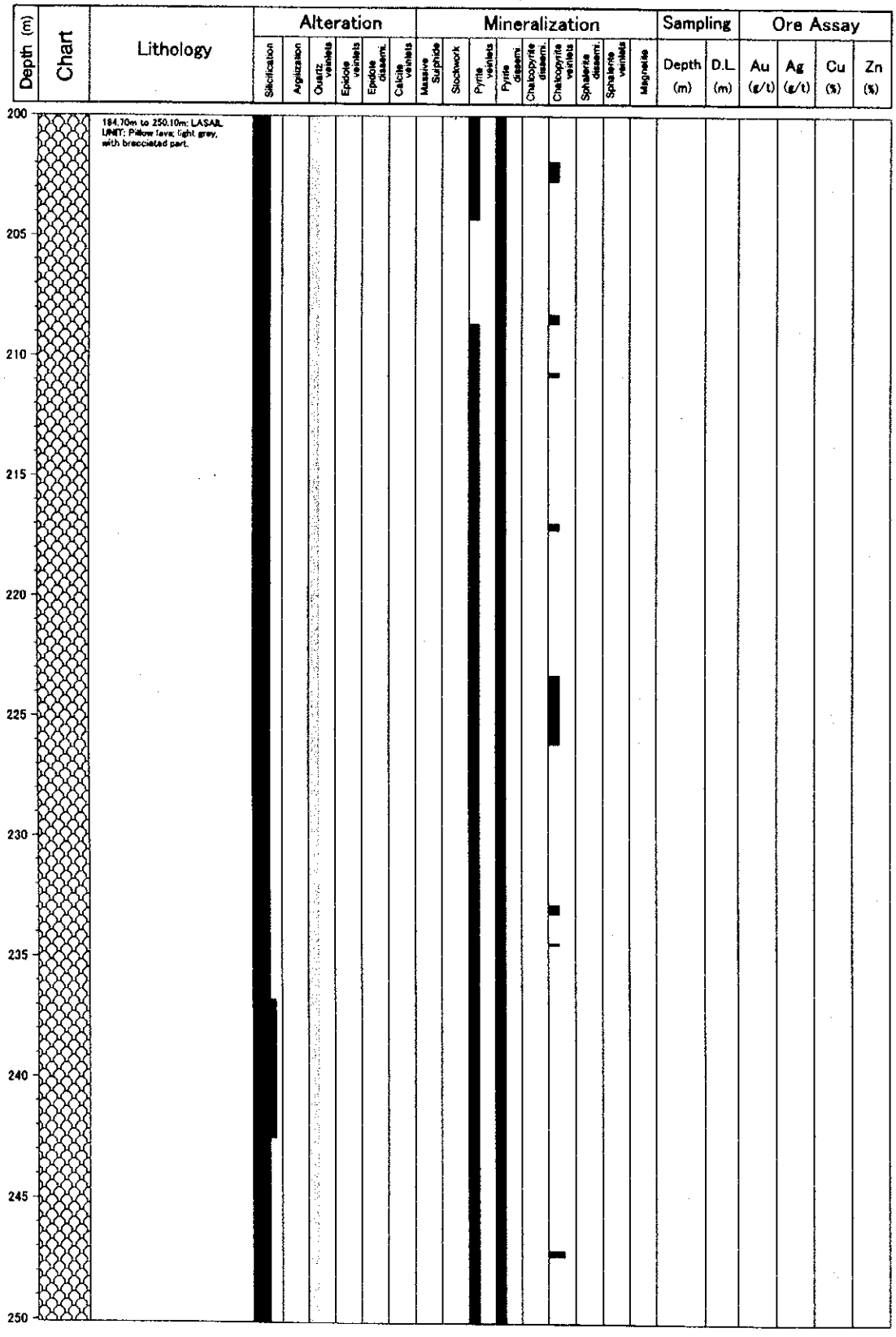
Hole No. MJOY-5 (250.10m ; from 100.00 m to 150.00 m)



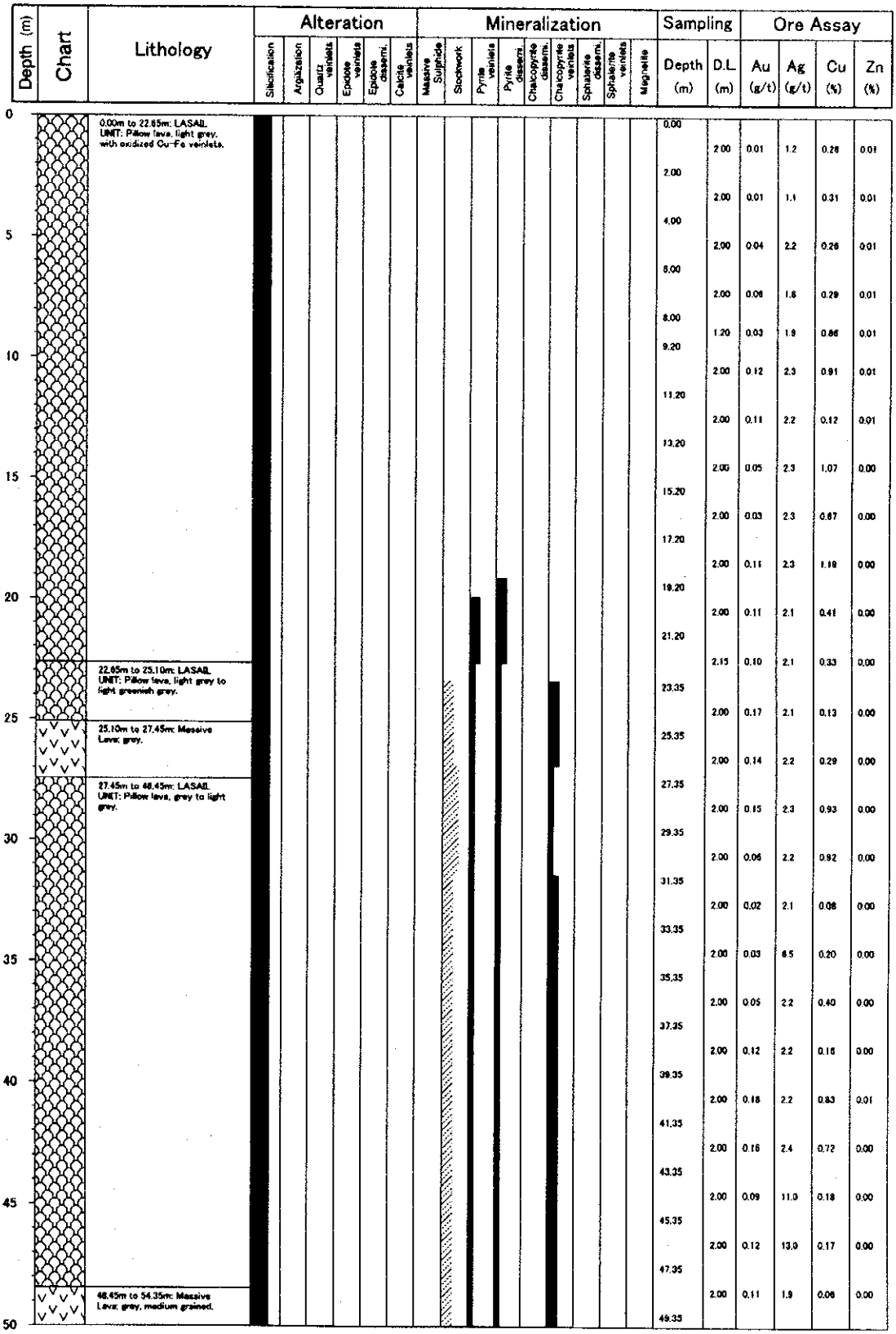
Hole No. MJOY-5 (250.10m ; from 150.00 m to 200.00 m)



Hole No. MJOY-5 (250.10m ; from 200.00 m to 250.10 m)

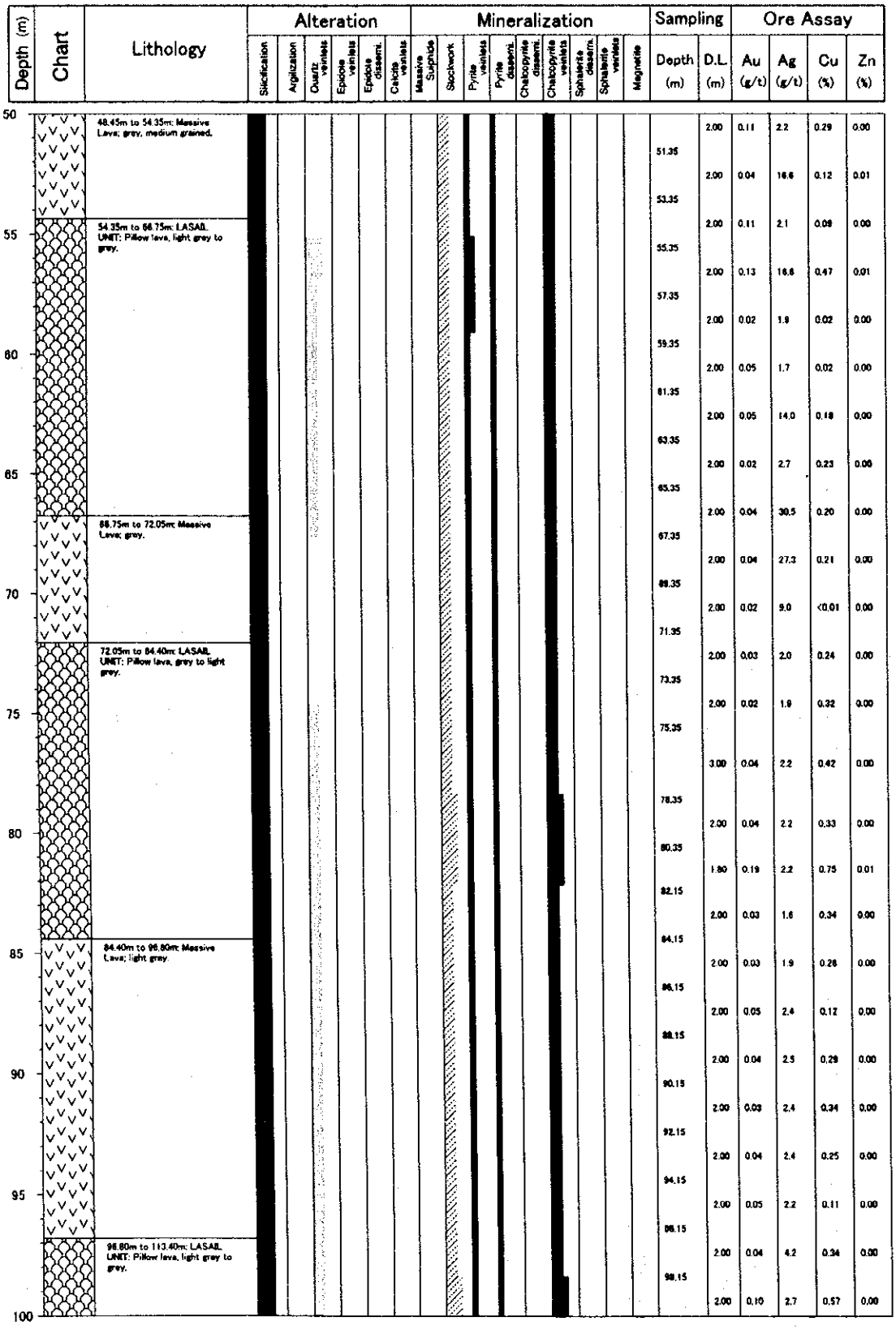


Hole No. MJOY-6 (250.65m ; from 0.00 m to 50.00 m)

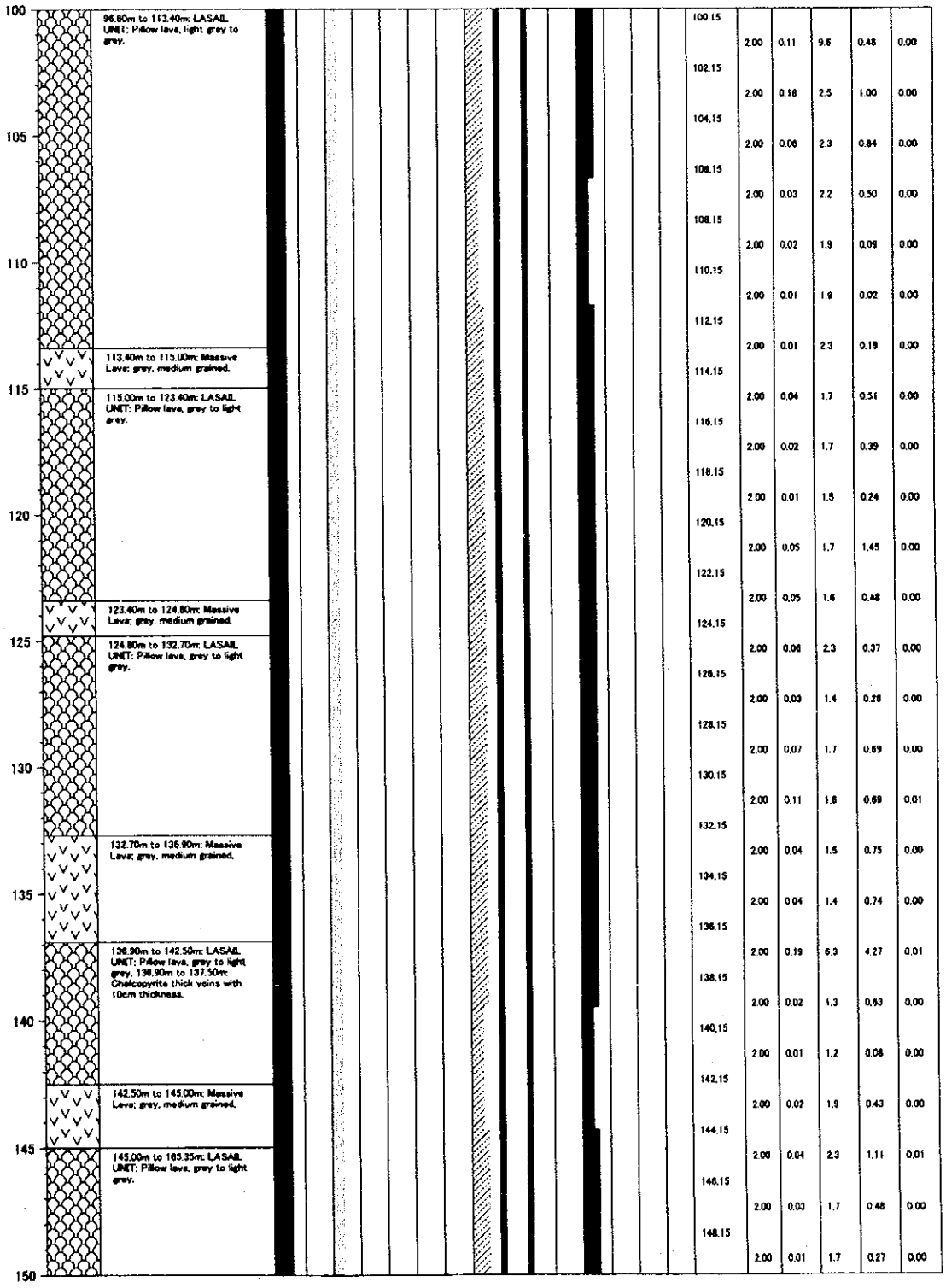


Depth (m)	D.L (m)	Au (g/t)	Ag (g/t)	Cu (%)	Zn (%)
0.00	2.00	0.01	1.2	0.26	0.01
2.00	2.00	0.01	1.1	0.31	0.01
4.00	2.00	0.04	2.2	0.26	0.01
6.00	2.00	0.06	1.8	0.29	0.01
8.00	1.20	0.03	1.9	0.86	0.01
9.20	2.00	0.12	2.3	0.91	0.01
11.20	2.00	0.11	2.2	0.12	0.01
13.20	2.00	0.05	2.3	1.07	0.00
15.20	2.00	0.03	2.3	0.87	0.00
17.20	2.00	0.11	2.3	1.19	0.00
19.20	2.00	0.11	2.1	0.41	0.00
21.20	2.15	0.10	2.1	0.33	0.00
23.35	2.00	0.17	2.1	0.13	0.00
25.35	2.00	0.14	2.2	0.29	0.00
27.35	2.00	0.15	2.3	0.93	0.00
29.35	2.00	0.06	2.2	0.92	0.00
31.35	2.00	0.02	2.1	0.08	0.00
33.35	2.00	0.03	6.5	0.20	0.00
35.35	2.00	0.05	2.2	0.40	0.00
37.35	2.00	0.12	2.2	0.16	0.00
39.35	2.00	0.18	2.2	0.83	0.01
41.35	2.00	0.16	2.4	0.72	0.00
43.35	2.00	0.09	11.0	0.18	0.00
45.35	2.00	0.12	13.0	0.17	0.00
47.35	2.00	0.11	1.9	0.06	0.00
49.35					

Hole No. MJOY-6 (250.65m ; from 50.00 m to 100.00 m)

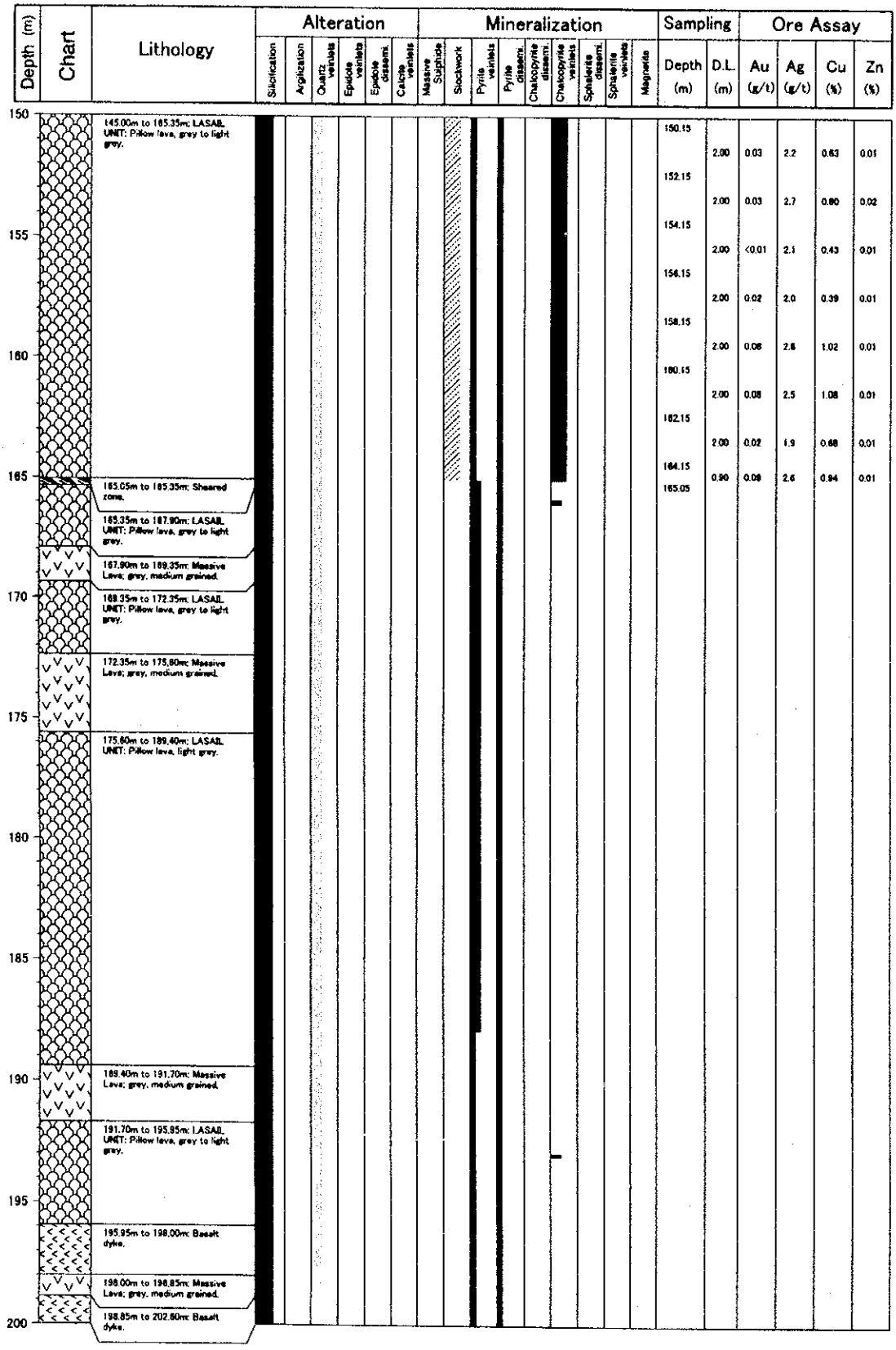


Hole No. MJOY-6 (250.65m ; from 100.00 m to 150.00 m)

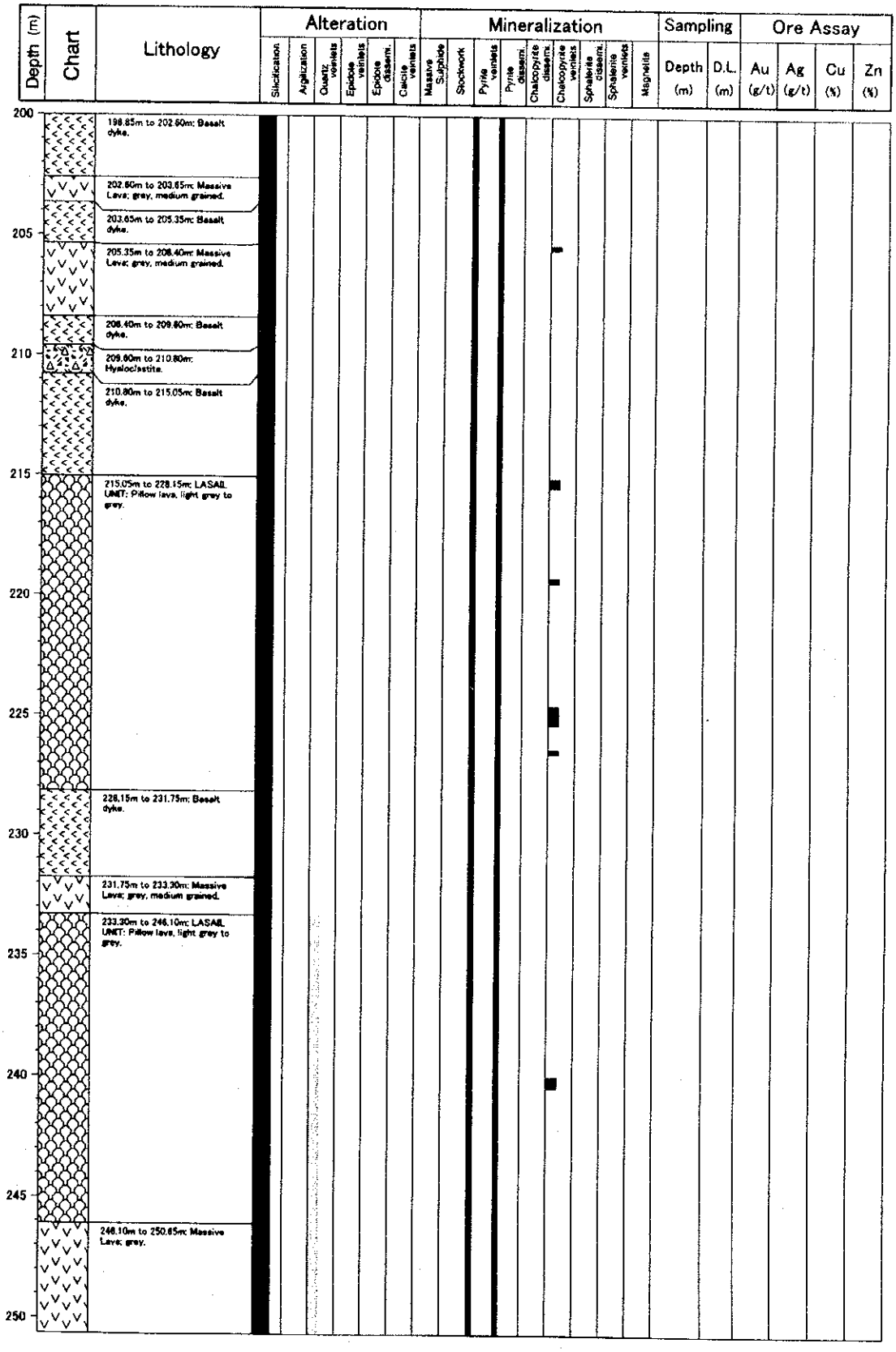


Depth (m)	D.L. (m)	Au (g/t)	Ag (g/t)	Cu (%)	Zn (%)
100.15	2.00	0.11	9.6	0.48	0.00
102.15	2.00	0.18	2.5	1.00	0.00
104.15	2.00	0.06	2.3	0.84	0.00
106.15	2.00	0.03	2.2	0.50	0.00
108.15	2.00	0.02	1.9	0.09	0.00
110.15	2.00	0.01	1.9	0.02	0.00
112.15	2.00	0.01	2.3	0.19	0.00
114.15	2.00	0.04	1.7	0.51	0.00
116.15	2.00	0.02	1.7	0.39	0.00
118.15	2.00	0.01	1.5	0.24	0.00
120.15	2.00	0.05	1.7	1.45	0.00
122.15	2.00	0.05	1.6	0.48	0.00
124.15	2.00	0.06	2.3	0.37	0.00
126.15	2.00	0.03	1.4	0.28	0.00
128.15	2.00	0.07	1.7	0.69	0.00
130.15	2.00	0.11	1.8	0.88	0.01
132.15	2.00	0.04	1.5	0.75	0.00
134.15	2.00	0.04	1.4	0.74	0.00
136.15	2.00	0.19	6.3	4.27	0.01
138.15	2.00	0.02	1.3	0.93	0.00
140.15	2.00	0.01	1.2	0.08	0.00
142.15	2.00	0.02	1.9	0.43	0.00
144.15	2.00	0.04	2.3	1.11	0.01
146.15	2.00	0.03	1.7	0.48	0.00
148.15	2.00	0.01	1.7	0.27	0.00

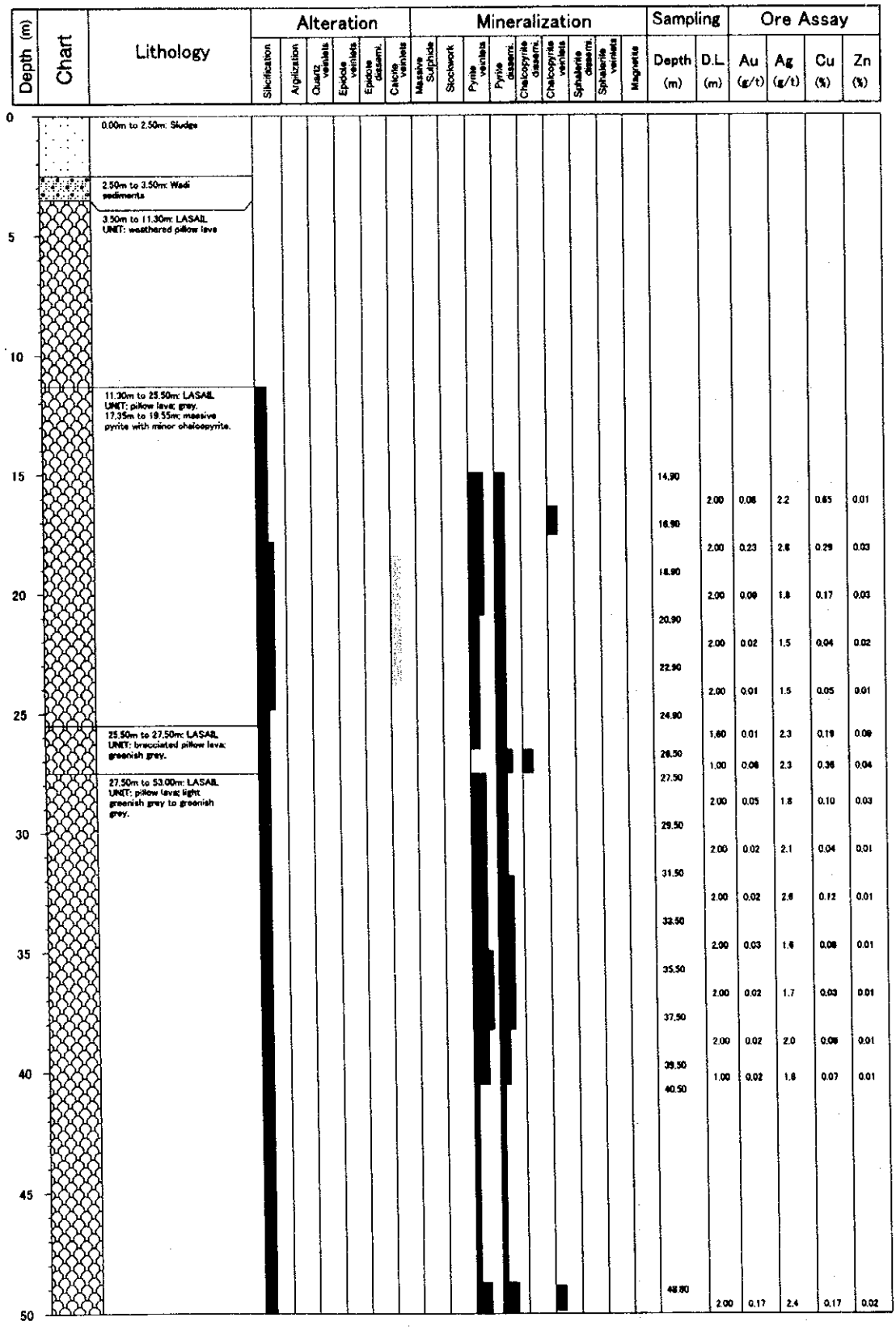
Hole No. MJOY-6 (250.65m ; from 150.00 m to 200.00 m)



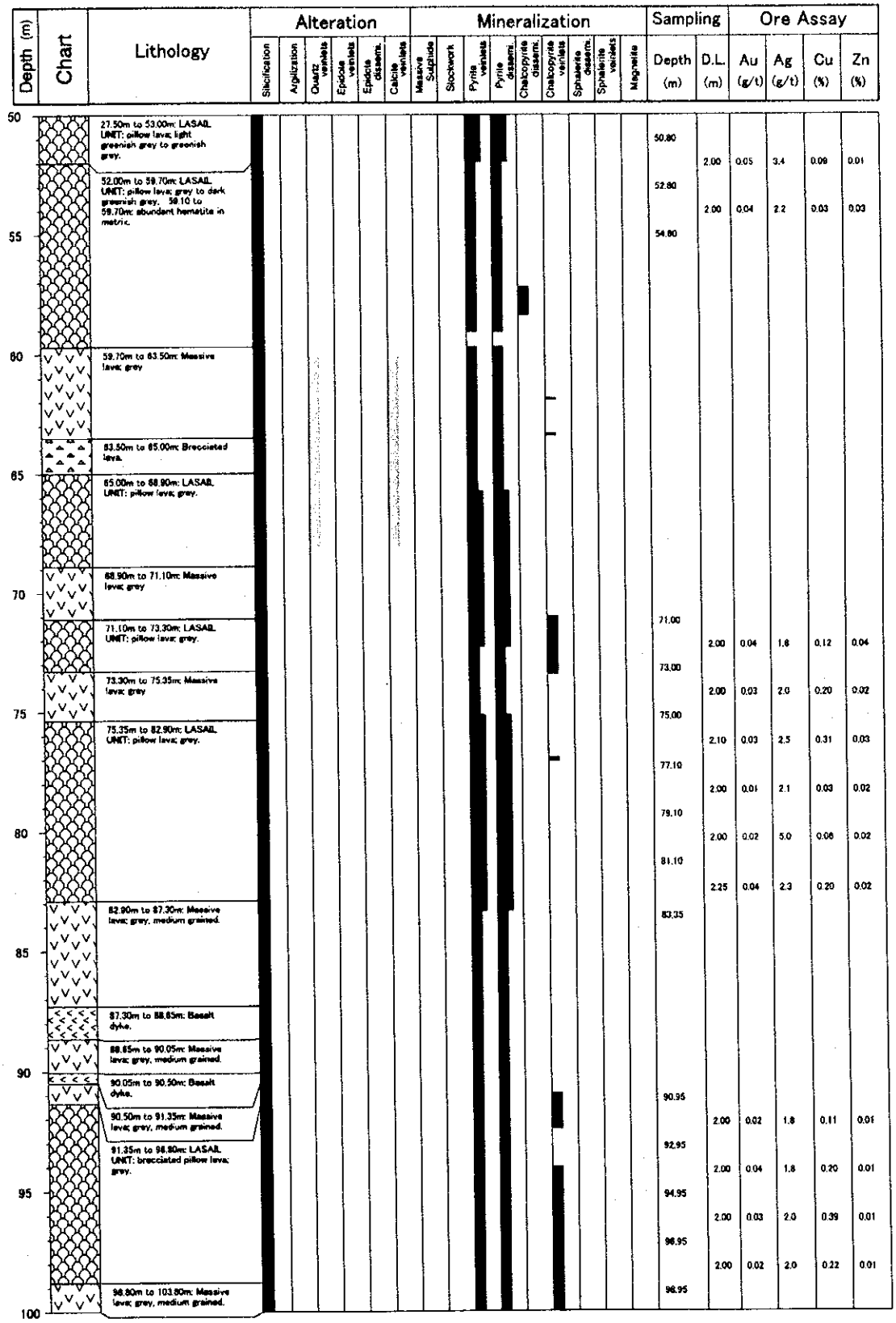
Hole No. MJOY-6 (250.65m : from 200.00 m to 250.65 m)



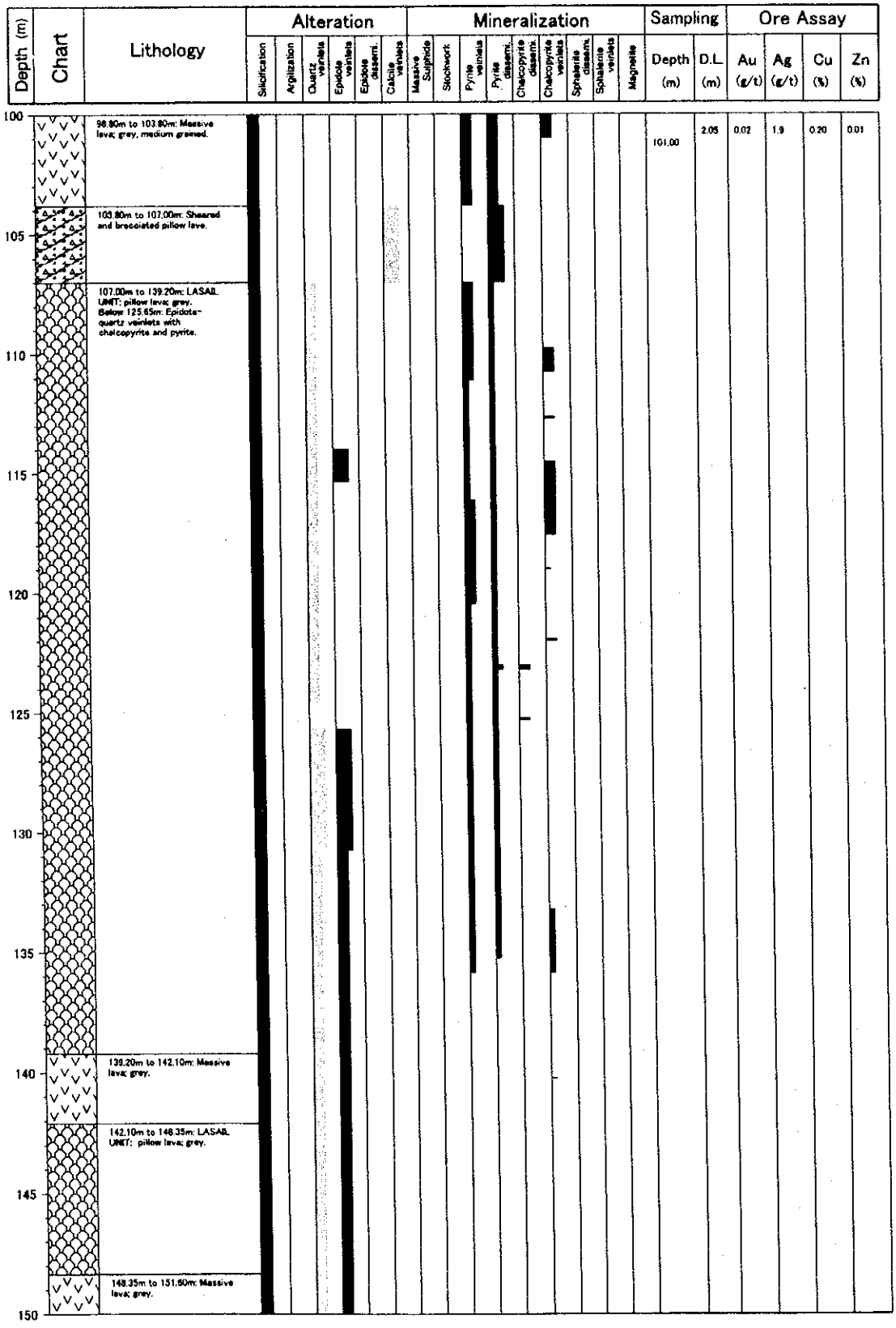
Hole No. MJOY-7 (250.60m ; from 0.00 m to 50.00 m)



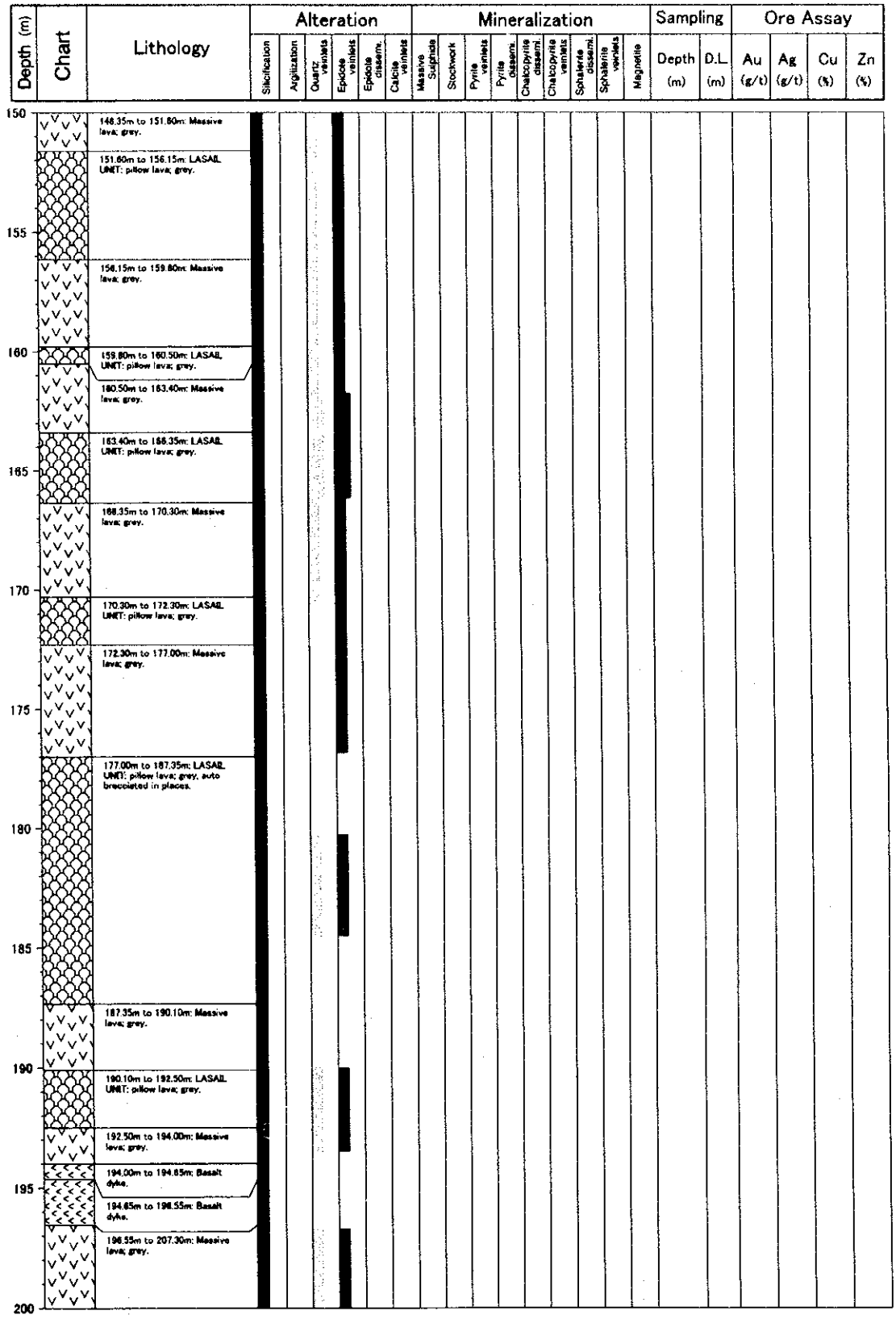
Hole No. MJOY-7 (250.60m ; from 50.00 m to 100.00 m)



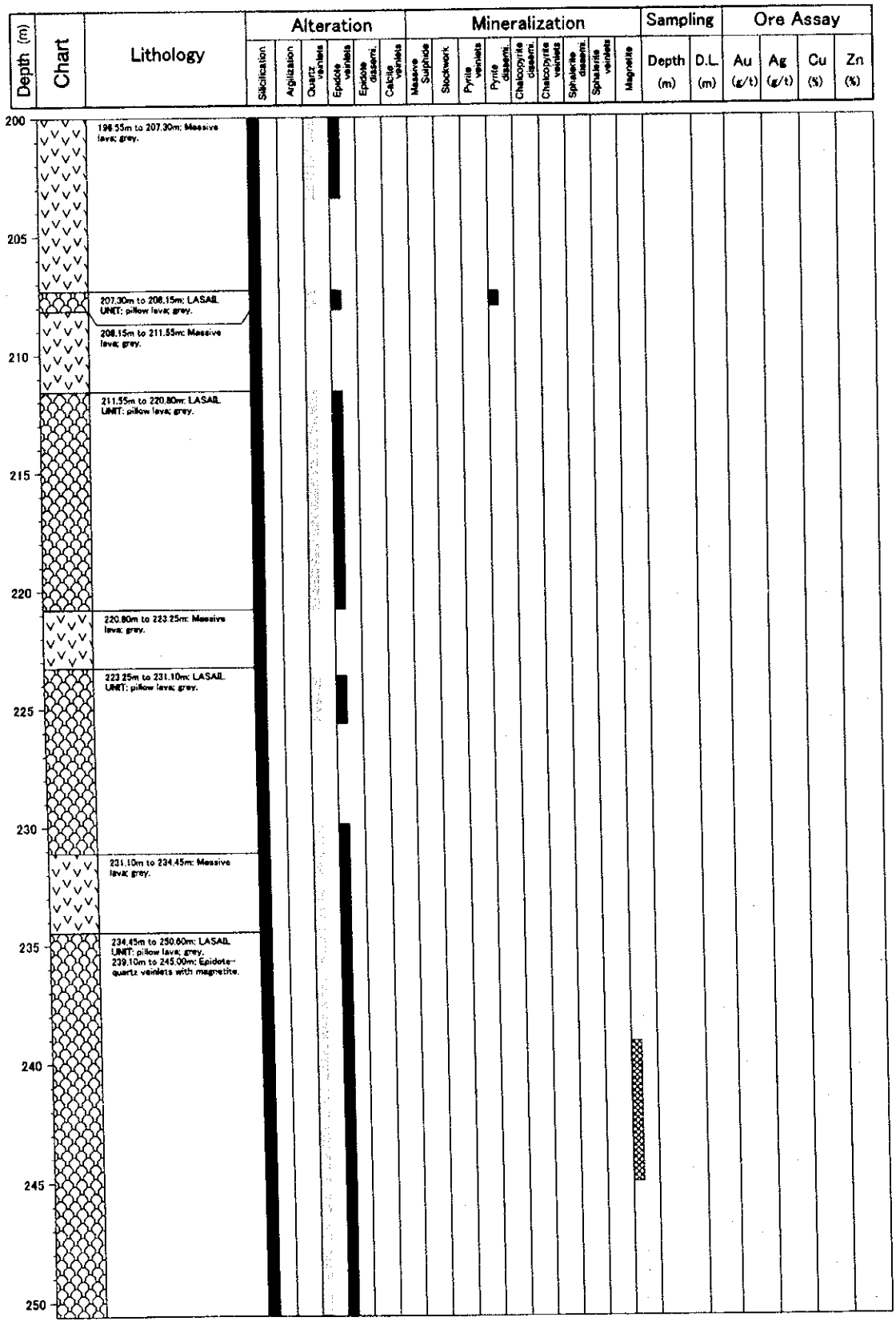
Hole No. MJOY-7 (250.60m ; from 100.00 m to 150.00 m)



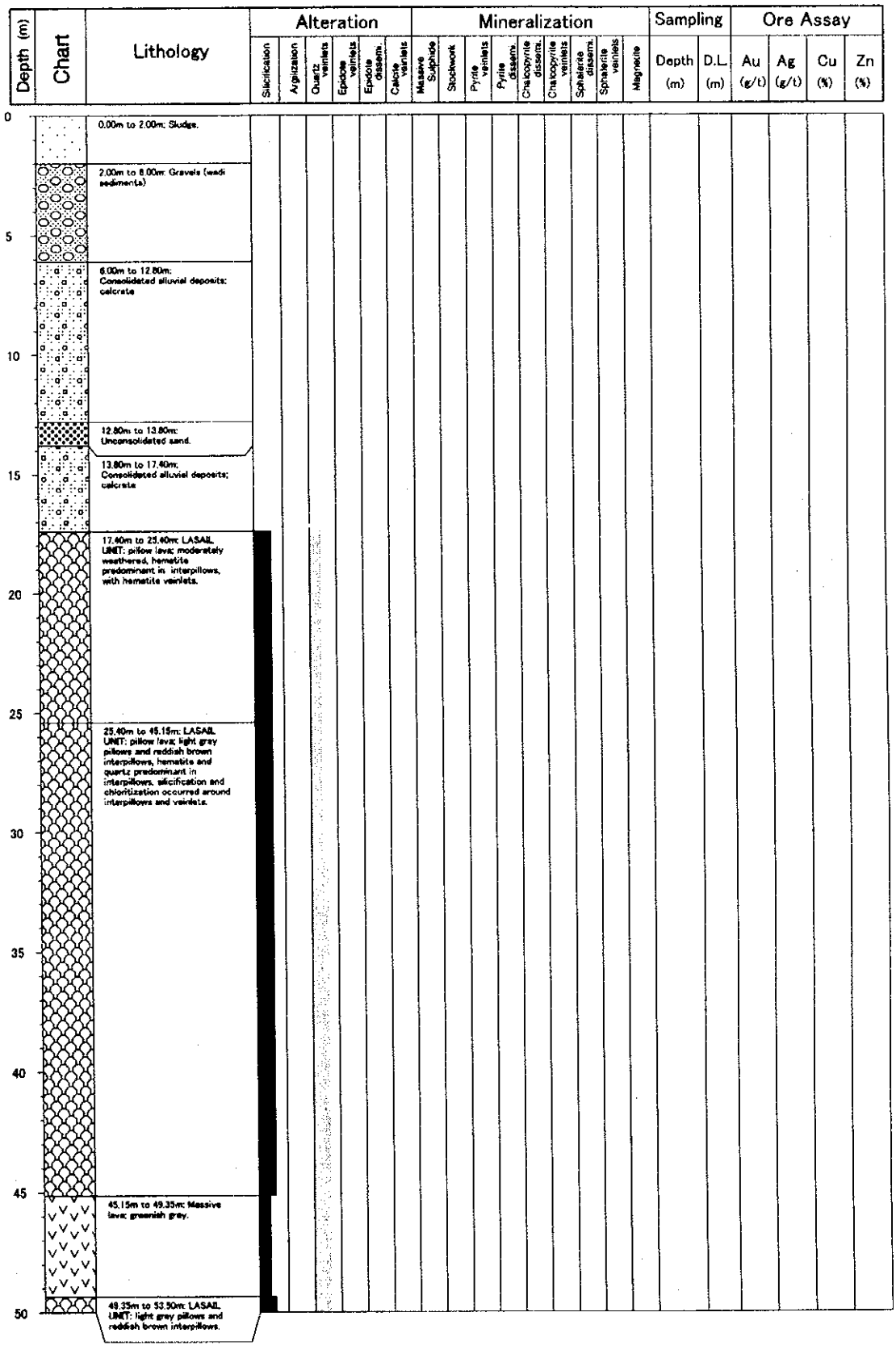
Hole No. MJOY-7 (250.60m ; from 150.00 m to 200.00 m)



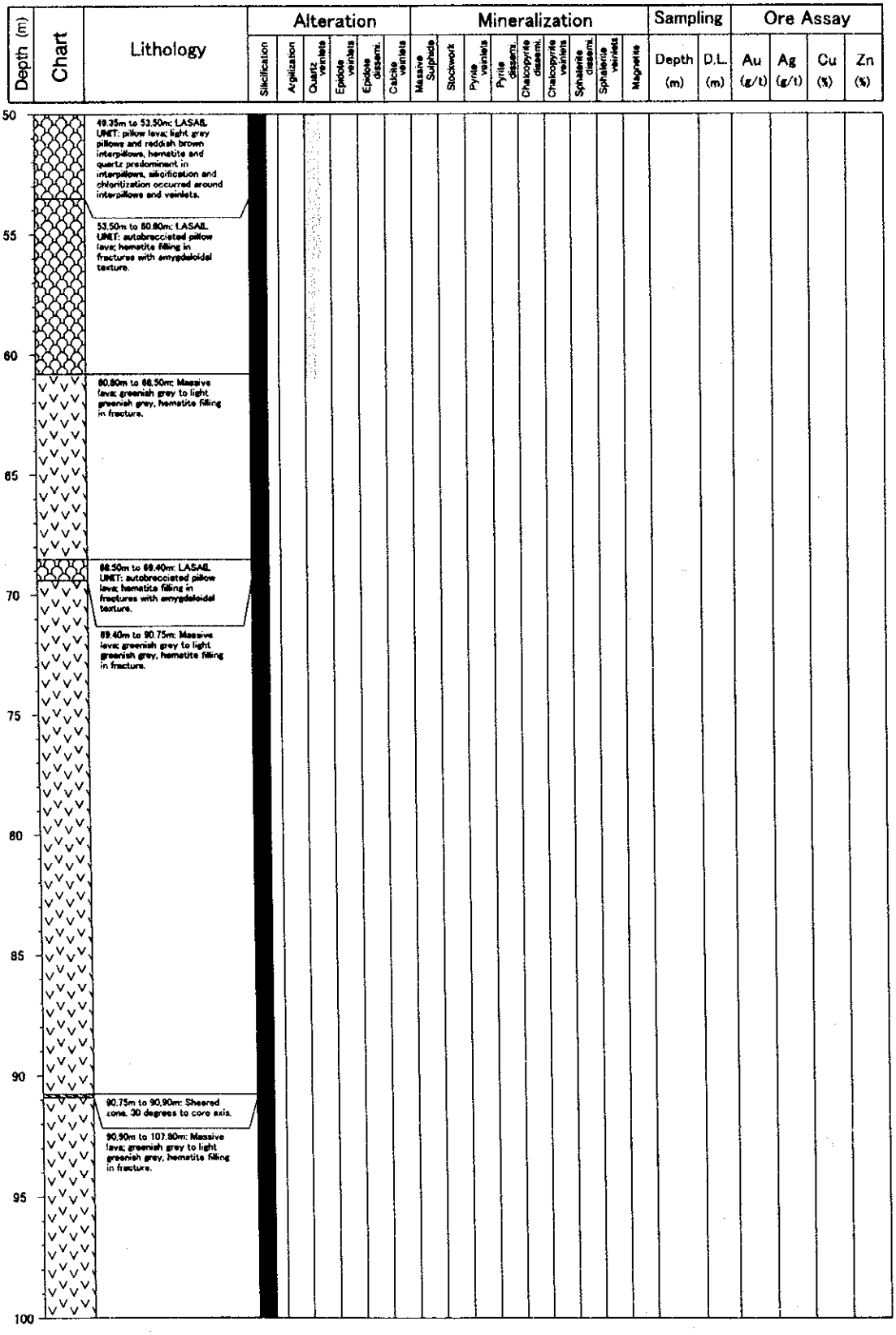
Hole No. MJOY-7 (250.60m ; from 200.00 m to 250.60 m)



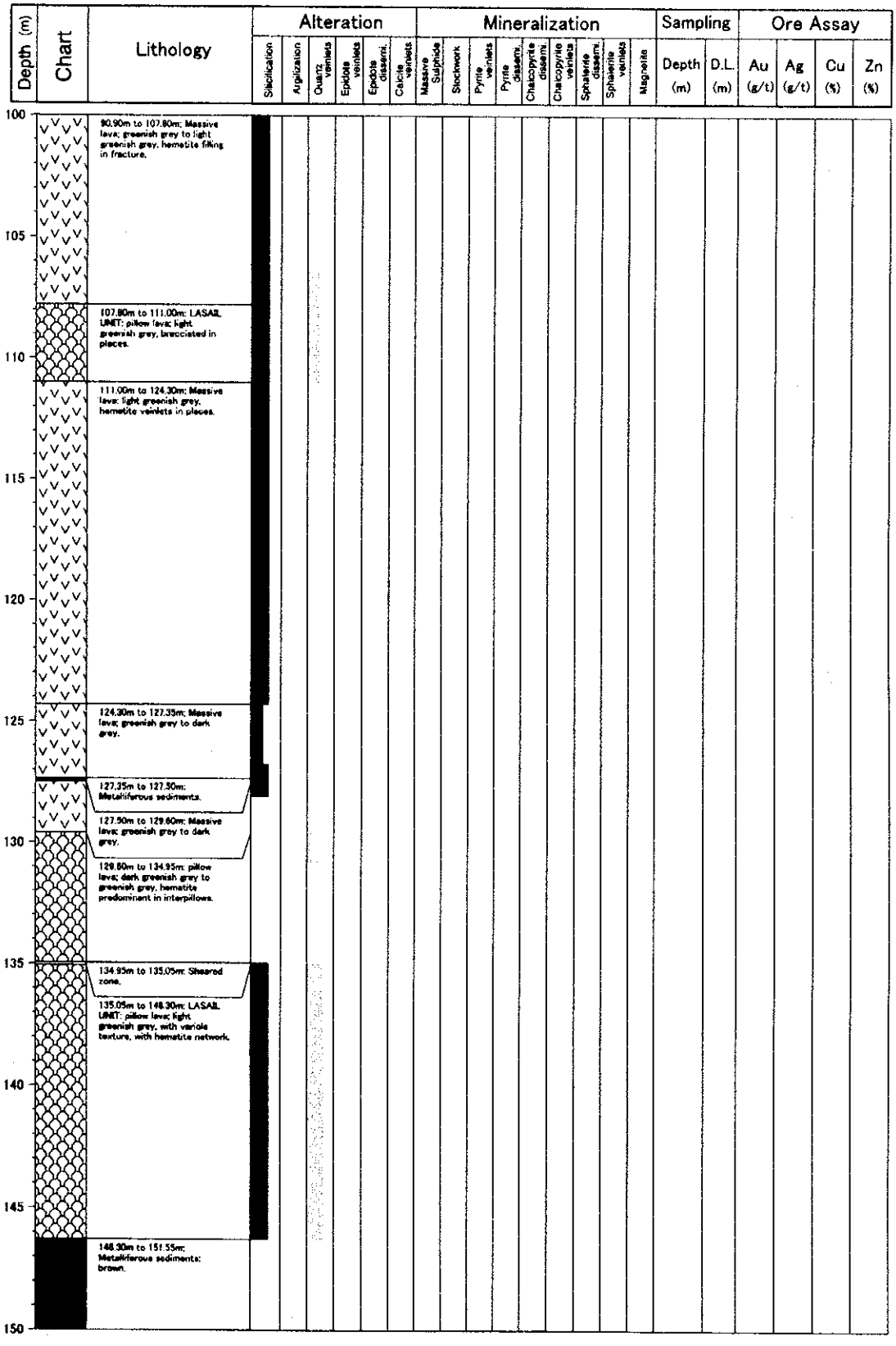
Hole No. MJOY-8 (250.25m ; from 0.00 m to 50.00 m)



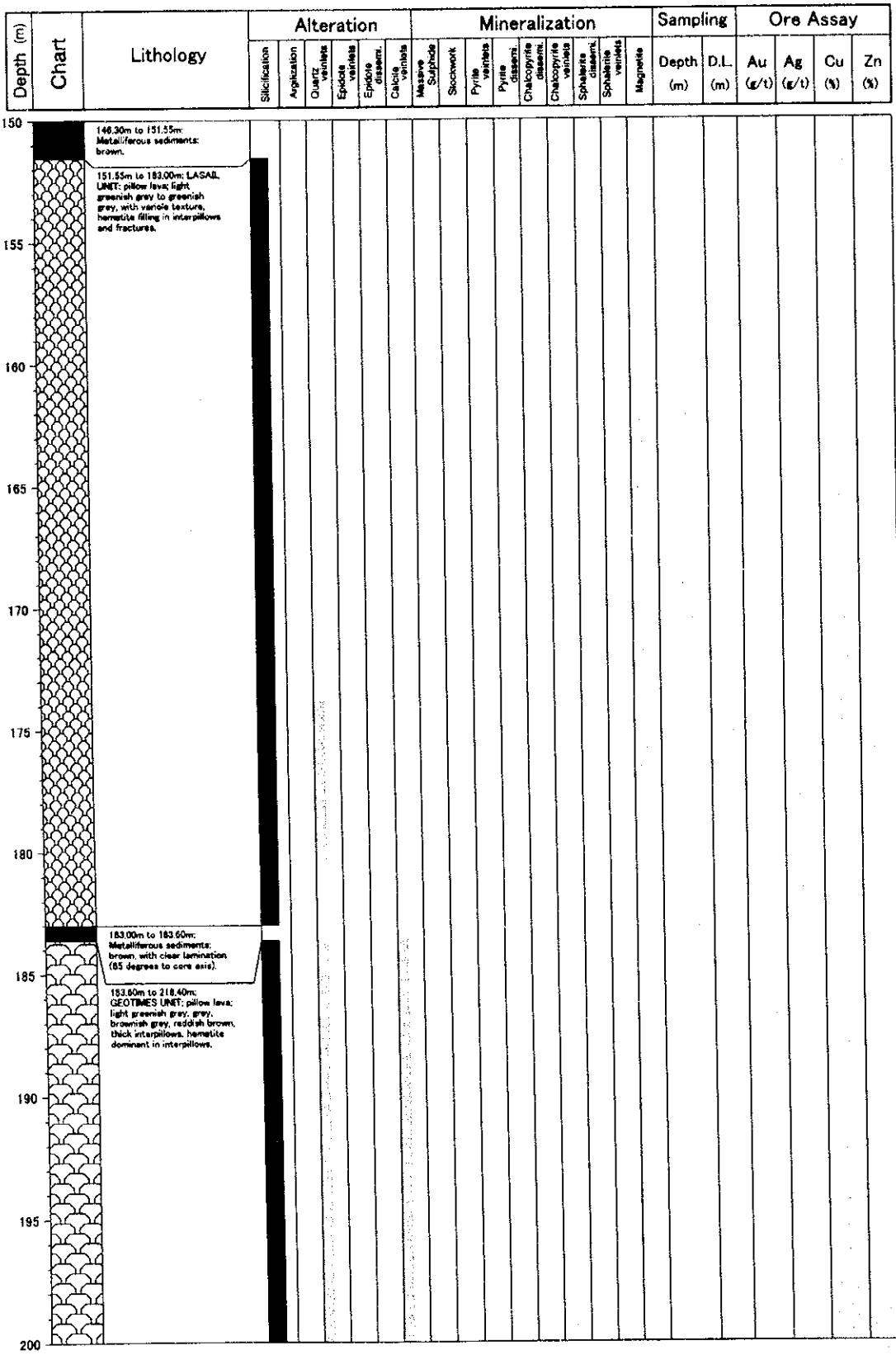
Hole No. MJOY-8 (250.25m ; from 50.00 m to 100.00 m)



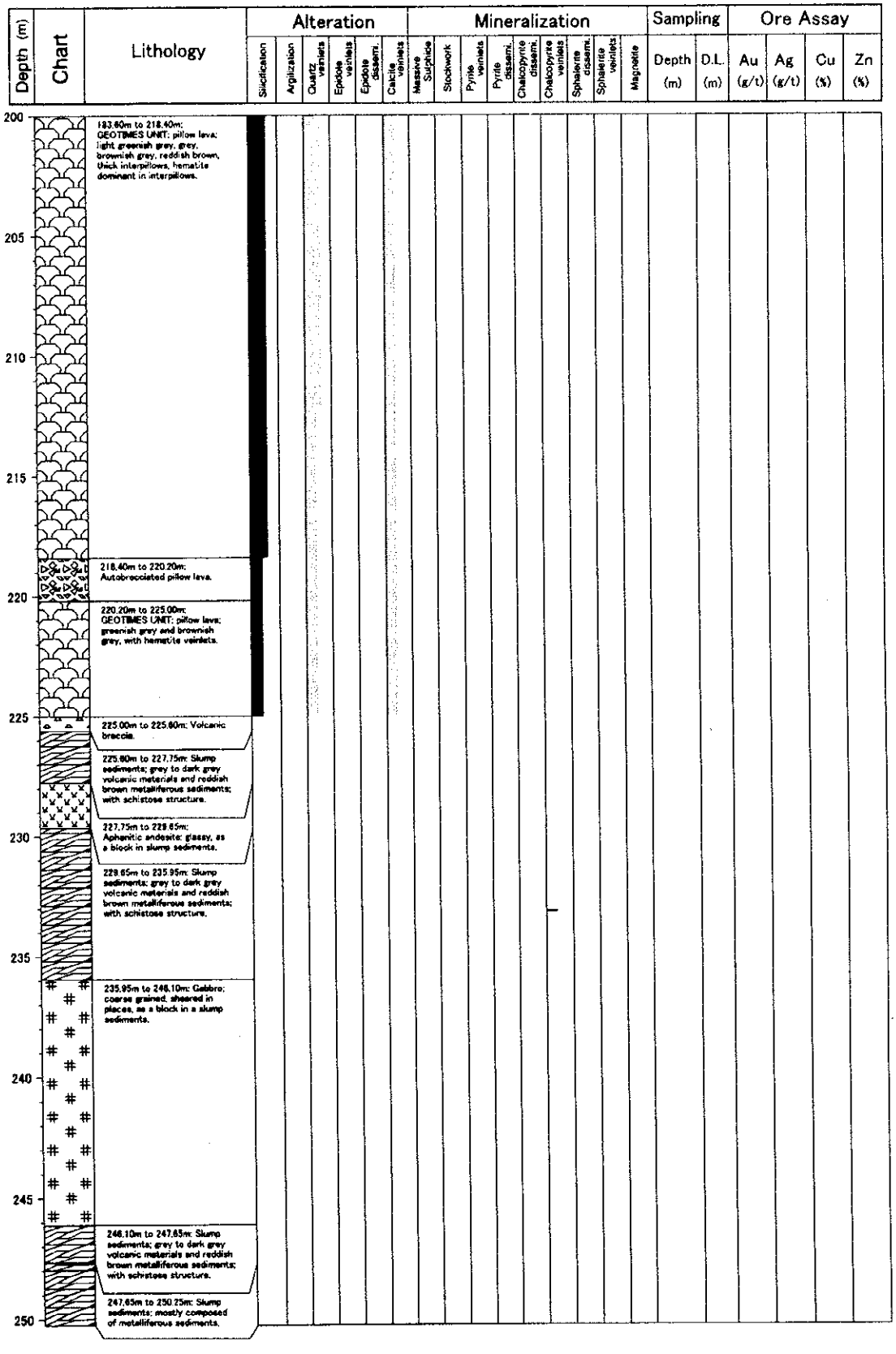
Hole No. MJOY-8 (250.25m ; from 100.00 m to 150.00 m)



Hole No. MJOY-8 (250.25m ; from 150.00 m to 200.00 m)



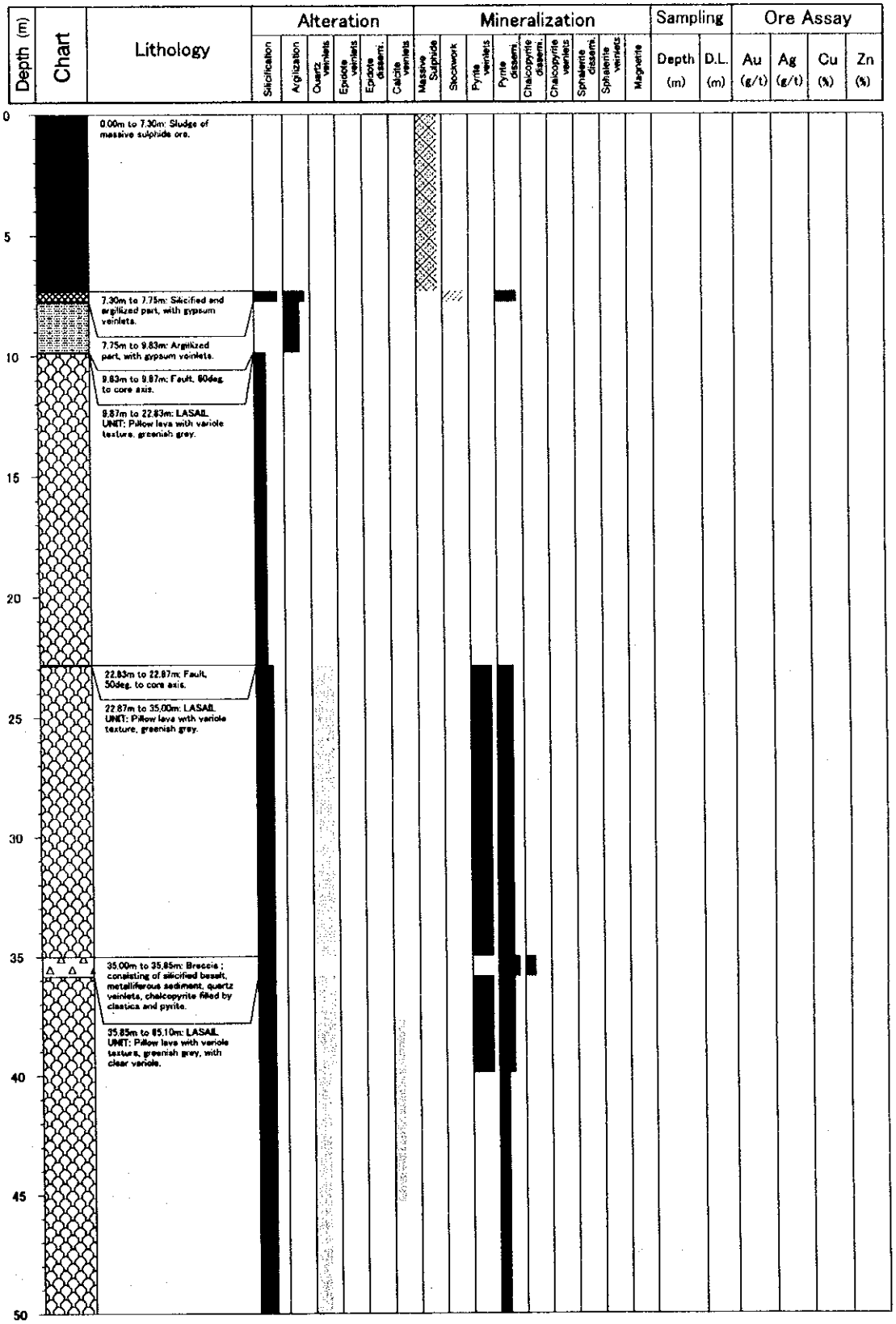
Hole No. MJOY-8 (250.25m ; from 200.00 m to 250.25 m)



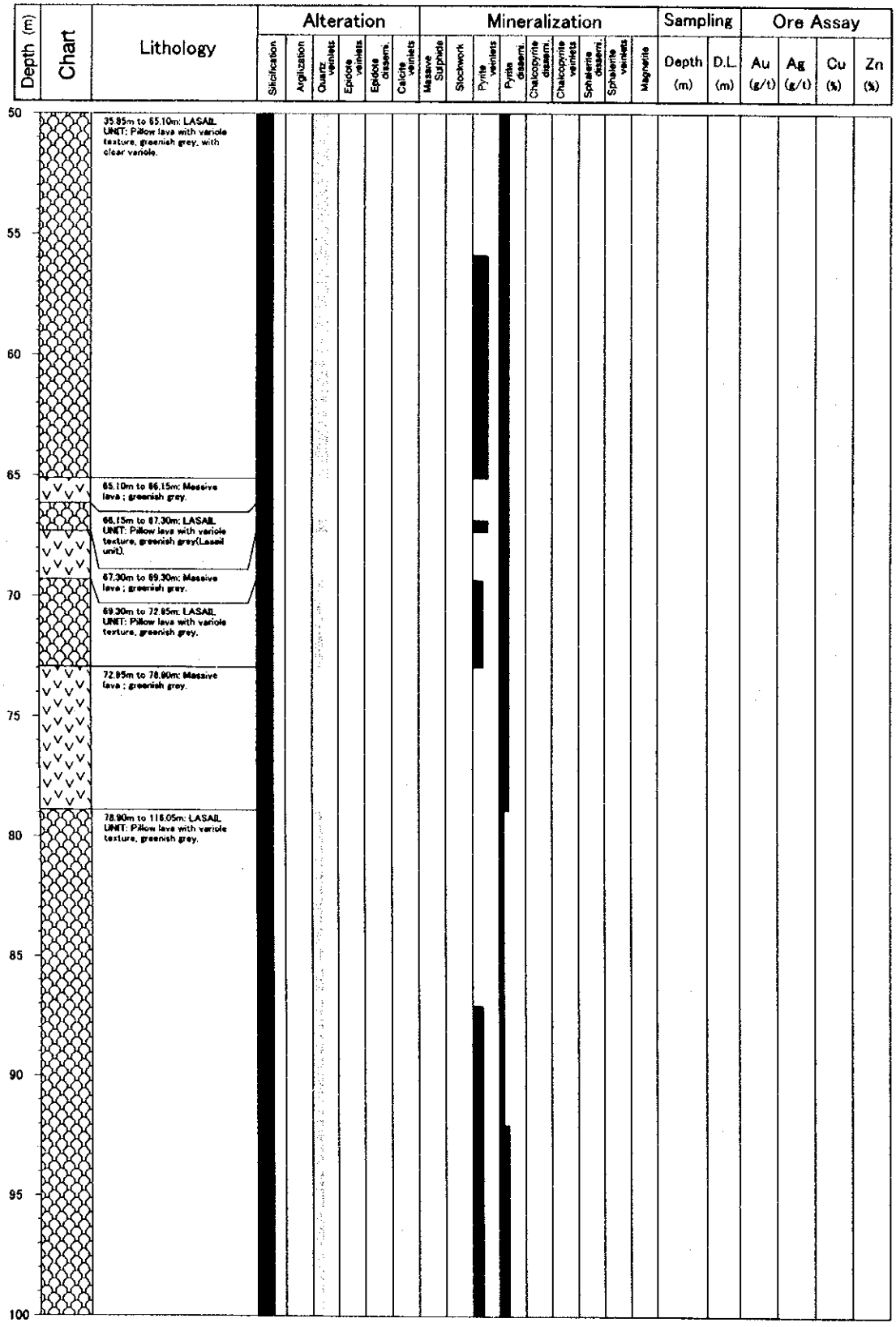
Appendix 3B

Geologic core logs for the drill holes of metallurgical test

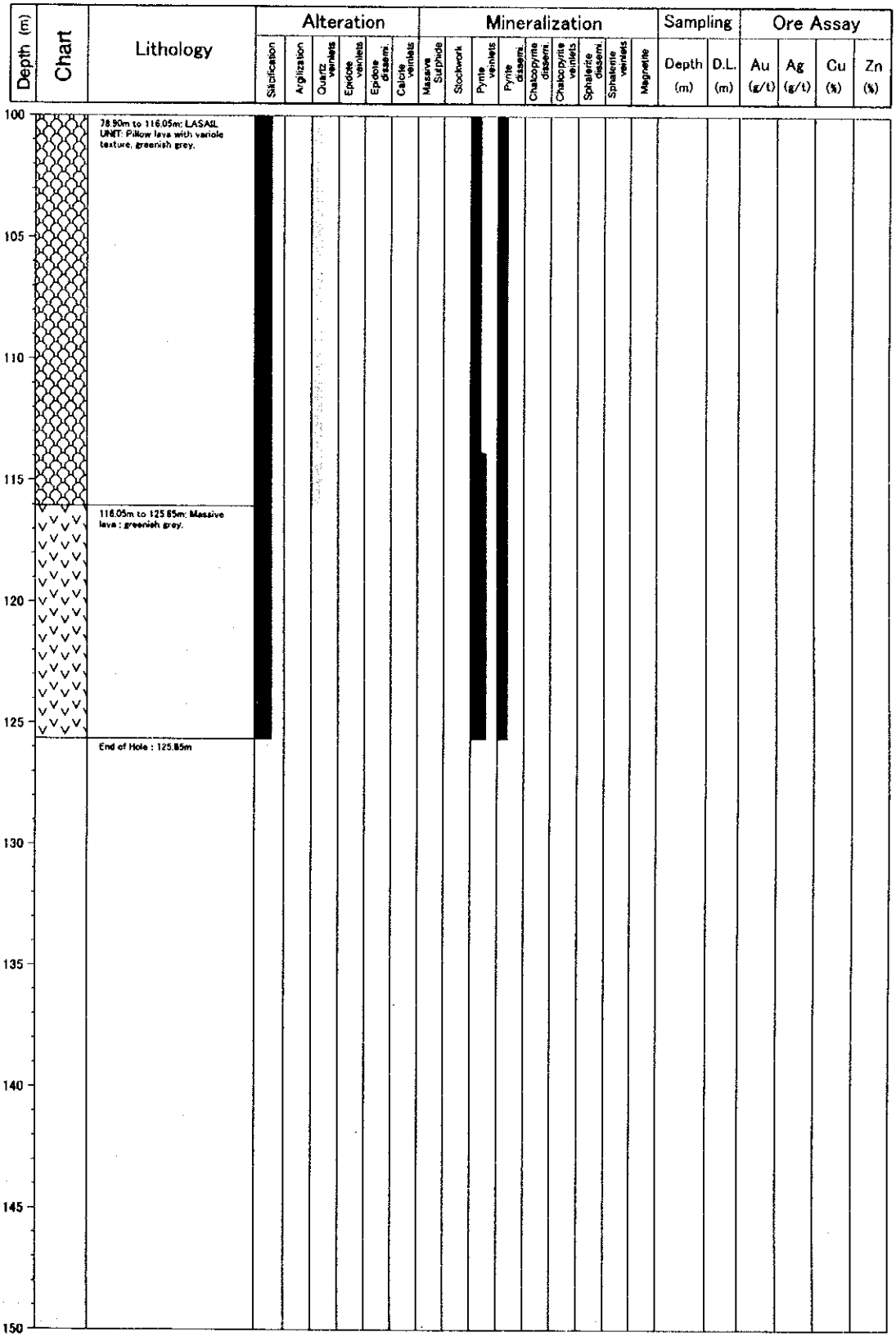
Hole No. P1 (125.65m ; from 0.00 m to 50.00 m)



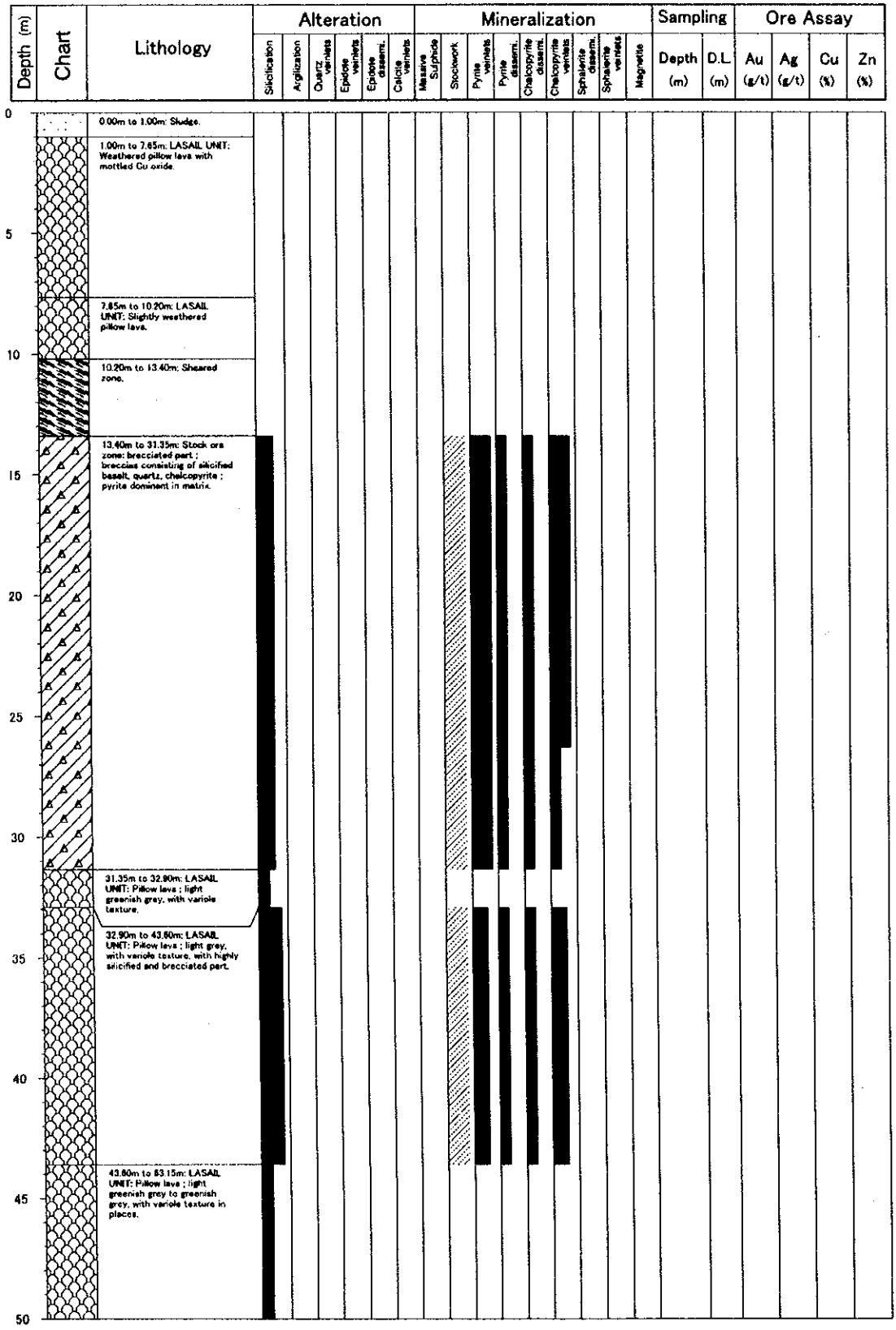
Hole No. P1 (125.65m ; from 50.00 m to 100.00 m)



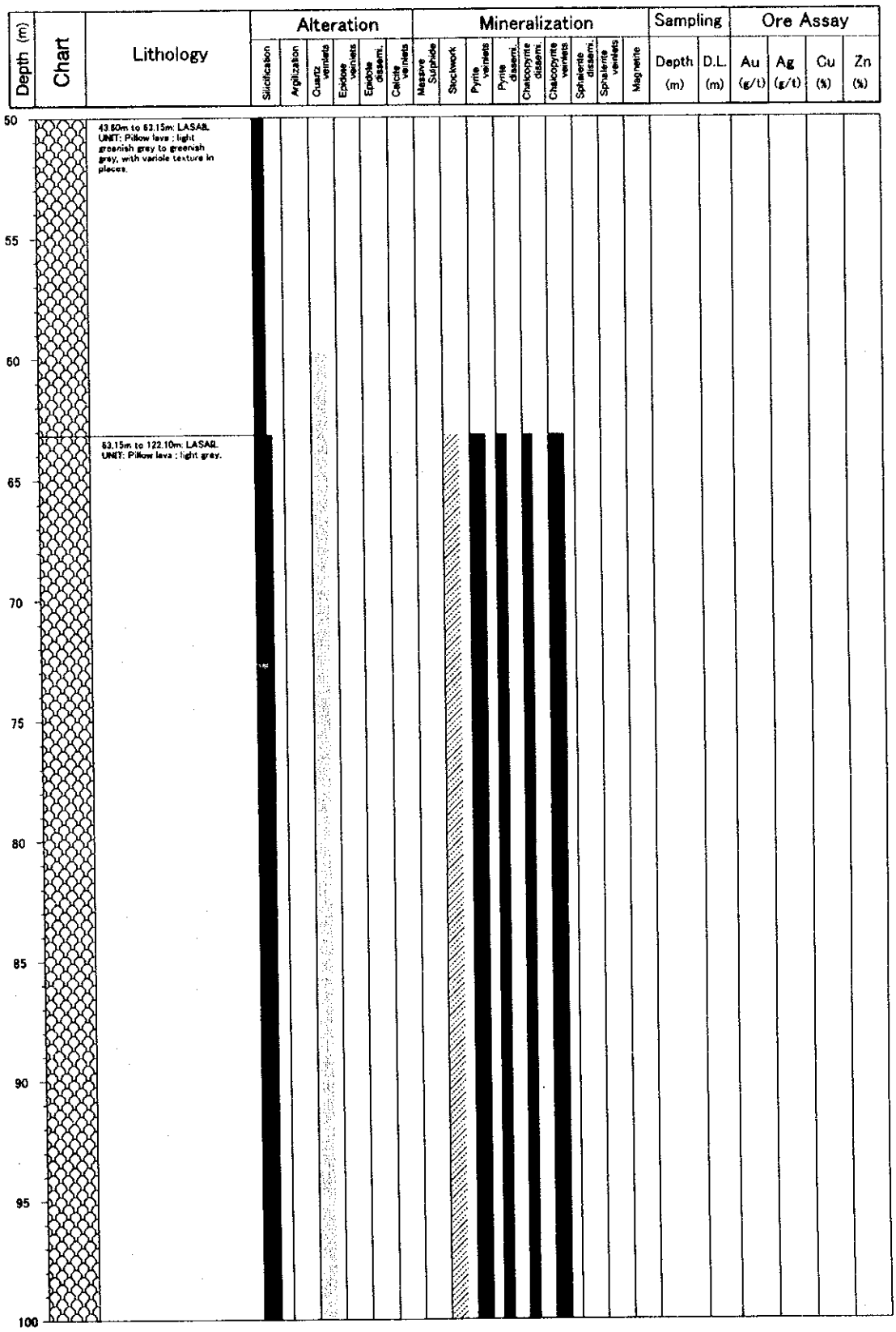
Hole No. P1 (125.65m ; from 100.00 m to 125.65 m)



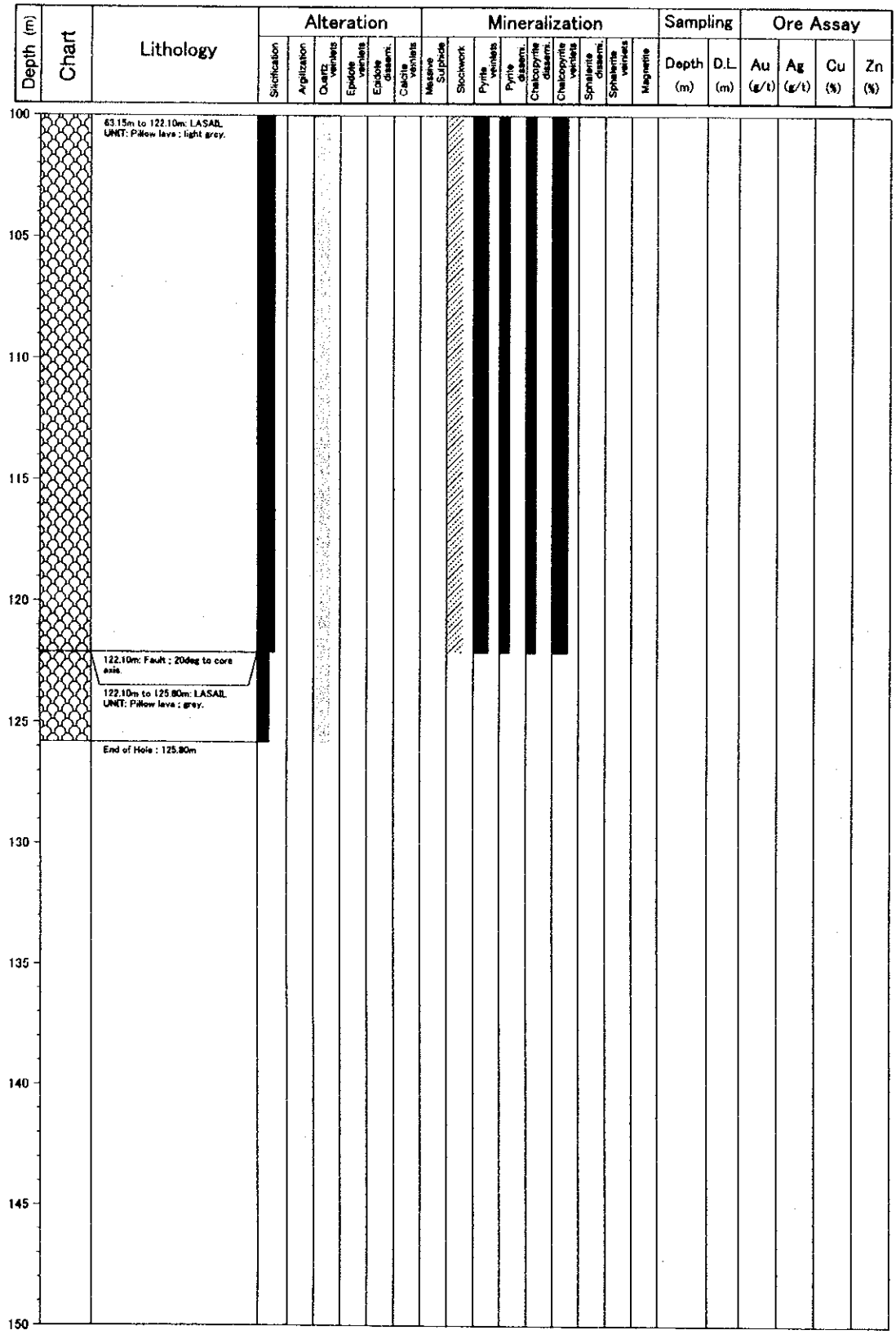
Hole No. P2 (125.80m ; from 0.00 m to 50.00 m)



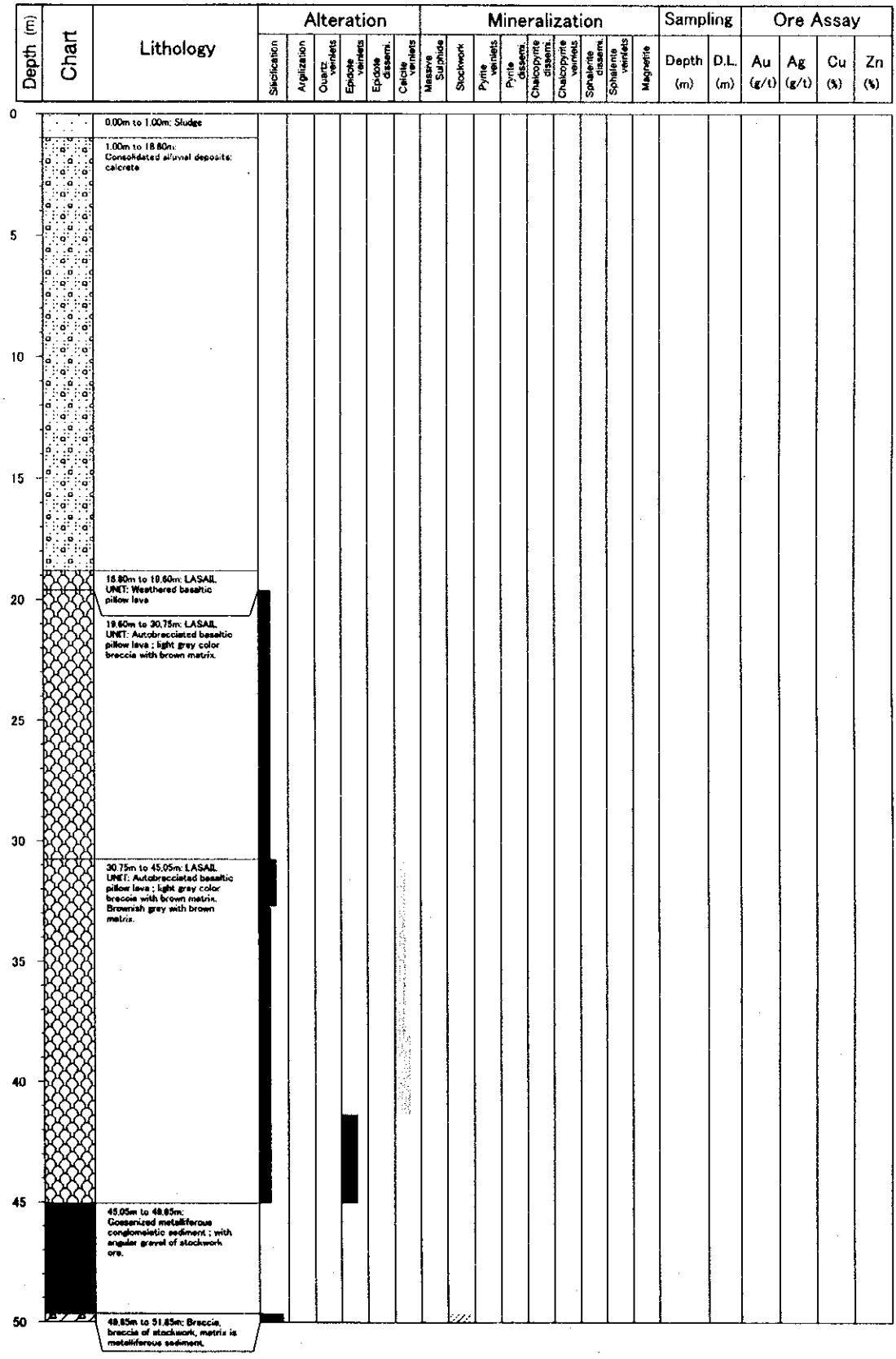
Hole No. P2 (125.80m ; from 50.00 m to 100.00 m)



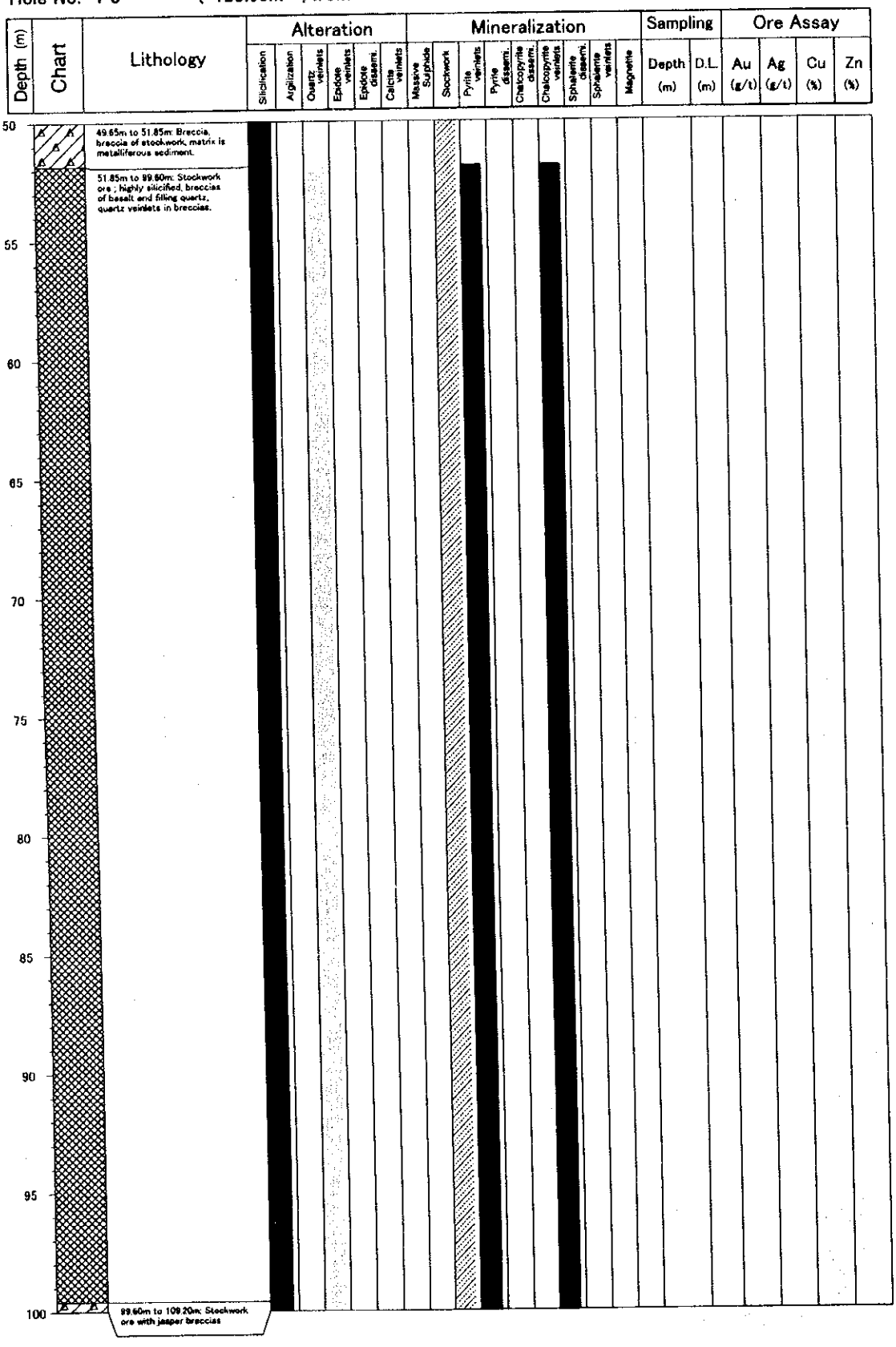
Hole No. P2 (125.80m ; from 100.00 m to 125.80 m)



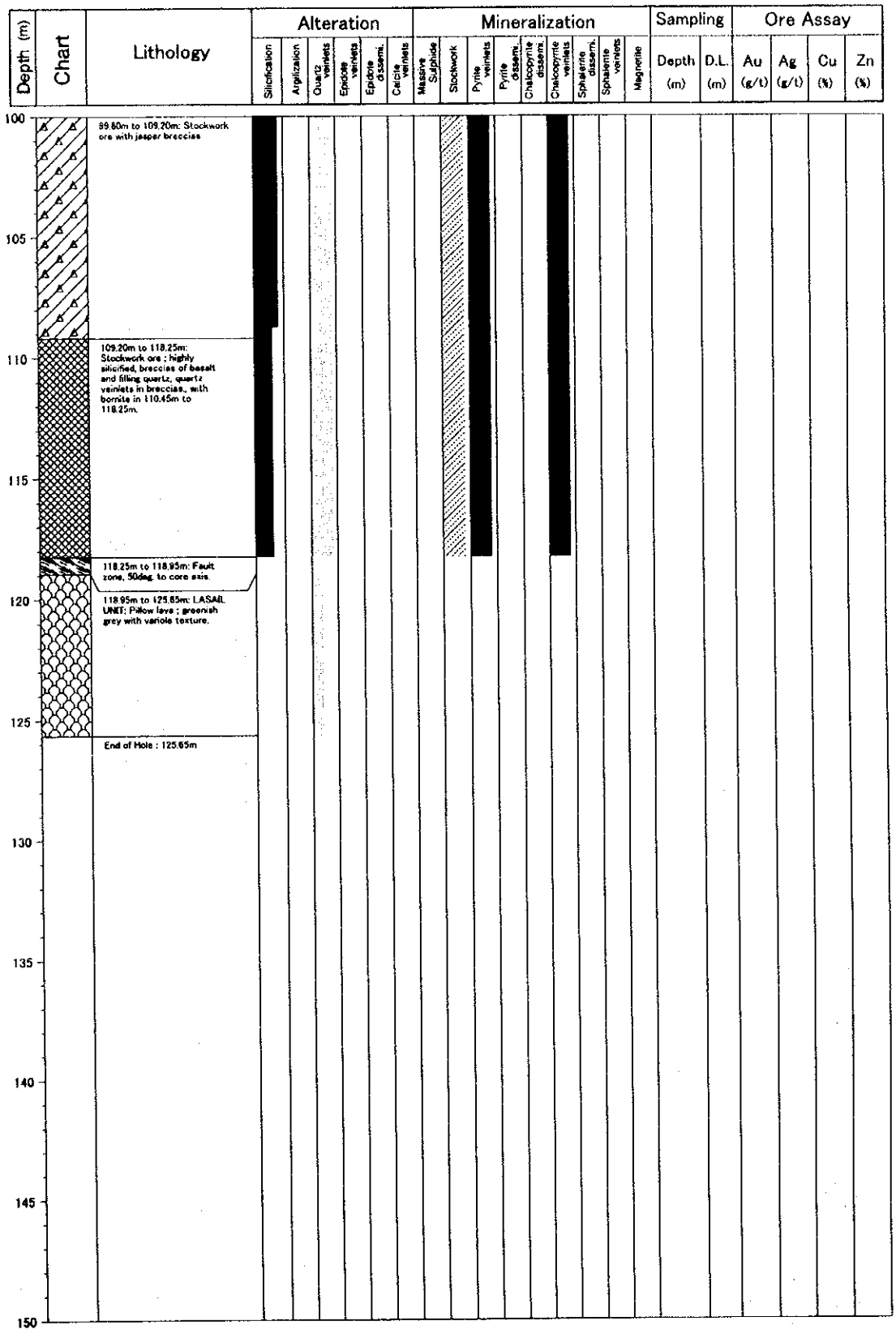
Hole No. P3 (125.65m ; from 0.00 m to 50.00 m)



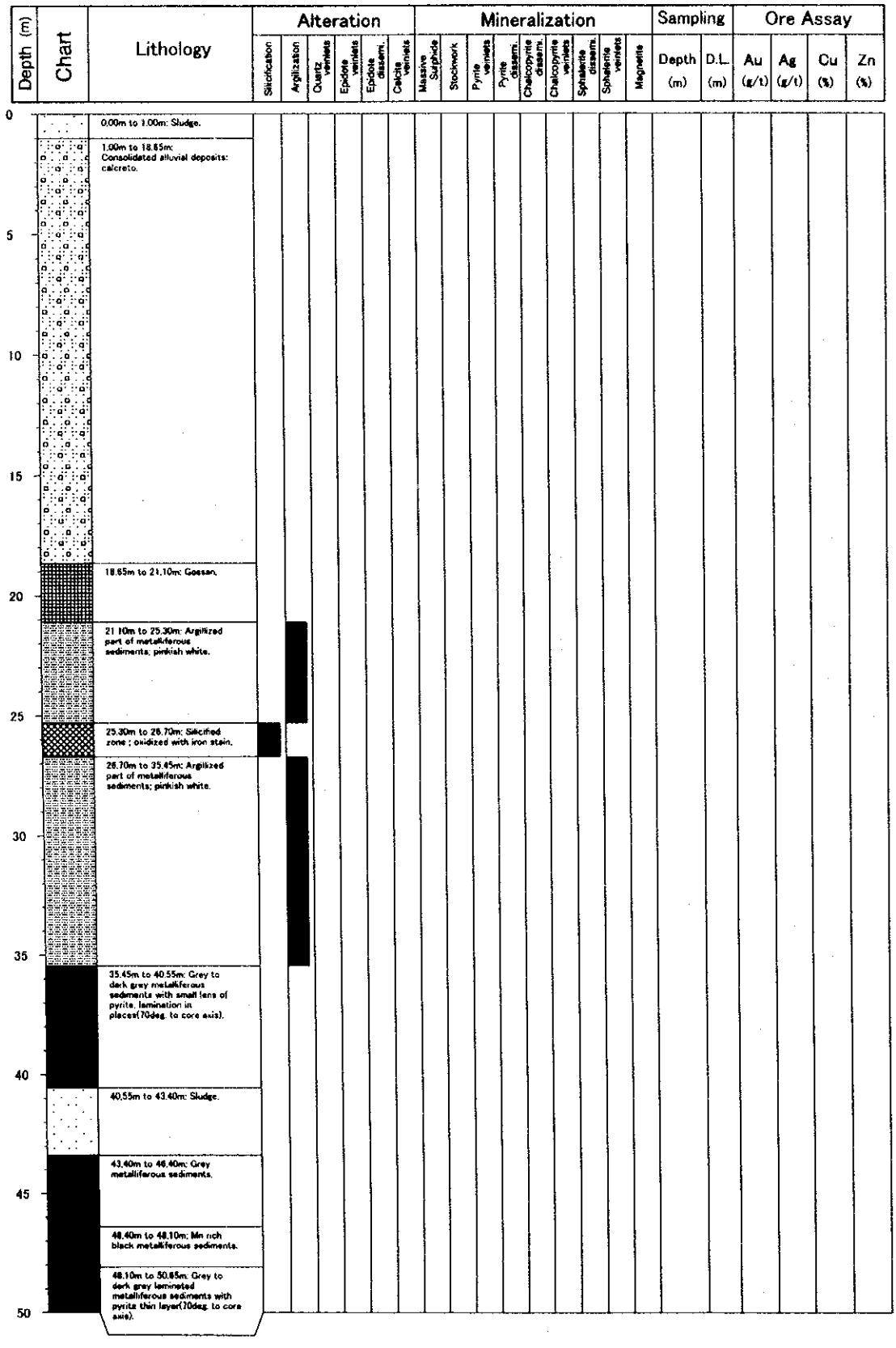
Hole No. P3 (125.65m ; from 50.00 m to 100.00 m)



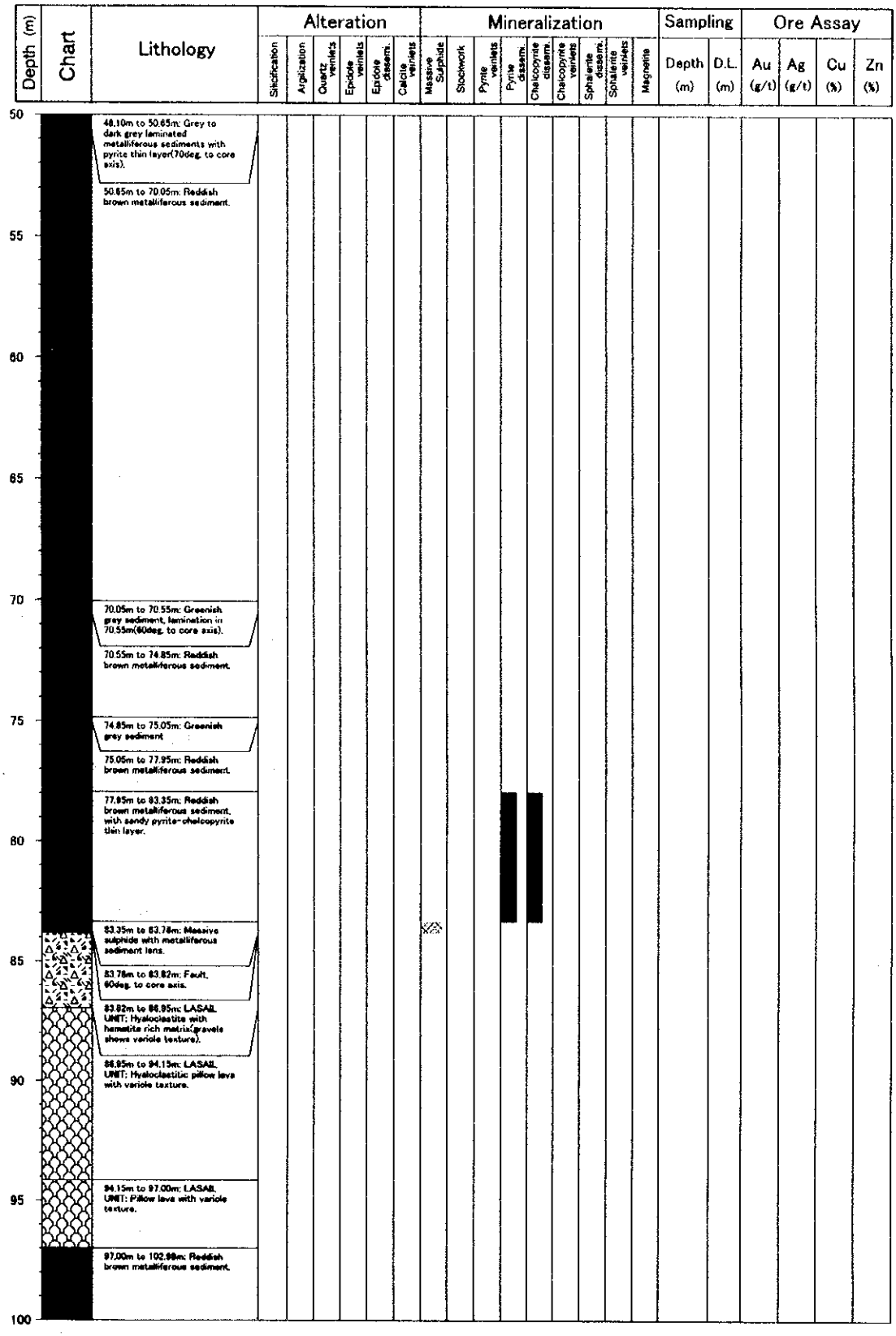
Hole No. P3 (125.65m ; from 100.00 m to 125.65 m)



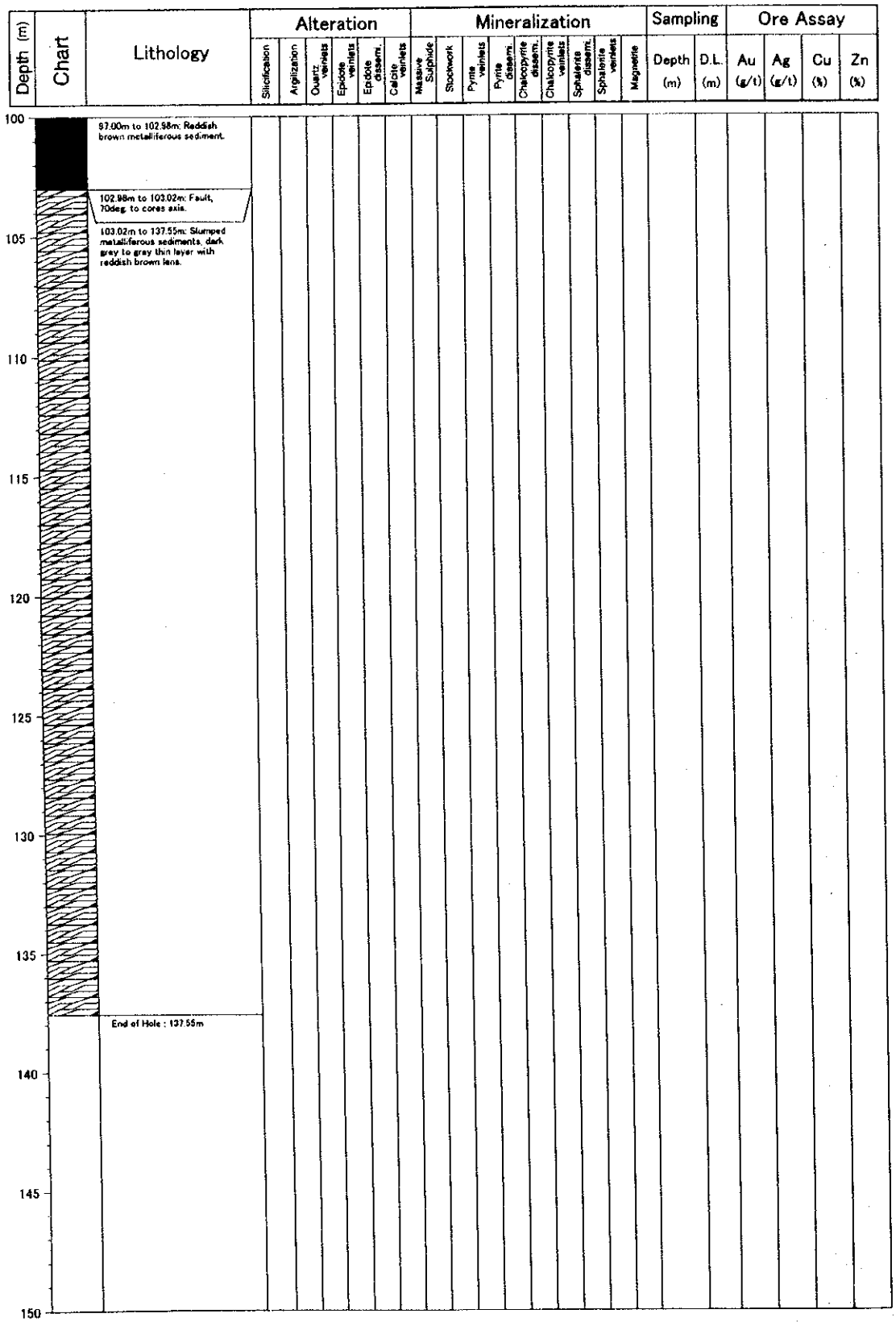
Hole No. P4 (137.55m ; from 0.00 m to 50.00 m)



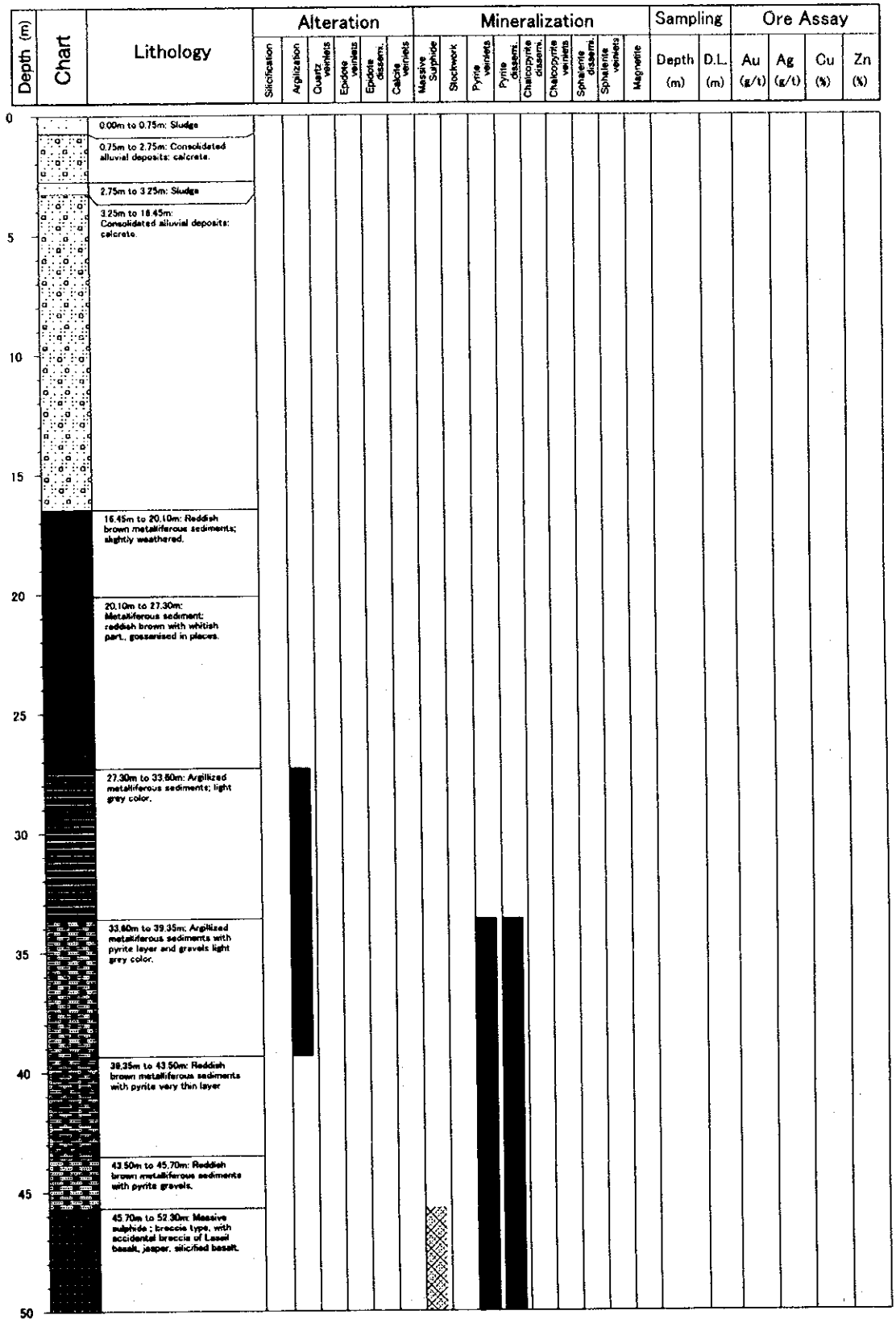
Hole No. P4 (137.55m ; from 50.00 m to 100.00 m)



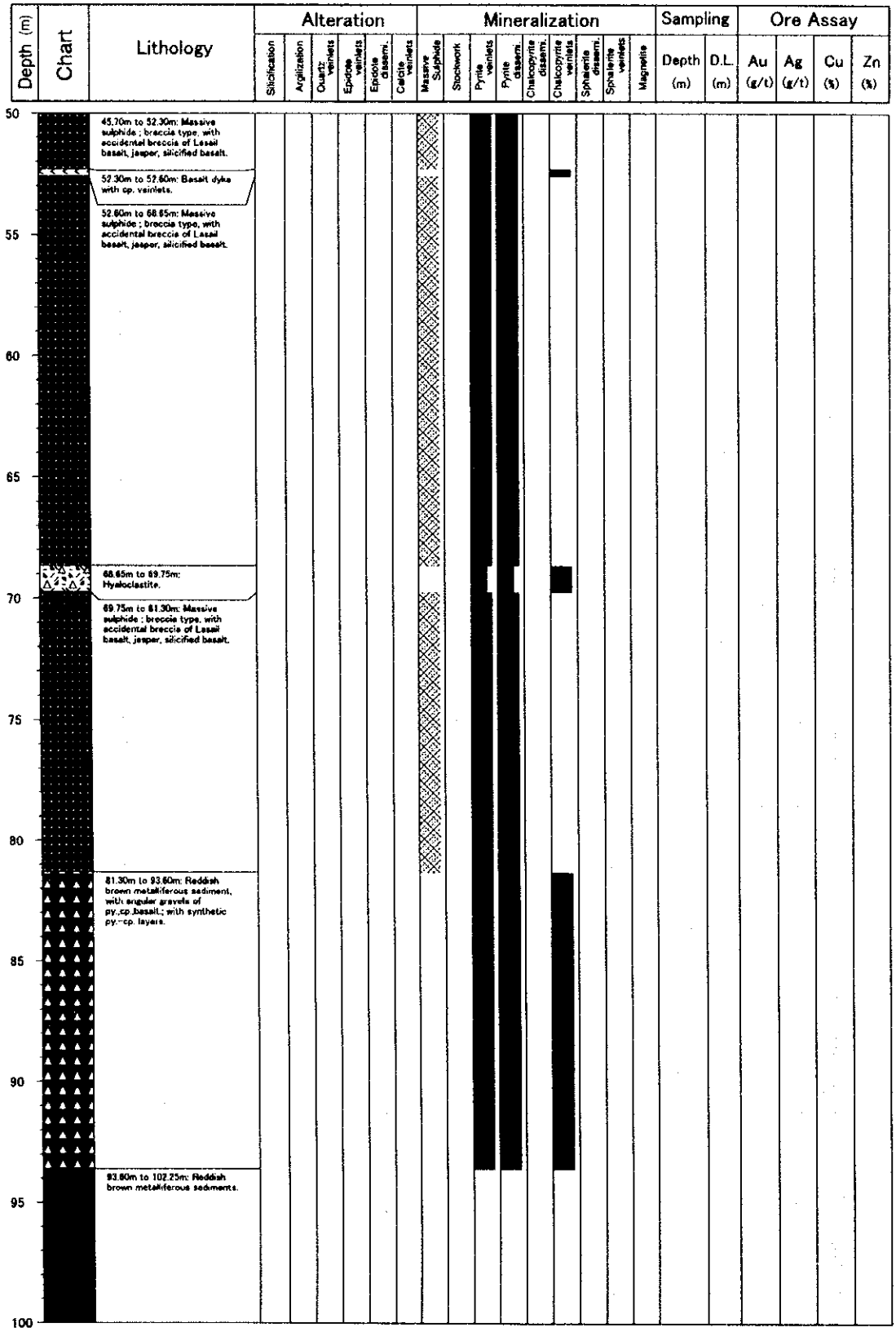
Hole No. P4 (137.55m ; from 100.00 m to 137.55 m)



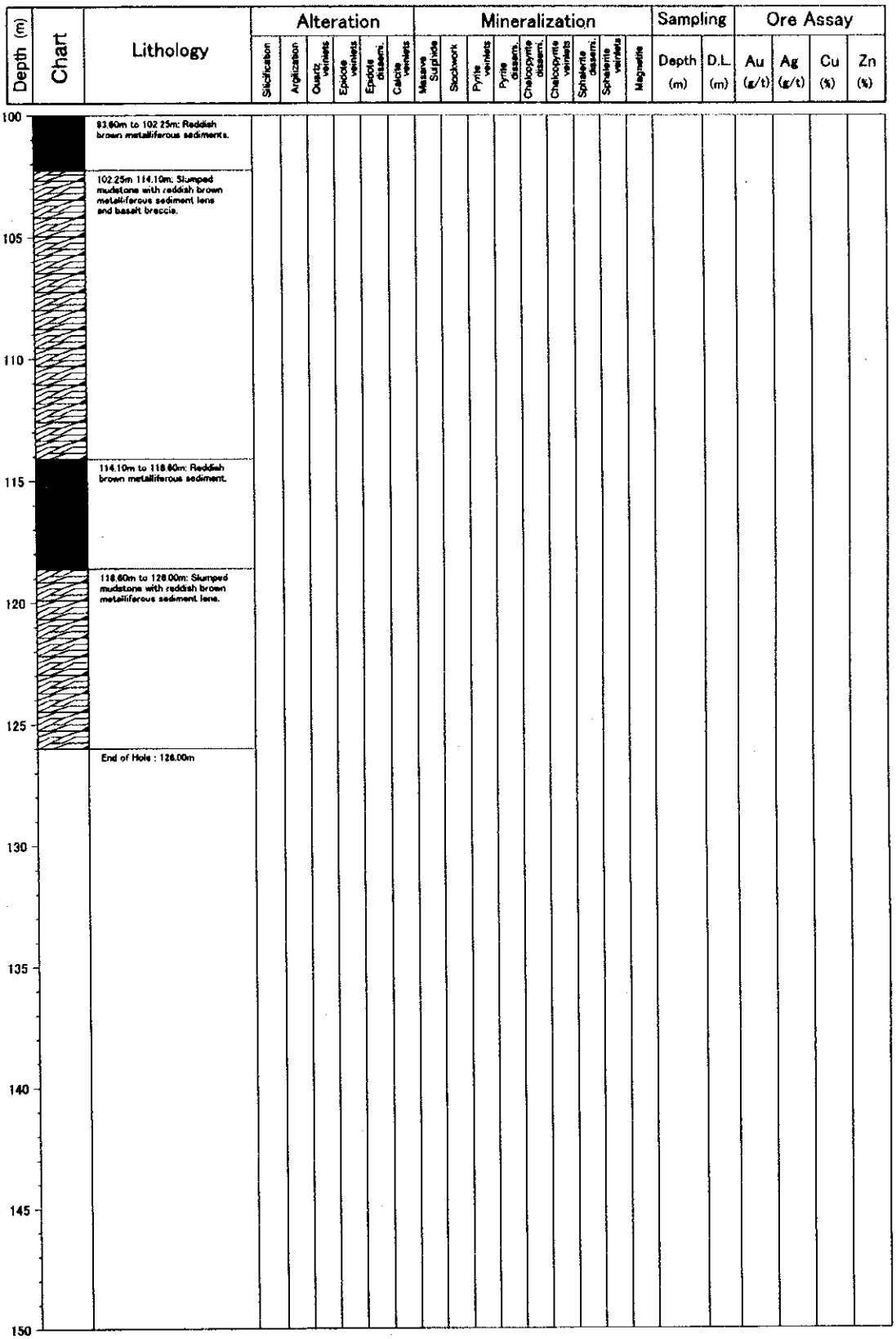
Hole No. P5 (126.00m ; from 0.00 m to 50.00 m)



Hole No. P5 (126.00m ; from 50.00 m to 100.00 m)



Hole No. P5 (126.00m ; from 100.00 m to 126.00 m)

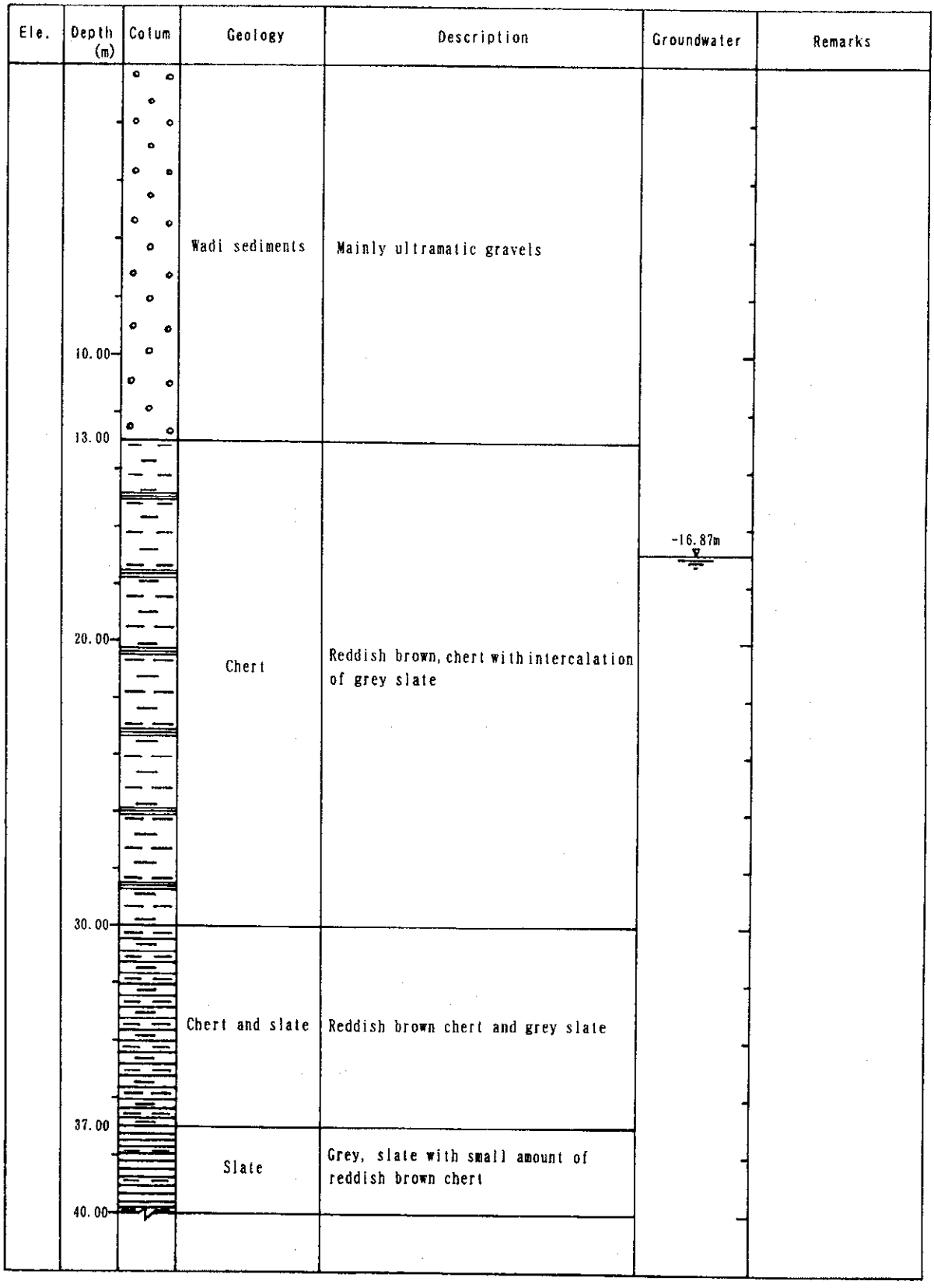


Appendix 3C

Geologic core logs for the drill holes of groundwater survey

D.H.No.MJOY-W1

(1)



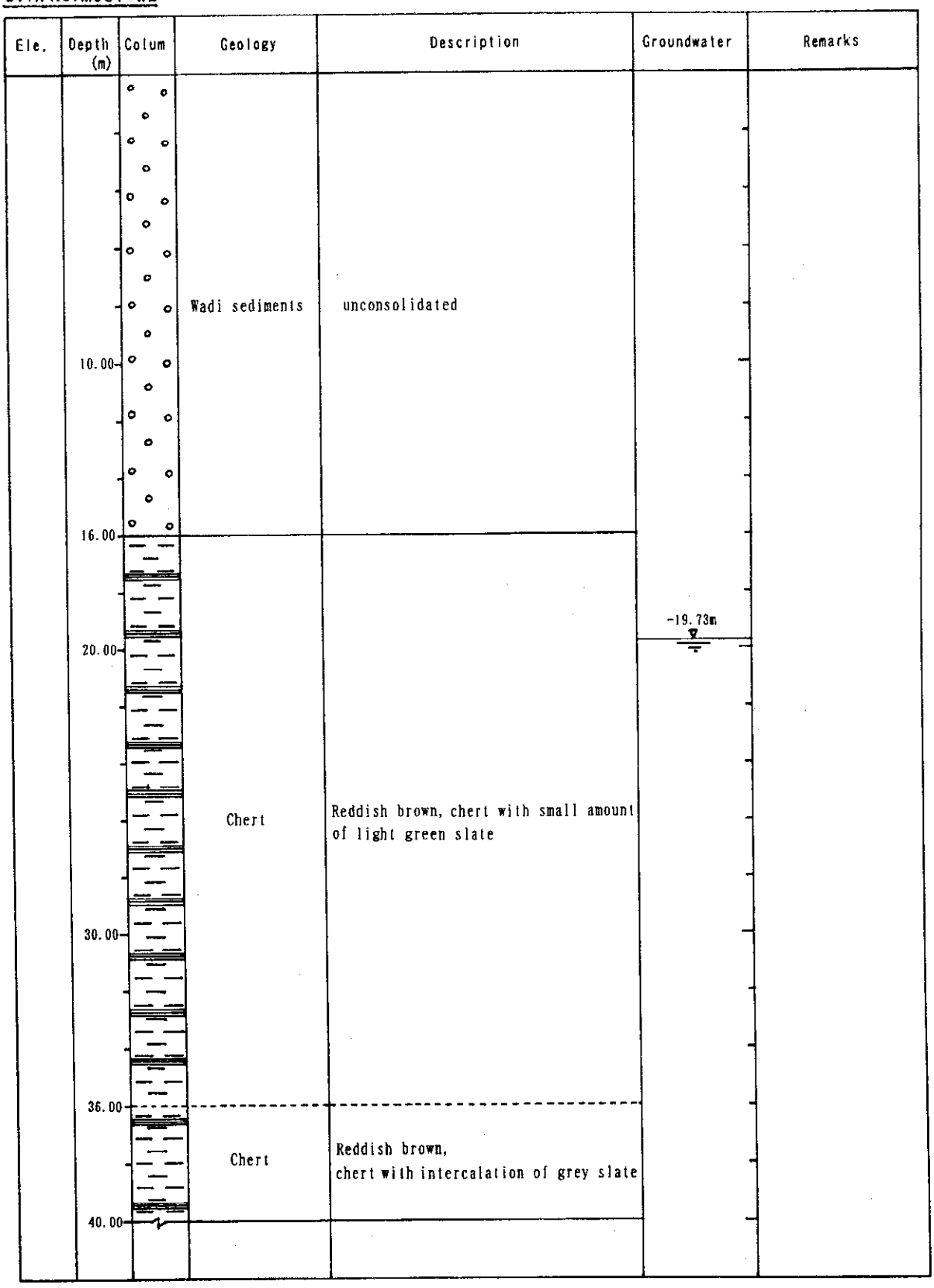
D.H.No.MJOY-W1

(2)

Ele.	Depth (m)	Colum	Geology	Description	Groundwater	Remarks
	50.00		Slate	Grey, slate with small amount of reddish brown chert		
	60.00					
	63.00		Chert	Reddish brown		
	70.00					
	71.00		Slate	Dark grey, slate with intercalation of reddish brown chert		
	75.00		(End of hole.)			

D.H.No.MJOY-W2

(1)

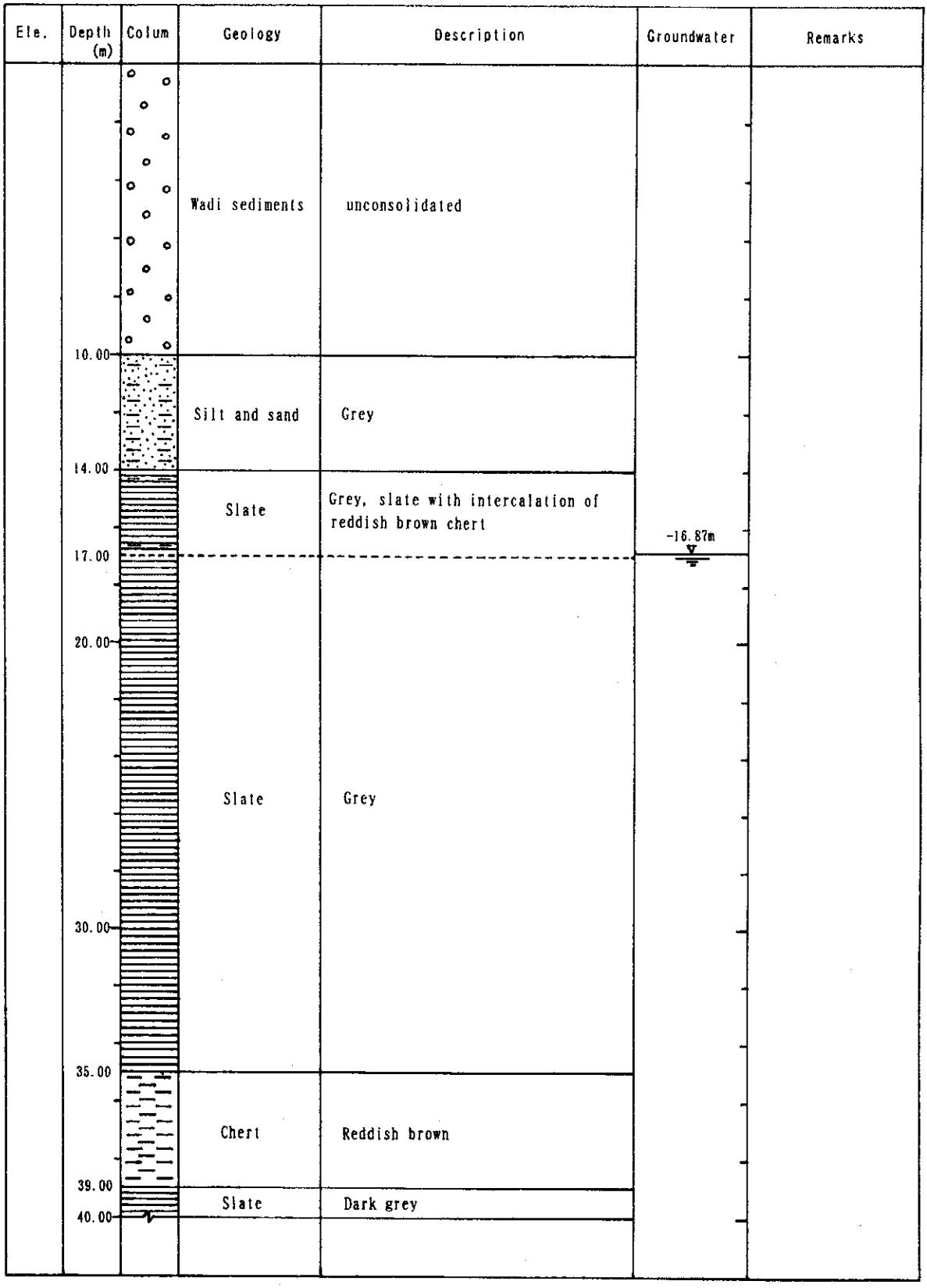


D.H.No.MJOY-W2

Ele.	Depth (m)	Colum	Geology	Description	Groundwater	Remarks
			Chert	Reddish brown, chert with intercalation of grey slate		
	43.00					
	50.00		Slate	Grey, slate with intercalation of reddish brown chert		
	60.00					
	70.00					
	75.00		(End of hole.)			

D. H. No. MJOY-W3

(1)



D.H.No.MJOY-W3

Ele.	Depth (m)	Colum	Geology	Description	Groundwater	Remarks
			Slate	Dark grey		
	42.00		Basalt	Brown		
	50.00					
	54.00		Basalt	Dark grey~grey		
	60.00					
	70.00					
	75.00		(End of hole.)			

D.H.No.MJOY-W4

(1)

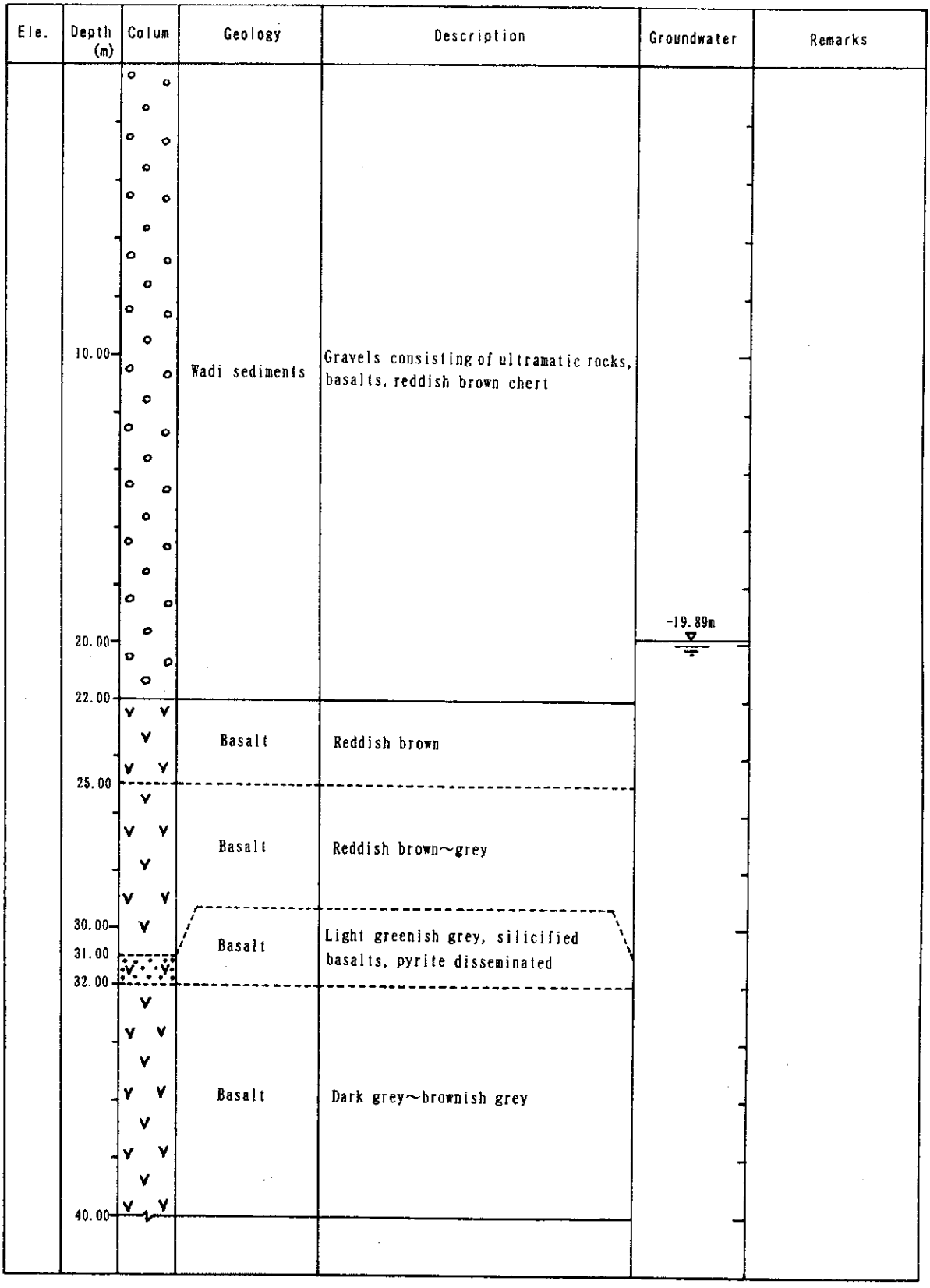
Ele.	Depth (m)	Colum	Geology	Description	Groundwater	Remarks
	10.00		Wadi sediments	unconsolidated	-9.09m	
	14.00		Sand	Yellowish brown		
	18.00		Slate	Grey, slate with quartz veinlets		
	20.00					
	22.00		Basalt	Green, silicified basalt with quartz veinlets		
	30.00					
	35.50		Chert	Reddish brown, chert withintercalation of green basalt		
	40.00					

D. H. No. MJOY-W4

Ele.	Depth (m)	Colum	Geology	Description	Groundwater	Remarks
	50.00		Chert	Reddish brown, chert with intercalation of green basalt		
	54.00		Chert	Reddish brown, chert with intercalation of grey slate		
	60.00					
	70.00					
	75.00		(End of hole.)			

D. H. No. MJOY-W5

(1)



D.H.No.MJOY-W5

Ele.	Depth (m)	Colum	Geology	Description	Groundwater	Remarks
			Basalt	Dark grey~brownish grey		
	42.00		Basalt	Dark reddish brown		
	46.00		Basalt	Dark grey~brownish grey		
	50.00					
	53.00		Basalt	Dark grey		
	60.00					
	65.00		Basalt	Dark grey~brownish grey		
	70.00					
	75.00		(End of hole.)			

Appendix 4

Assay results of drilling cores

MJOY-2

No.	Sample No.	Depth(m) From	Depth(m) To	Length (m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(ppm)	Zn(%)	Fe2O3 (%)
1	2－1	0.00	2.00	2	0.22	0.8	0.22	13	0.02	17.99
2	2－2	2.00	4.00	2	0.30	1.0	0.29	15	0.01	19.24
3	2－3	4.00	6.00	2	0.19	0.5	0.49	13	0.01	18.15
4	2－4	6.00	8.00	2	0.25	0.5	0.55	15	0.01	16.42
5	2－5	8.00	10.00	2	0.16	0.8	0.56	15	0.14	16.77
6	2－6	10.00	12.80	2.8	0.13	0.5	0.70	15	0.02	20.05
7	2－7	12.80	13.80	1	0.20	1.5	3.08	18	0.01	17.85
8	2－8	13.80	15.80	2	0.10	2.3	0.54	13	0.01	16.77
9	2－9	15.80	17.70	1.9	0.13	0.5	0.28	15	0.01	16.56
10	2－10	17.70	19.70	2	0.40	1.0	0.78	13	0.01	16.22
11	2－11	19.70	21.70	2	0.13	1.3	1.40	15	0.01	18.45
12	2－12	21.70	23.70	2	0.20	2.3	3.30	13	0.01	20.60
13	2－13	23.70	25.70	2	0.12	1.0	1.72	10	0.01	18.42
14	2－14	25.70	27.70	2	0.25	2.0	0.90	8	0.01	19.12
15	2－15	27.70	29.70	2	0.15	2.5	0.73	8	0.01	20.16
16	2－16	29.70	31.70	2	0.12	2.8	1.27	10	0.01	20.44
17	2－17	31.70	33.70	2	0.10	1.5	1.23	10	0.01	17.86
18	2－18	33.70	35.70	2	0.16	2.5	0.67	13	0.01	18.11
19	2－19	35.70	37.70	2	0.11	1.0	0.56	8	0.01	18.00
20	2－20	37.70	39.70	2	1.20	1.0	0.70	10	0.01	17.04
21	2－21	39.70	41.70	2	0.30	2.3	0.65	18	0.01	18.10
22	2－22	41.70	43.70	2	0.14	0.8	0.49	15	0.01	18.66
23	2－23	43.70	45.70	2	2.40	2.5	0.84	23	0.01	18.51
24	2－24	45.70	47.70	2	0.30	1.0	0.65	28	0.01	17.99
25	2－25	47.70	49.70	2	0.10	0.8	0.64	28	0.02	16.28
26	2－26	49.70	51.70	2	0.50	0.5	0.47	25	0.01	14.40
27	2－27	51.70	53.70	2	0.60	0.5	0.48	28	0.01	16.81
28	2－28	53.70	55.70	2	0.14	1.3	0.93	38	0.01	17.42
29	2－29	55.70	57.70	2	0.10	1.8	1.31	40	0.01	16.39
30	2－30	57.70	59.70	2	0.40	1.3	0.86	35	0.01	18.13
31	2－31	59.70	61.70	2	0.90	2.8	2.50	13	0.01	18.69
32	2－32	61.70	63.70	2	0.14	1.0	0.78	15	0.01	19.00
33	2－33	63.70	65.70	2	0.36	0.8	0.62	15	0.01	17.50
34	2－34	65.70	67.70	2	0.10	1.0	0.68	18	0.01	18.41
35	2－35	67.70	69.70	2	0.30	0.8	0.54	18	0.01	17.99
36	2－36	69.70	71.70	2	0.50	0.5	0.42	25	0.01	16.26
37	2－37	71.70	73.70	2	0.10	0.8	0.15	23	0.01	16.71
38	2－38	73.70	75.70	2	0.60	0.5	0.18	20	0.01	16.30
39	2－39	75.70	77.70	2	0.13	0.8	0.51	18	0.02	17.36
40	2－40	77.70	79.70	2	0.20	1.0	0.57	18	0.01	17.80
41	2－41	79.70	81.70	2	0.45	1.8	0.32	10	0.01	16.43
42	2－42	81.70	83.70	2	0.30	2.0	0.28	13	0.01	16.18
43	2－43	83.70	85.70	2	0.10	2.0	0.31	10	0.02	18.24
44	2－44	85.70	87.70	2	0.33	2.0	0.34	8	0.02	16.13
45	2－45	87.70	89.70	2	0.17	2.3	0.95	8	0.03	17.49
46	2－46	89.70	91.70	2	1.07	1.8	0.33	5	0.02	14.04
47	2－47	91.70	93.70	2	0.26	2.0	0.43	13	0.02	16.84
48	2－48	93.70	95.70	2	0.15	2.0	0.40	10	0.02	17.90
49	2－49	95.70	97.70	2	0.10	1.5	0.22	10	0.02	16.01

MJOY-2

No.	Sample No.	Depth(m) From	Depth(m) To	Length (m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(ppm)	Zn(%)	Fe2O3 (%)
50	2－ 50	97.70	99.70	2	0.10	1.8	0.45	13	0.02	14.23
51	2－ 51	99.70	101.70	2	0.80	1.8	0.55	8	0.03	15.94
52	2－ 52	101.70	103.70	2	0.20	1.8	0.11	5	0.02	15.43
53	2－ 53	103.70	105.70	2	0.44	2.3	0.18	8	0.02	15.36
54	2－ 54	105.70	107.70	2	0.05	2.3	0.43	5	0.02	19.90
55	2－ 55	107.70	109.70	2	0.27	1.8	0.13	10	0.02	14.65
56	2－ 56	109.70	111.70	2	0.19	1.8	0.22	15	0.02	19.89
57	2－ 57	111.70	113.70	2	0.15	2.5	0.79	13	0.03	18.97
58	2－ 58	113.70	115.70	2	0.10	2.0	0.34	8	0.02	17.17
59	2－ 59	115.70	117.70	2	0.21	2.5	0.66	8	0.03	17.26
60	2－ 60	117.70	119.70	2	0.12	1.0	0.55	5	0.03	16.56
61	2－ 61	119.70	121.70	2	0.53	2.0	0.22	5	0.03	16.56
62	2－ 62	121.70	123.70	2	0.37	1.3	0.43	10	0.02	17.36
63	2－ 63	123.70	125.70	2	0.37	1.3	0.23	8	0.02	17.27
64	2－ 64	125.70	127.70	2	1.01	1.5	0.45	8	0.03	15.34
65	2－ 65	127.70	129.70	2	0.03	1.4	0.18	10	0.02	17.23
66	2－ 66	129.70	131.70	2	0.08	1.3	0.27	10	0.03	16.63
67	2－ 67	131.70	133.70	2	0.21	1.5	0.15	8	0.02	17.21
68	2－ 68	133.70	135.70	2	0.19	1.5	0.32	13	0.03	16.11
69	2－ 69	135.70	137.70	2	0.11	1.1	0.10	13	0.02	12.71
70	2－ 70	137.70	139.70	2	0.69	1.0	0.16	13	0.02	14.25
71	2－ 71	139.70	141.70	2	0.13	7.2	0.43	13	0.02	15.36
72	2－ 72	141.70	143.70	2	0.21	1.4	0.19	10	0.02	14.35
73	2－ 73	143.70	145.70	2	0.21	1.7	1.04	13	0.03	16.80
74	2－ 74	145.70	147.70	2	0.64	1.2	0.16	13	0.02	15.96
75	2－ 75	147.70	149.70	2	0.16	1.0	0.10	15	0.01	8.08
76	2－ 76	149.70	151.70	2	0.11	1.2	0.24	8	0.03	14.71
77	2－ 77	151.70	153.70	2	0.08	1.3	0.41	15	0.02	13.84
78	2－ 78	153.70	155.70	2	0.42	1.3	0.22	15	0.02	13.83
79	2－ 79	155.70	157.70	2	1.50	1.2	0.22	15	0.02	12.91
80	2－ 80	157.70	160.75	3.05	0.75	1.7	0.40	15	0.02	14.35

AVERAGE	Length(m)	Au(g/t)	Cu(%)
17.7~89.7	72	0.35	0.83
89.7~127.7	38	0.34	0.37
127.7~160.75	33.05	0.36	0.29

MJOY-3

No.	Sample No.	Depth(m) From	Depth(m) To	Length (m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(ppm)	Zn(%)	Fe2O3 (%)
1	3－1	170.10	171.10	1	0.19	0.7	0.10	19	0.03	17.19
2	3－2	171.10	172.10	1	0.16	0.7	0.01	18	0.01	17.71
3	3－3	172.10	173.10	1	0.11	0.8	0.08	19	0.02	16.10
4	3－4	173.10	174.10	1	0.29	1.3	0.06	16	0.01	18.31
5	3－5	174.10	175.10	1	0.21	1.4	0.51	23	0.01	18.33
6	3－6	175.10	176.10	1	0.45	0.9	0.15	22	0.01	19.26
7	3－7	176.10	177.10	1	0.95	0.8	0.07	18	0.01	20.50
8	3－8	177.10	178.10	1	0.61	0.9	0.22	16	0.02	19.93
9	3－9	178.10	179.10	1	0.19	0.7	0.07	16	0.04	15.77
10	3－10	179.10	180.10	1	0.26	0.6	0.02	16	0.05	13.18
11	3－11	180.10	182.10	2	0.19	0.7	0.03	19	0.01	16.71
12	3－12	182.10	184.10	2	0.56	0.8	0.02	18	0.01	15.88
13	3－13	184.10	186.10	2	0.11	1.0	0.35	19	0.01	16.38
14	3－14	186.10	188.10	2	0.05	0.8	0.25	18	0.01	16.38
15	3－15	188.10	190.10	2	0.19	0.8	0.73	19	0.02	17.26
16	3－16	190.10	192.10	2	1.25	0.6	0.01	19	0.01	12.97
17	3－17	192.10	194.10	2	0.05	1.1	0.04	13	0.01	16.01
18	3－18	194.10	196.10	2	0.08	0.5	0.01	19	0.01	14.63
19	3－19	196.10	198.85	2.75	0.13	0.6	0.10	17	0.01	17.01
20	3－20	198.85	199.85	1	0.27	0.8	0.41	18	0.01	17.73
21	3－21	199.85	201.15	1.3	0.16	0.6	0.16	12	0.01	19.29
22	3－22	201.15	202.15	1	0.69	2.1	5.43	18	0.03	17.56
23	3－23	202.15	203.10	0.95	0.69	2.2	5.66	12	0.03	17.94
24	3－24	203.10	204.70	1.6	0.32	0.8	0.99	7	0.01	19.12
25	3－25	204.70	206.70	2	0.16	0.6	0.07	11	0.00	19.44
26	3－26	206.70	208.70	2	0.14	0.6	0.06	8	0.01	19.19
27	3－27	208.70	210.70	2	0.08	0.5	0.07	8	0.01	18.09
28	3－28	210.70	211.80	1.1	0.19	0.5	0.01	9	0.01	17.16
29	3－29	211.80	212.80	1	0.67	0.6	0.64	9	0.01	17.34
30	3－30	212.80	213.80	1	0.19	0.5	0.10	9	0.01	20.52
31	3－31	213.80	214.80	1	0.43	0.9	2.83	10	0.01	21.62
32	3－32	214.80	216.20	1.4	0.19	0.6	1.07	10	0.01	19.72
33	3－33	221.90	223.90	2	0.11	0.5	0.23	9	0.02	10.11
34	3－34	223.90	225.90	2	0.11	0.6	0.09	10	0.01	14.10
35	3－35	240.50	241.50	1	0.21	2.4	0.18	7	0.01	15.36
36	3－36	241.50	242.50	1	0.24	0.6	0.43	10	0.01	19.79
37	3－37	242.50	243.50	1	0.53	0.7	0.61	13	0.02	18.83
38	3－38	243.50	245.45	1.95	0.16	0.6	0.25	10	0.02	16.58

AVERAGE	Length(m)	Au(g/t)	Cu(%)
170.1~216.2	46.1	0.29	0.50
221.9~225.9	4	0.11	0.16
240.5~245.45	4.95	0.26	0.34

MJOY-4

No.	Sample No.	Depth(m) From	Depth(m) To	Length (m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(ppm)	Zn(%)	Fe2O3 (%)
1	4－1	15.60	17.60	2	0.03	2.7	0.07	16	0.03	14.24
2	4－2	17.60	19.60	2	0.08	1.1	0.16	17	0.05	15.98
3	4－3	19.60	21.10	1.5	0.04	0.9	0.08	14	0.03	14.73
4	4－4	21.10	23.10	2	0.10	1.0	0.20	15	0.03	14.69
5	4－5	23.10	25.30	2.2	0.14	1.0	0.28	15	0.02	13.74
6	4－6	25.30	27.30	2	0.02	0.8	0.05	14	0.02	12.09
7	4－7	27.30	29.30	2	<0.01	0.8	0.01	14	0.02	11.65
8	4－8	29.30	31.30	2	N.D.	0.8	<0.01	16	0.03	12.02
9	4－9	31.30	33.30	2	N.D.	0.8	<0.01	15	0.02	11.09
10	4－10	33.30	35.30	2	N.D.	0.8	<0.01	15	0.01	11.09
11	4－11	35.30	37.30	2	<0.01	0.8	0.01	16	0.01	11.64
12	4－12	37.30	39.30	2	N.D.	0.8	0.01	14	0.01	11.00
13	4－13	39.30	41.30	2	0.01	0.8	0.02	15	0.01	13.36
14	4－14	61.00	63.00	2	0.25	1.0	0.49	32	0.02	17.68
15	4－15	63.00	65.00	2	0.18	1.0	0.35	25	0.14	15.86
16	4－16	65.00	67.00	2	<0.01	0.8	0.01	15	0.01	12.11
17	4－17	67.00	69.00	2	0.03	0.8	0.05	17	0.01	12.09
18	4－18	69.00	71.00	2	0.09	0.9	0.19	18	0.01	12.92
19	4－19	71.00	73.00	2	0.01	0.8	0.02	22	0.01	13.33
20	4－20	73.00	75.15	2.15	0.01	0.8	0.02	14	0.01	9.81
21	4－21	75.15	78.30	3.15	0.02	1.4	0.05	16	0.01	11.81
22	4－22	78.30	80.30	2	0.02	1.3	0.06	16	0.08	13.55
23	4－23	80.30	82.30	2	0.03	1.2	0.06	16	0.01	13.76
24	4－24	82.30	84.30	2	0.01	0.9	0.01	17	0.01	14.20
25	4－25	84.30	86.30	2	0.02	0.9	0.04	17	0.02	12.81
26	4－26	86.30	88.30	2	0.13	0.8	0.12	16	0.01	11.37
27	4－27	88.30	90.30	2	0.12	1.1	0.17	17	0.02	15.74
28	4－28	90.30	92.45	2.15	0.03	0.8	0.06	15	0.04	13.17
29	4－29	131.15	133.15	2	0.10	1.0	0.20	15	0.02	13.75
30	4－30	133.15	135.15	2	0.10	1.0	0.16	16	0.01	14.04
31	4－31	135.15	137.15	2	0.03	1.4	0.11	16	0.01	17.21
32	4－32	137.15	139.50	2.35	0.04	1.3	0.14	16	0.01	13.73

AVERAGE	Length(m)	Au(g/t)	Cu(%)
15.6~41.3	25.70	0.03	0.07
61.0~92.45	31.45	0.06	0.11
131.15~139.5	8.35	0.07	0.15

MJOY-5

No.	Sample No.	Depth(m) From	Depth(m) To	Length (m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(ppm)	Zn(%)	Fe2O3 (%)
1	5－1	120.25	122.25	2	0.03	1.7	0.20	29	0.02	15.44
2	5－2	122.25	124.25	2	N.D.	1.0	0.02	26	0.03	11.00
3	5－3	124.25	126.25	2	0.08	1.1	0.15	26	0.10	12.41
4	5－4	126.25	128.25	2	0.03	1.0	0.05	28	0.05	12.24
5	5－5	128.25	130.25	2	0.03	0.9	0.07	29	0.03	15.54
6	5－6	130.25	132.25	2	0.05	2.1	0.29	31	0.04	18.23
7	5－7	132.25	134.25	2	0.11	2.3	0.39	30	0.05	15.91
8	5－8	134.25	136.25	2	0.01	1.2	0.04	29	0.05	12.90
9	5－9	136.25	138.25	2	N.D.	1.2	0.07	28	0.02	14.55
10	5－10	138.25	140.25	2	0.08	1.3	0.36	29	0.02	15.36
11	5－11	140.25	142.25	2	N.D.	1.2	0.04	28	0.01	12.27
12	5－12	142.25	144.25	2	0.06	1.2	0.62	27	0.03	13.34
13	5－13	144.25	146.25	2	0.06	2.9	0.05	27	0.03	12.12
14	5－14	146.25	149.05	2.8	0.20	1.6	1.06	31	0.03	21.26

AVERAGE	Length(m)	Au(g/t)	Cu(%)
120.25-149.05	28.8	0.06	0.23

MJOY-6

No.	Sample No.	Depth(m) From	Depth(m) To	Length (m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(ppm)	Zn(%)	Fe2O3 (%)
1	6－79	0.00	2.00	2	0.01	1.2	0.26	21	0.01	17.55
2	6－80	2.00	4.00	2	0.01	1.1	0.31	20	0.01	18.13
3	6－81	4.00	6.00	2	0.04	2.2	0.26	25	0.01	17.94
4	6－82	6.00	8.00	2	0.06	1.8	0.29	23	0.01	15.37
5	6－83	8.00	9.20	1.2	0.03	1.9	0.86	24	0.01	18.45
6	6－1	9.20	11.20	2	0.12	2.3	0.91	18	0.01	24.66
7	6－2	11.20	13.20	2	0.11	2.2	0.12	21	0.01	21.64
8	6－3	13.20	15.20	2	0.05	2.3	1.07	23	0.00	25.73
9	6－4	15.20	17.20	2	0.03	2.3	0.67	23	0.00	27.00
10	6－5	17.20	19.20	2	0.11	2.3	1.19	23	0.00	26.66
11	6－6	19.20	21.20	2	0.11	2.1	0.41	24	0.00	25.60
12	6－7	21.20	23.35	2.15	0.10	2.1	0.33	23	0.00	22.56
13	6－8	23.35	25.35	2	0.17	2.1	0.13	24	0.00	25.22
14	6－9	25.35	27.35	2	0.14	2.2	0.29	21	0.00	22.78
15	6－10	27.35	29.35	2	0.15	2.3	0.93	22	0.00	26.95
16	6－11	29.35	31.35	2	0.06	2.2	0.92	21	0.00	25.27
17	6－12	31.35	33.35	2	0.02	2.1	0.08	20	0.00	24.13
18	6－13	33.35	35.35	2	0.03	6.5	0.20	20	0.00	23.64
19	6－14	35.35	37.35	2	0.05	2.2	0.40	20	0.00	22.32
20	6－15	37.35	39.35	2	0.12	2.2	0.16	21	0.00	21.99
21	6－16	39.35	41.35	2	0.18	2.2	0.83	21	0.01	23.84
22	6－17	41.35	43.35	2	0.16	2.4	0.72	21	0.00	25.42
23	6－18	43.35	45.35	2	0.09	11.0	0.18	20	0.00	25.25
24	6－19	45.35	47.35	2	0.12	13.0	0.17	20	0.00	24.70
25	6－20	47.35	49.35	2	0.11	1.9	0.06	19	0.00	24.52
26	6－21	49.35	51.35	2	0.11	2.2	0.29	19	0.00	24.95
27	6－22	51.35	53.35	2	0.04	16.6	0.12	19	0.01	22.22
28	6－23	53.35	55.35	2	0.11	2.1	0.09	19	0.00	27.56
29	6－24	55.35	57.35	2	0.13	16.6	0.47	20	0.01	25.27
30	6－25	57.35	59.35	2	0.02	1.9	0.02	19	0.00	25.85
31	6－26	59.35	61.35	2	0.05	1.7	0.02	19	0.00	25.83
32	6－27	61.35	63.35	2	0.05	14.0	0.18	17	0.00	20.91
33	6－28	63.35	65.35	2	0.02	2.7	0.23	18	0.00	20.56
34	6－29	65.35	67.35	2	0.04	30.5	0.20	18	0.00	20.34
35	6－30	67.35	69.35	2	0.04	27.3	0.21	18	0.00	19.42
36	6－31	69.35	71.35	2	0.02	9.0	<0.01	18	0.00	18.47
37	6－32	71.35	73.35	2	0.03	2.0	0.24	18	0.00	21.02
38	6－33	73.35	75.35	2	0.02	1.9	0.32	18	0.00	19.75
39	6－34	75.35	78.35	3	0.04	2.2	0.42	19	0.00	20.22
40	6－35	78.35	80.35	2	0.04	2.2	0.33	20	0.00	22.70
41	6－36	80.35	82.15	1.8	0.19	2.2	0.75	19	0.01	22.81
42	6－37	82.15	84.15	2	0.03	1.6	0.34	18	0.00	21.51
43	6－38	84.15	86.15	2	0.03	1.9	0.28	18	0.00	20.21
44	6－39	86.15	88.15	2	0.05	2.4	0.12	17	0.00	20.52
45	6－40	88.15	90.15	2	0.04	2.5	0.29	18	0.00	20.42
46	6－41	90.15	92.15	2	0.03	2.4	0.34	18	0.00	21.35
47	6－42	92.15	94.15	2	0.04	2.4	0.25	19	0.00	21.32
48	6－43	94.15	96.15	2	0.05	2.2	0.11	18	0.00	20.65
49	6－44	96.15	98.15	2	0.04	4.2	0.34	18	0.00	19.98

MJOY-6

No.	Sample No.	Depth(m) From	Depth(m) To	Length (m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(ppm)	Zn(%)	Fe2O3 (%)
50	6－45	98.15	100.15	2	0.10	2.7	0.57	19	0.00	22.02
51	6－46	100.15	102.15	2	0.11	9.6	0.48	17	0.00	20.96
52	6－47	102.15	104.15	2	0.18	2.5	1.00	17	0.00	20.62
53	6－48	104.15	106.15	2	0.06	2.3	0.84	18	0.00	20.68
54	6－49	106.15	108.15	2	0.03	2.2	0.50	18	0.00	21.43
55	6－50	108.15	110.15	2	0.02	1.9	0.09	18	0.00	20.08
56	6－51	110.15	112.15	2	0.01	1.9	0.02	19	0.00	19.57
57	6－52	112.15	114.15	2	0.01	2.3	0.19	20	0.00	19.95
58	6－53	114.15	116.15	2	0.04	1.7	0.51	25	0.00	21.53
59	6－54	116.15	118.15	2	0.02	1.7	0.39	25	0.00	22.03
60	6－55	118.15	120.15	2	0.01	1.5	0.24	24	0.00	20.64
61	6－56	120.15	122.15	2	0.05	1.7	1.45	24	0.00	24.25
62	6－57	122.15	124.15	2	0.05	1.6	0.48	26	0.00	23.42
63	6－58	124.15	126.15	2	0.06	2.3	0.37	25	0.00	21.49
64	6－59	126.15	128.15	2	0.03	1.4	0.26	25	0.00	20.79
65	6－60	128.15	130.15	2	0.07	1.7	0.69	25	0.00	22.78
66	6－61	130.15	132.15	2	0.11	1.6	0.69	27	0.01	23.73
67	6－62	132.15	134.15	2	0.04	1.5	0.75	25	0.00	23.25
68	6－63	134.15	136.15	2	0.04	1.4	0.74	24	0.00	22.47
69	6－64	136.15	138.15	2	0.19	6.3	4.27	24	0.01	25.39
70	6－65	138.15	140.15	2	0.02	1.3	0.63	26	0.00	23.86
71	6－66	140.15	142.15	2	0.01	1.2	0.08	25	0.00	21.22
72	6－67	142.15	144.15	2	0.02	1.9	0.43	25	0.00	20.42
73	6－68	144.15	146.15	2	0.04	2.3	1.11	27	0.01	23.03
74	6－69	146.15	148.15	2	0.03	1.7	0.48	26	0.00	20.62
75	6－70	148.15	150.15	2	0.01	1.7	0.27	25	0.00	20.75
76	6－71	150.15	152.15	2	0.03	2.2	0.63	27	0.01	21.25
77	6－72	152.15	154.15	2	0.03	2.7	0.80	28	0.02	20.30
78	6－73	154.15	156.15	2	0.00	2.1	0.43	24	0.01	19.82
79	6－74	156.15	158.15	2	0.02	2.0	0.39	23	0.01	20.55
80	6－75	158.15	160.15	2	0.08	2.6	1.02	26	0.01	21.47
81	6－76	160.15	162.15	2	0.08	2.5	1.08	26	0.01	22.95
82	6－77	162.15	164.15	2	0.02	1.9	0.68	23	0.01	21.54
83	6－78	164.15	165.05	0.9	0.09	2.6	0.94	26	0.01	21.81

AVERAGE	Length(m)	Au(g/t)	Cu(%)
23.35~71.35	48.00	0.08	0.29
71.35~98.15	26.80	0.05	0.32
98.15~114.15	16.00	0.07	0.46
114.15~165.05	50.90	0.04	0.76

MJOY-7

No.	Sample No.	Depth(m) From	Depth(m) To	Length (m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(ppm)	Zn(%)	Fe2O3 (%)
1	7− 17	14.90	16.90	2	0.08	2.2	0.65	23	0.01	14.75
2	7− 18	16.90	18.90	2	0.23	2.8	0.29	30	0.03	17.27
3	7− 19	18.90	20.90	2	0.09	1.8	0.17	22	0.03	11.71
4	7− 20	20.90	22.90	2	0.02	1.5	0.04	19	0.02	8.41
5	7− 21	22.90	24.90	2	0.01	1.5	0.05	19	0.01	9.33
6	7− 22	24.90	26.50	1.6	0.01	2.3	0.19	24	0.09	12.83
7	7− 1	26.50	27.50	1	0.06	2.3	0.36	35	0.04	25.74
8	7− 2	27.50	29.50	2	0.05	1.8	0.10	28	0.03	14.57
9	7− 3	29.50	31.50	2	0.02	2.1	0.04	29	0.01	19.64
10	7− 4	31.50	33.50	2	0.02	2.6	0.12	22	0.01	10.72
11	7− 5	33.50	35.50	2	0.03	1.6	0.08	24	0.01	13.45
12	7− 6	35.50	37.50	2	0.02	1.7	0.03	26	0.01	17.16
13	7− 7	37.50	39.50	2	0.02	2.0	0.06	27	0.01	17.11
14	7− 8	39.50	40.50	1	0.02	1.8	0.07	23	0.01	12.64
15	7− 23	48.80	50.80	2	0.17	2.4	0.17	23	0.02	14.70
16	7− 24	50.80	52.80	2	0.05	3.4	0.09	26	0.01	14.75
17	7− 25	52.80	54.80	2	0.04	2.2	0.03	26	0.03	12.38
18	7− 9	71.00	73.00	2	0.04	1.8	0.12	24	0.04	12.72
19	7− 10	73.00	75.00	2	0.03	2.0	0.20	22	0.02	12.42
20	7− 11	75.00	77.10	2.1	0.03	2.5	0.31	24	0.03	15.23
21	7− 26	77.10	79.10	2	0.01	2.1	0.03	23	0.02	12.38
22	7− 27	79.10	81.10	2	0.02	5.0	0.06	21	0.02	13.32
23	7− 28	81.10	83.35	2.25	0.04	2.3	0.20	22	0.02	13.58
24	7− 12	90.95	92.95	2	0.02	1.8	0.11	22	0.01	13.60
25	7− 13	92.95	94.95	2	0.04	1.8	0.20	23	0.01	13.53
26	7− 14	94.95	96.95	2	0.03	2.0	0.39	23	0.01	14.33
27	7− 15	96.95	98.95	2	0.02	2.0	0.22	24	0.01	16.08
28	7− 16	98.95	101.00	2.05	0.02	1.9	0.20	24	0.01	13.80

AVERAGE	Length(m)	Au(g/t)	Cu(%)
14.9~40.5	25.60	0.05	0.16
48.8~54.80	6.00	0.09	0.10
71.0~83.35	12.35	0.03	0.16
90.95~101.0	10.05	0.03	0.22

Appendix 5

Assay results of surface samples

Surface Samples

No.	Sample No.	Area Name	Coordinate		Au(g/t)	Ag(g/t)	Cu(%)	Pb(ppm)	Zn(%)	Fe2O3 (%)
			N(km)	E(km)						
1	1Y－ 1	Rakah	2618.79	458.14	0.22	54.5	2.86	20	0.04	6.96
2	1Y－ 2	Q. Al-Akhbab	2618.63	459.49	0.17	0.6	0.30	9	0.01	7.80
3	1Y－ 3	Q. Al-Akhbab	2618.71	459.76	0.88	0.8	0.59	21	0.07	19.95
4	1Y－ 5	Q. Al-Akhbab	2618.75	459.72	0.37	2.8	0.34	17	0.01	30.34
5	1Y－ 6	Q. Al-Akhbab	2618.67	459.92	0.21	0.8	0.09	16	0.00	34.11
6	1Y－ 7	Q. Al-Akhbab	2618.64	459.98	0.20	1.0	0.26	16	0.01	32.75
7	1Y－ 8	Q. Al-Akhbab	2618.39	460.10	0.52	1.0	0.02	53	0.01	42.22
8	1Y－ 9	J. Al-Meid	2617.85	456.10	0.18	4.7	0.75	15	0.00	5.39
9	1Y－ 11	J. Al-Meid	2618.05	455.49	0.15	1.4	0.36	12	0.02	35.33
10	1Y－ 12	J. Al-Meid	2617.98	455.41	0.11	1.2	3.11	13	0.03	17.03
11	1Y－ 13	J. Al-Meid	2618.04	454.86	0.19	1.3	0.02	18	0.01	55.82
12	1Y－ 14	J. Al-Meid	2618.02	454.83	1.15	1.0	0.18	43	0.02	47.27
13	1Y－ 15	J. Al-Meid	2618.06	454.62	0.39	0.4	0.01	10	0.00	12.53
14	1Y－ 16	Q. Al-Akhbab	2618.68	459.83	0.23	0.7	0.24	15	0.00	38.66
15	1Y－ 17	Q. Al-Akhbab	2618.68	459.83	3.58	0.9	0.49	58	0.01	18.78
16	1Y－ 18	Q. Al-Akhbab	2617.85	458.75	0.10	0.6	0.20	9	0.00	27.05
17	1Y－ 19	Q. Al-Akhbab	2617.70	458.60	0.33	0.9	0.89	13	0.02	16.96

Appendix 6

Description of polished sections of ore samples

Description of polished section of drilling cores

Ser. No.	Sample No.	Sample Location		Sample Description	Identified Minerals					
		Hole No.	Depth (m)		Cp	Py	Sp	Ht	Po	Gg
1	2-25.60	MJOY-2	25.60	Stockwork ore; veinlets with slight dissemination	◎	◎	·			◎
2	2-38.70	MJOY-2	38.70	Stockwork ore; veinlets with intense dissemination	◎	●	·			●
3	2-48.80	MJOY-2	48.80	Stockwork ore; veinlets with dissemination	◎	◎	·			◎
4	2-67.60	MJOY-2	67.60	Stockwork ore; veinlets with dissemination	◎	●	·			○
5	2-112.60	MJOY-2	112.60	Stockwork ore; veinlets with intense dissemination	◎	○	●			●
6	2-117.70	MJOY-2	117.70	Stockwork ore; veinlets with dissemination	◎	○	·			◎
7	2-140.90	MJOY-2	140.90	Stockwork ore; veinlets with dissemination	◎	◎	●		·	◎
8	3-201.65	MJOY-3	201.65	Stockwork ore; veinlets with intense dissemination	◎	○	●		·	●
9	3-202.10	MJOY-3	202.10	Stockwork ore; veinlets with intense dissemination	◎	○	●			◎
10	3-214.50	MJOY-3	214.50	Stockwork ore; veinlets with intense dissemination	◎	○	●		·	●
11	4-25.20	MJOY-4	25.20	Stockwork ore; veinlets with intense dissemination	◎	○	●			◎
12	4-63.20	MJOY-4	63.20	Stockwork ore; veinlets with dissemination	●	◎	·			◎
13	4-138.60	MJOY-4	138.60	Stockwork ore; veinlets with dissemination	○	◎				◎
14	5-129.50	MJOY-5	129.50	Stockwork ore; veinlets with dissemination	◎	○	●			◎
15	5-137.70	MJOY-5	137.70	Stockwork ore; veinlets with dissemination	◎	◎	●			◎
16	5-208.40	MJOY-5	208.40	Stockwork ore; veinlets with slight dissemination	◎	◎	●			◎
17	6-38.70	MJOY-6	38.70	Massive sulphide ore	◎	○	●			·
18	7-17.40	MJOY-7	17.40	Stockwork ore; veinlets with intense dissemination	◎	●	·	·	·	·
19	7-35.50	MJOY-7	35.50	Stockwork ore; veinlets with dissemination	◎	●				◎
20	7-107.20	MJOY-7	107.20	Stockwork ore; veinlets with slight dissemination	◎	●	·	·		◎

Abbreviations

◎ abundant
○ common
● a little
· rare

Cp: Chalcopyrite
Py: Pyrite
Sp: Sphalerite
Ht: Hematite
Po: Pyrrhotite
Gg: Gangue Minerals

Sample collected from drill cores: MJOY-2-25.60	
Ore Type	Stockwork ore; veinlets with slight dissemination
Microscopic Observation	Anhedral pyrite grains, the size of which ranges from 500μm to 3mm, distribute sporadically in the matrix consisting of small grains of pyrite, chalcopyrite and quartz. Pyrite grains in the matrix are subhedral or anhedral grains of the size from 200μm to 1500n. Irregular patches of chalcopyrite fill the interstices of pyrite and quartz grains. Large Pyrite grains have small cavities and the walls of these cavities and grain boundaries are lined with sharpe crystal faces, suggesting that these large grains have been formed by the coalescence of smaller grains. Chalcopyrite distributes sporadically in the interstices of pyrite and quartz grains. Anhedral sphalerite, the size of 100μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease). Chalcopyrite and sphalerite occur intimately associated each other.

Sample collected from drill cores: MJOY-2-38.70	
Ore Type	Stockwork ore; veinlets with intense dissemination
Microscopic Observation	Pyrite occurs in some parts as euhedral to anhedral grains of the size from 500μm to 2mm. Chalcopyrite fills the interstices of the euhedral pyrite grains. Some large anhedral pyrite grains are moderately fractured and are replaced by anhedral chalcopyrite. Irregular patches of chalcopyrite fill the interstices of pyrite and quartz grains. Many small pyrite globules comprise minute subhedral or anhedral grains with cavities. Chalcopyrite distributes sporadically in the interstices of pyrite and quartz grains. Anhedral sphalerite, the size of 50μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease). Some cavities in chalcopyrite are filled with sphalerite.

Sample collected from drill cores: MJOY-2-48.80	
Ore Type	Stockwork ore; veinlets with dissemination
Microscopic Observation	Subhedral to anhedral pyrite crystals, the size of which ranges from 300μm to 1mm, and globular aggregates composed of minute pyrite grains predominate in quartz basis, although some large pyrite grains occur in some places. Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Irregular patches of chalcopyrite fill the interstices of pyrite and quartz grains. Chalcopyrite distributes sporadically in the interstices of pyrite and quartz grains. Anhedral sphalerite, the size of 50μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease).

Sample collected from drill cores: MJOY-2-67.60	
Ore Type	Stockwork ore; veinlets with dissemination
Microscopic Observation	Small subhedral to anhedral pyrite crystals and small globular aggregates composed of minute pyrite grains predominate in quartz basis, although some large pyrite grains occur in some places. Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Pyrite grains in the matrix are subhedral or anhedral, and some parts have a feature of crystallized colloform textures. The size of individual pyrite grains ranges from 200μm to 1.5mm. Anhedral sphalerite, the size of 50μm average, distribute uniformly with chalcopyrite and pyrite.

Sample collected from drill cores: MJOY-2-112.60	
Ore Type	Stockwork ore; veinlets with intense dissemination
Microscopic Observation	Pyrite occurs in some parts as subhedral to anhedral grains of the size from 100μm to 1.5mm. Chalcopyrite fills the interstices of the subhedral pyrite grains. Some large anhedral pyrite grains are moderately fractured and are replaced by anhedral chalcopyrite. Irregular patches of chalcopyrite fill the interstices of pyrite and quartz grains. Many small pyrite globules comprise minute subhedral or anhedral grains with cavities. Chalcopyrite distributes sporadically in the interstices of pyrite and quartz grains. Anhedral sphalerite, the size of 30μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease). Some cavities in chalcopyrite are filled with sphalerite.

Sample collected from drill cores: MJOY-2-117.70	
Ore Type	Stockwork ore; veinlets with dissemination
Microscopic Observation	Euhedral to subhedral pyrite grains, the size of which ranges from 100μm to 1mm, distribute sporadically in the matrix consisting of small grains of pyrite, chalcopyrite and gangue minerals, especially quartz. Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Chalcopyrite distributes sporadically in the interstices of pyrite and quartz grains. Anhedral sphalerite, the size of 50μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease).

Sample collected from drill cores: MJOY-2-140.90	
Ore Type	Stockwork ore; veinlets with dissemination
Microscopic Observation	Euhedral to subhedral pyrite grains, the size of which ranges from 100μm to 1mm, distribute sporadically in the matrix consisting of small grains of pyrite, chalcopyrite and gangue minerals, especially quartz. Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Anhedral sphalerite, the size of 50μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease). Anhedral pyrrhotite, the size of 10μm average, distribute uniformly with pyrite. Pyrrhotite and pyrite occur intimately associated each other.

Sample collected from drill cores: MJOY-3-201.65	
Ore Type	Stockwork ore; veinlets with intense dissemination
Microscopic Observation	Porous pyrite aggregates, the size of which ranges from 500μm to 3mm, distribute uniformly in gangue minerals, with small pyrite crystals (20μm -1mm), fine pyrite globules (10-100μm) and chalcopyrite patches (30-100μm). Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Anhedral sphalerite, the size of 150μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease).

Sample collected from drill cores: MJOY-3-202.10	
Ore Type	Strongly disseminated sulphide ore
Microscopic Observation	Porous pyrite aggregates, the size of which ranges from 300μm to 2mm, distribute uniformly in gangue minerals, with euhedral to subhedral pyrite crystals (200-1.5mm), fine pyrite globules (10-100μm) and chalcopyrite patches (100-300μm). Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Chalcopyrite occupies fairly large areas among large pyrite aggregates, while in fine-textured parts it fills only small cavities. Anhedral sphalerite, the size of 50μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease).

Sample collected from drill cores: MJOY-3-214.50	
Ore Type	Strongly disseminated sulphide ore
Microscopic Observation	Anhedral chalcopyrite aggregates comprise euhedral, subhedral or anhedral pyrite grains, cavities and quartz grains of various sizes. Euhedral to subhedral pyrite grains, the size of which ranges from 300μm to 1.5mm, distribute sporadically in the matrix consisting of small grains of pyrite, chalcopyrite and gangue minerals, especially quartz. Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates. Anhedral sphalerite, the size of 50μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease). Anhedral pyrrhotite, the size of 10μm average, distribute uniformly with pyrite.

Sample collected from drill cores: MJOY-4-25.20	
Ore Type	Strongly disseminated sulphide ore
Microscopic Observation	Subhedral to anhedral pyrite grains, the size of which ranges from 100μm to 3mm, distribute sporadically in the matrix consisting of small grains of pyrite, chalcopyrite and gangue minerals. Large pyrite crystals are partly brecciated and filled with chalcopyrite. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates. Anhedral sphalerite, the size of 100μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease).

Sample collected from drill cores: MJOY-4-63.20	
Ore Type	Disseminated sulphide ore
Microscopic Observation	Anhedral pyrite grains, the size of which ranges from 200μm to 3mm, consist of small euhedral to subhedral pyrite crystals (100-1.5mm). Pyrite is mostly located in the center or inner parts of chalcopyrite grain. Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates. Chalcopyrite is mostly located in the center or inner parts of sphalerite grain. Anhedral sphalerite, the size of 100μm average, distribute uniformly with chalcopyrite patches (Chalcopyrite disease).

Sample collected from drill cores: MJOY-4-138.60	
Ore Type	Disseminated sulphide ore
Microscopic Observation	Euhedral to subhedral pyrite grains, the size of which ranges from 200μm to 1.5mm, distribute sporadically in the matrix consisting of small grains of pyrite, chalcopyrite and gangue minerals. Large pyrite crystals are partly brecciated and filled with chalcopyrite. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates. Chalcopyrite inclusions are recognized in large pyrite crystals.

Sample collected from drill cores: MJOY-5-129.50	
Ore Type	Disseminated sulphide ore
Microscopic Observation	Euhedral to subhedral pyrite grains, the size of which ranges from 200μm to 1mm, distribute sporadically in the matrix consisting of small grains of pyrite, chalcopyrite and gangue minerals. Large pyrite crystals are partly brecciated and filled with chalcopyrite. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates. Anhedral sphalerite, the size of 10μm average, distribute uniformly with chalcopyrite patches.

Sample collected from drill cores: MJOY-5-137.70	
Ore Type	Disseminated sulphide ore
Microscopic Observation	Subhedral to anhedral pyrite grains, the size of which ranges from 200μm to 1.5mm, distribute sporadically in the matrix consisting of small grains of pyrite, chalcopyrite and gangue minerals. Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates. Anhedral sphalerite, the size of 10μm average, distribute uniformly with chalcopyrite patches.

Sample collected from drill cores: MJOY-5-208.40	
Ore Type	Slightly disseminated sulphide ore
Microscopic Observation	Anhedral pyrite grains, the size of which ranges from 200μm to 3mm, consist of small euhedral to subhedral pyrite crystals (10-100μm). Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates. Chalcopyrite is mostly located in the center or inner parts of sphalerite grain. Anhedral sphalerite, the size of 20μm average, distribute uniformly with chalcopyrite patches.

Sample collected from drill cores: MJOY-6-38.70	
Ore Type	Strongly disseminated sulphide ore
Microscopic Observation	Anhedral pyrite grains, the size of which ranges from 500μm to 3mm, distribute sporadically in the matrix consisting of small grains of pyrite, chalcopyrite and quartz. Pyrite grains in the matrix are subhedral or anhedral grains of the size from 10μm to 200μm. Irregular patches of chalcopyrite fill the interstices of pyrite and quartz grains. Large Pyrite grains have small cavities and the walls of these cavities and grain boundaries are lined with sharpe crystal faces, suggesting that these large grains have been formed by the coalescence of smaller grains. Large pyrite crystals are partly brecciated and filled with chalcopyrite and quartz. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates. Anhedral sphalerite, the size of 10μm average, distribute uniformly with chalcopyrite patches. Chalcopyrite and sphalerite occur intimately associated each other.

Sample collected from drill cores: MJOY-7-17.40	
Ore Type	Strongly disseminated sulphide ore
Microscopic Observation	Anhedral pyrite grains, the size of which ranges from 500μm to 3mm, consist of small euhedral to subhedral pyrite crystals (10-100μm). Large pyrite crystals are partly brecciated and filled with small anhedral chalcopyrite and quartz. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates. Anhedral sphalerite, the size of 10μm average, distribute mainly with pyrite. Anhedral pyrrhotite, the size of 10μm average, distribute uniformly with pyrite. Pyrrhotite and pyrite occur intimately associated each other. Anhedral hematite, the size of 20μm average, distribute uniformly with chalcopyrite, pyrite and gangue minerals.

Sample collected from drill cores: MJOY-7-35.50	
Ore Type	Disseminated sulphide ore
Microscopic Observation	Euhedral to anhedral pyrite grains, the size of which ranges from 500μm to 2mm, distribute in gangue minerals. Irregular patches of chalcopyrite fill the interstices of pyrite and quartz grains. Large pyrite crystals are partly brecciated and filled with chalcopyrite. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates.

Sample collected from drill cores: MJOY-7-107.20	
Ore Type	Slightly disseminated sulphide ore
Microscopic Observation	Subhedral to anhedral pyrite grains, the size of which ranges from 200μm to 3mm, distribute sporadically in the matrix consisting of small grains of pyrite, chalcopyrite and gangue minerals. Large pyrite crystals are partly brecciated and filled with anhedral chalcopyrite and quartz. Chalcopyrite replaces pyrite forming irregular patches in pyrite aggregates. Anhedral sphalerite, the size of 10μm average, distribute uniformly with chalcopyrite patches. Anhedral hematite, the size of 10μm average, distribute mainly with subhedral pyrite.

Appendix 7

Permeability test for the drill holes

Drill-hole Permeability Test (Unsteady Method)

Name of project : The Mineral Exploration in the Yangul-Ghuzayn Area, Sultanate of Oman

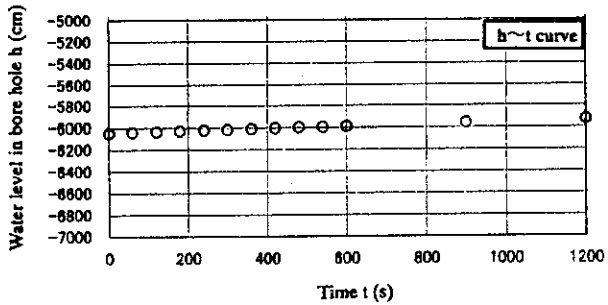
Date tested : 2001/2/16

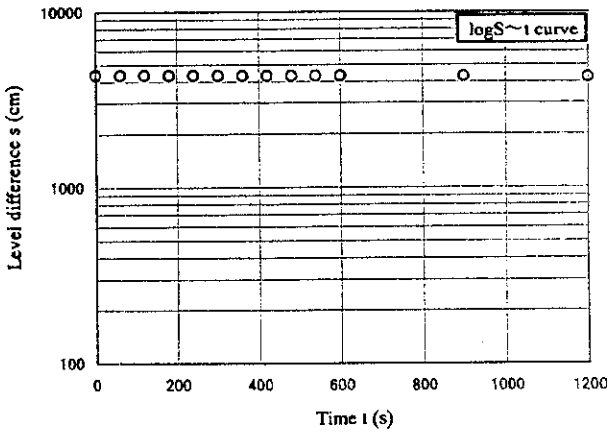
Drill hole No. : MJOY-W1

Measured by : Chandran Nair

Test method	Recovery test	Length of testing section : L (cm)	5813	Classification of aquifer	Unconfined
Testing section (m)	16.87～75.00	Groundwater level : h_0 (cm)	-1687	Ground level (m)	-
Inner diameter of pumping pipe : d (cm)	7.6	Diameter of drill hole : D (cm)	31.1	Weather	Fine
Gradient of linear part of logt～t curve : m (s^{-1})	**9.81E-06**	Permeability coefficient : k (cm/s)	**1.66E-07**		

Time : t (s)	Groundwater level in the hole : h (cm)	Level difference to original GWL : S (cm)
0	-6052	4365
60	-6045	4358
120	-6038	4351
180	-6032	4345
240	-6025	4338
300	-6022	4335
360	-6014	4327
420	-6009	4322
480	-6002	4315
540	-5998	4311
600	-5992	4305
900	-5963	4276
1200	-5934	4247
1800	-5878	4191
2400	-5825	4138
3000	-5775	4088
3600	-5723	4036
4500	-5665	3978
5400	-5565	3878
6300	-5495	3808
7200	-5415	3728





Remarks :

Equations used for permeability test

$$k = \frac{0.66d^2 \log(2L/D)}{L} \cdot m \qquad \left[m = \frac{\log(s_1/s_2)}{t_2 - t_1} \right]$$

Drill-hole Permeability Test (Unsteady Method)

Name of project : The Mineral Exploration in the Yanqul-Ghuzayn Area, Sultanate of Oman

Date tested : 2001/2/11

Drill hole No. : MJOY-W2 (1)

Measured by : Chandran Nair

Test method	Recovery test	Length of testing section : L (cm)	5557	Classification of aquifer	Unconfined
Testing section (m)	19.73～75.00	Groundwater level : h_0 (cm)	-1973	Ground level (m)	-
Inner diameter of pumping pipe : d (cm)	7.6	Diameter of drill hole : D (cm)	31.1	Weather	Fine
Gradient of linear part of logt～t curve : m (s^{-1})	**1.84E-04**	Permeability coefficient : k (cm/s)	**3.23E-06**		

Time : t (s)	Groundwater level in the hole : h (cm)	Level difference to original GWL : S (cm)
0	-5646	3673
30	-5601	3628
60	-5558	3585
90	-5513	3540
120	-5467	3494
150	-5432	3459
180	-5380	3407
210	-5342	3369
240	-5302	3329
270	-5268	3295
300	-5222	3249
360	-5139	3166
420	-5055	3082
480	-4968	2995
540	-4898	2925
600	-4821	2848
720	-4674	2701
840	-4536	2563
960	-4396	2423
1080	-4238	2265
1200	-4118	2145
1500	-3805	1832
1800	-3514	1541
2100	-3237	1264
2400	-3039	1066
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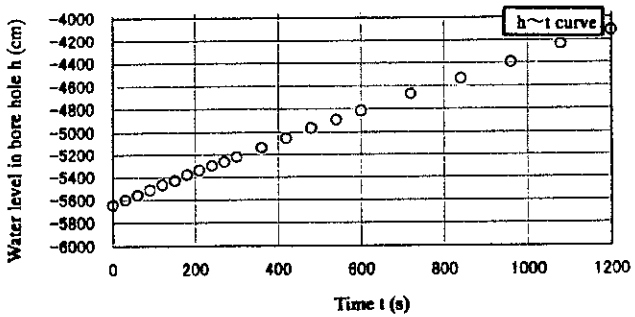
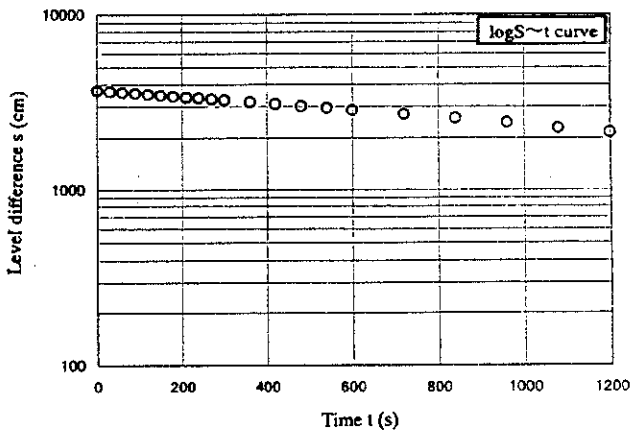
3300	-2519	546
3600	-2394	421





Remarks :

Equations used for permeability test

$$k = \frac{0.66d^2 \log(2L/D)}{L} \cdot m \qquad \left[m = \frac{\log(s_1/s_2)}{t_2 - t_1} \right]$$

Drill-hole Permeability Test (Unsteady Method)

Name of project : The Mineral Exploration in the Yanqul-Ghuzayn Area, Sultanate of Oman

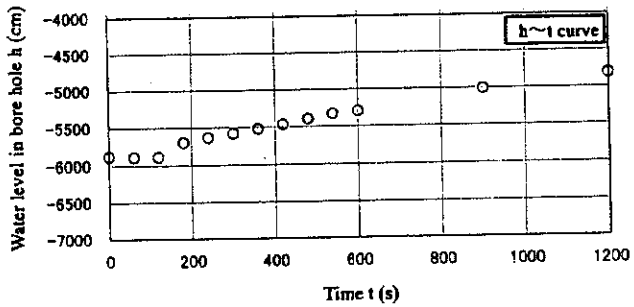
Date tested : 2001/2/11

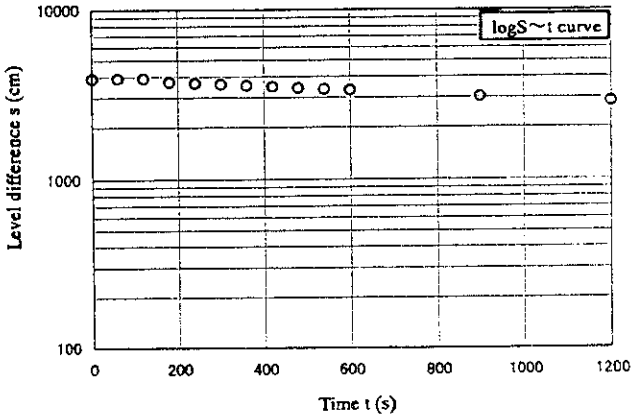
Measured by : Chandran Nair

Drill hole No. : MJOY-W2 (2)

Test method	Recovery test	Length of testing section : L (cm)	5503	Classification of aquifer	Unconfined
Testing section (m)	19.97～75.00	Groundwater level : h_0 (cm)	-1997	Ground level (m)	-
Inner diameter of pumping pipe : d (cm)	7.6	Diameter of drill hole : D (cm)	31.1	Weather	Fine
Gradient of linear part of logt～t curve : m (s^{-1})	**1.24E-04**	Permeability coefficient : k (cm/s)	**2.20E-06**		

Time : t (s)	Groundwater level in the hole : h (cm)	Level difference to original GWL : S (cm)
0	-5880	3883
60	-5889	3892
120	-5889	3892
180	-5703	3706
240	-5644	3647
300	-5588	3591
360	-5533	3536
420	-5473	3476
480	-5403	3406
540	-5340	3343
600	-5307	3310
900	-5015	3018
1200	-4817	2820
1800	-4335	2338
2400	-3918	1921
3000	-3577	1580
3600	-3301	1304





Remarks :

Equations used for permeability test

$$k = \frac{0.66d^2 \log(2L/D)}{L} \cdot m \qquad \left[m = \frac{\log(s_1/s_2)}{t_2 - t_1} \right]$$

Drill-hole Permeability Test (Unsteady Method)

Name of project : The Mineral Exploration in the Yanqul-Ghuzayn Area, Sultanate of Oman

Date tested : 2001/2/11

Drill hole No. : MJOY-W3 (1)

Measured by : Chandran Nair

Test method	Recovery test	Length of testing section : L (cm)	5855	Classification of aquifer	Unconfined
Testing section (m)	16.45～75.00	Groundwater level : h_0 (cm)	-1687	Ground level (m)	-
Inner diameter of pumping pipe : d (cm)	7.6	Diameter of drill hole : D (cm)	31.1	Weather	Fine
Gradient of linear part of logt～t curve : m (s^{-1})	**8.76E-05**	Permeability coefficient : k (cm/s)	**1.47E-06**		

Time : t (s)	Groundwater level in the hole : h (cm)	Level difference to original GWL : S (cm)
0	-6012	4325
30	-5802	4115
60	-5780	4093
90	-5755	4068
120	-5732	4045
150	-5707	4020
180	-5682	3995
210	-5656	3969
240	-5635	3948
270	-5613	3926
300	-5590	3903
360	-5540	3853
420	-5493	3806
480	-5445	3758
540	-5398	3711
600	-5353	3666
720	-5254	3567
840	-5122	3435
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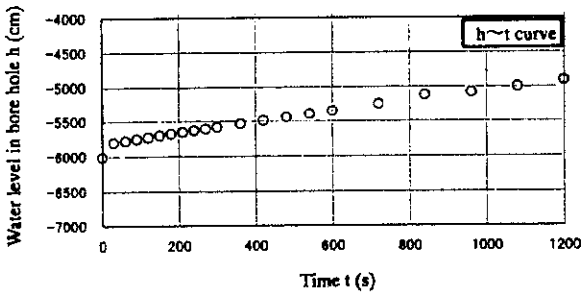
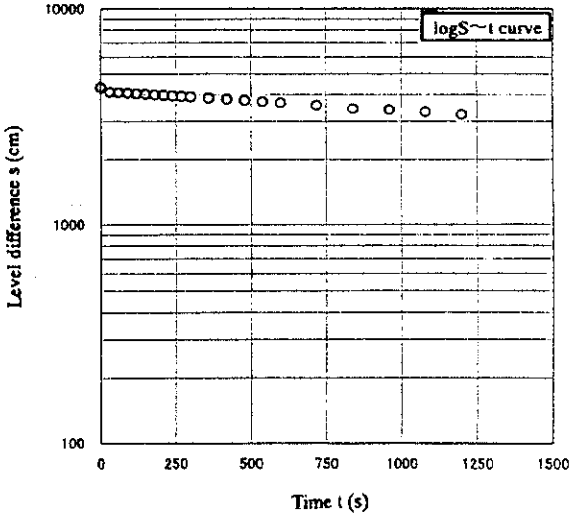
1080	-5000	3313
1200	-4910	3223





Remarks :

Equations used for permeability test

$$k = \frac{0.66d^2 \log(2L/D)}{L} \cdot m \qquad \left[m = \frac{\log(s_1/s_2)}{t_2 - t_1} \right]$$

Drill-hole Permeability Test (Unsteady Method)

Name of project : The Mineral Exploration in the Yanqul-Ghuzayn Area, Sultanate of Oman Date tested : 2001/2/11

Drill hole No. : MJOY-W3 (2) Measured by : Chandran Nair

Test method	Recovery test	Length of testing section : L (cm)	5788	Classification of aquifer	Unconfined
Testing section (m)	17.12～75.00	Groundwater level : h_0 (cm)	-1712	Ground level (m)	-
Inner diameter of pumping pipe : d (cm)	7.6	Diameter of drill hole : D (cm)	31.1	Weather	Fine
Gradient of linear part of logt～t curve : m (s^{-1})	**8.94E-05**	Permeability coefficient : k (cm/s)	**1.51E-06**		

Time : t (s)	Groundwater level in the hole : h (cm)	Level difference to original GWL : S (cm)
0	-6090	4378
60	-6012	4300
120	-5993	4281
180	-5969	4257
240	-5837	4125
300	-5785	4073
360	-5744	4032
420	-5702	3990
480	-5656	3944
540	-5618	3906
600	-5570	3858
900	-5370	3658
1200	-5170	3458
1800	-4798	3086
2400	-4407	2695
3000	-4043	2331
3600	-3739	2027
4500	-3339	1627
5400	-2998	1286
6300	-2737	1025
7200	-2527	815
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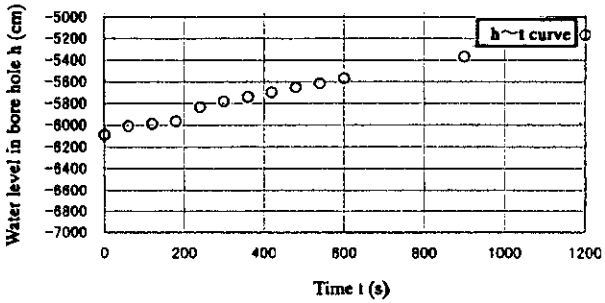
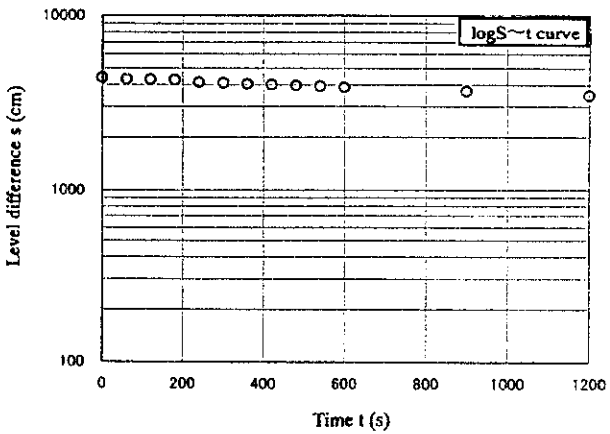
9600	-2175	463
10800	-2027	315





Remarks :

Equations used for permeability test

$$k = \frac{0.66d^2 \log(2L/D)}{L} \cdot m \qquad \left[m = \frac{\log(s_1/s_2)}{t_2 - t_1} \right]$$

Drill-hole Permeability Test (Unsteady Method)

Name of project : The Mineral Exploration in the Yanqul-Ghuzayn Area, Sultanate of Oman

Date tested : 2001/2/11

Measured by : Chandran Nair

Drill hole No. : MJOY-W4

Test method	Recovery test	Length of testing section : L (cm)	6591	Classification of aquifer	Unconfined
Testing section (m)	9.09～75.00	Groundwater level : h_0 (cm)	-909	Ground level (m)	-
Inner diameter of pumping pipe : d (cm)	7.6	Diameter of drill hole : D (cm)	31.1	Weather	Fine
Gradient of linear part of logt～t curve : m (s^{-1})	**1.92E-03**	Permeability coefficient : k (cm/s)	**2.92E-05**		

Time : t (s)	Groundwater level in the hole : h (cm)	Level difference to original GWL : S (cm)
0	-3650	2741
30	-3340	2431
60	-3086	2177
90	-2835	1926
120	-2550	1641
150	-2400	1491
180	-2230	1321
210	-2078	1169
240	-1925	1016
270	-1778	869
300	-1646	737
360	-1116	207
420	-937	28
480	-929	20
540	-920	11
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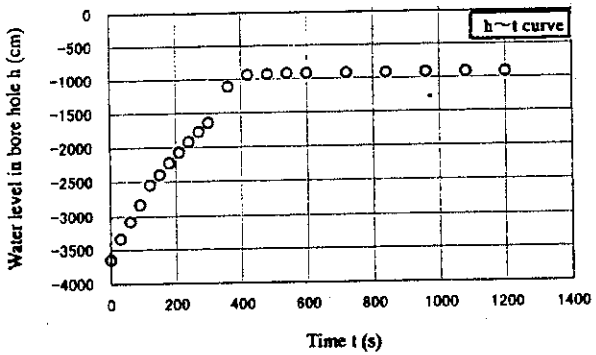
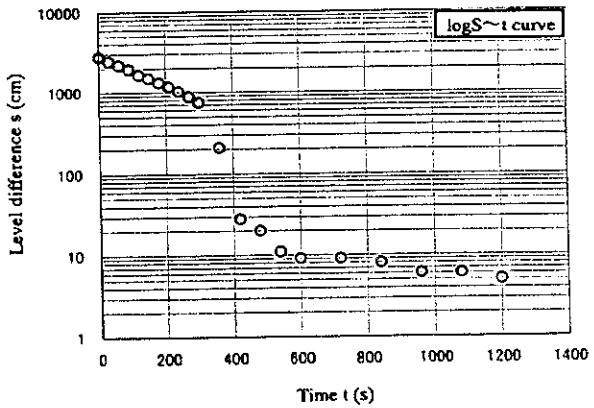
1080	-915	6
1200	-914	5





Remarks :

Equations used for permeability test

$$k = \frac{0.66d^2 \log(2L/D)}{L} \cdot m \qquad \left[m = \frac{\log(s_1/s_2)}{t_2 - t_1} \right]$$

Drill-hole Permeability Test (Unsteady Method)

Name of project : The Mineral Exploration in the Yanqul-Ghuzayn Area, Sultanate of Oman

Date tested : 2001/2/11

Drill hole No. : MJOY-W5

Measured by : Chandran Nair

Test method	Recovery test	Length of testing section : L (cm)	5511	Classification of aquifer	Unconfined
Testing section (m)	19.89～75.00	Groundwater level : h_0 (cm)	-1989	Ground level (m)	-
Inner diameter of pumping pipe : d (cm)	7.6	Diameter of drill hole : D (cm)	31.1	Weather	Fine
Gradient of linear part of logt～t curve : m (s^{-1})	**2.58E-03**	Permeability coefficient : k (cm/s)	**4.55E-05**		

Time : t (s)	Groundwater level in the hole : h (cm)	Level difference to original GWL : S (cm)
0	-6478	4489
60	-5630	3641
120	-4878	2889
180	-4222	2233
240	-3638	1649
300	-3028	1039
360	-2518	529
420	-2417	428
480	-2402	413
540	-2386	397
600	-2374	385
900	-2270	281
1200	-2230	241
1800	-2192	203
2400	-2174	185
3000	-2161	172
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5400	-2128	139
6300	-2122	133
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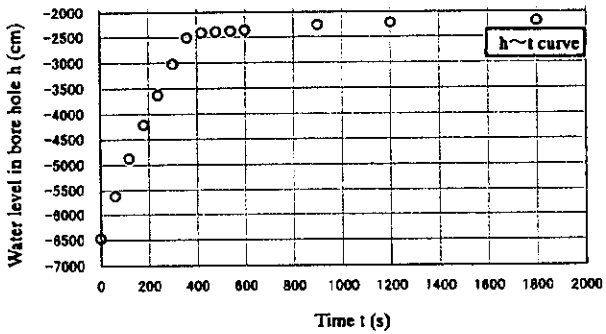

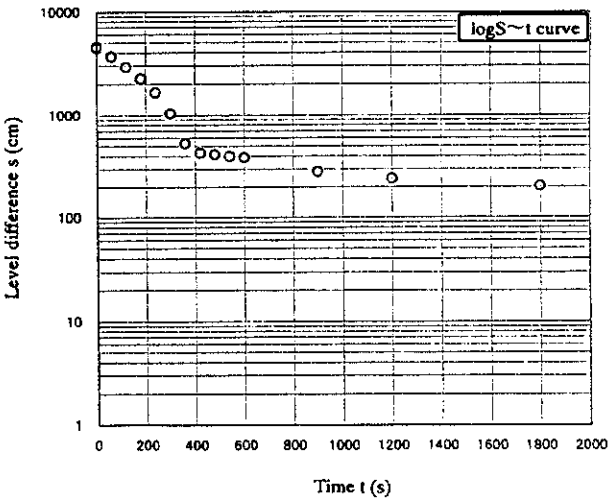

Remarks :

Equations used for permeability test

$$k = \frac{0.66d^2 \log(2L / D)}{L} \cdot m \qquad \left[m = \frac{\log(s_1 / s_2)}{t_2 - t_1} \right]$$