

文 献

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附 圖

GEOLOGIC LOG

Hole : MJTK-B1
 Machine Model : RASKA30
 Elevation : 557.31m
 Drilled Length : 216.80m

Site Name : Bou Khil
 Period : 2000. 11. 11~2001. 1. 9
 Inclination : 70°
 Direction : 158°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)			
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr(%)	Ba					
			Limestone light grayish white, compact, finely calcite matrix, weathered and oxidized, limonite is found in the fissures.														50.0	
																	86.7	
		6.00	6.00~6.40m yellowish brown mudstone.														100.0	
		6.40	Limestone yellowish brown, weathered, oxidized, brecciated, brown mud matrix, contains a small amount of celestite.														73.3	
		10															83.3	
		13.70	Mudstone yellowish brown, weathered, oxidized.														83.3	
		15															80.0	
		20															23.3	
		21.50	Mudstone greenish gray, pyrite disseminated.														100.0	
		23.70	Brecciated zone gray~dark gray, partially brecciated, dolomite-pyrite matrix. 23.70~23.80m, 28.20~28.50m celestite-pyrite-(sphalerite) vein~veinlets.														100.0	
		25															100.0	
		28.80	Limestone greenish gray, finely calcite cement, pyrite disseminated.														100.0	
		30															100.0	
		32.00	Mudstone, greenish gray.														100.0	
		33.00	Brecciated zone gray~dark gray, dolomite-pyrite matrix, brecciaes are composed of limestone and calcareous mudstone (brecciaes are as much as 2-3cm in diameter), with calcite-celestite vein.														100.0	
		35															93.3	
		36.00	33.00~36.00m contains a small amount of celestite.														93.3	
		40															100.0	
		42.60	42.60~44.30m contains a small amount of celestite.														100.0	
		44.30															100.0	
		45															100.0	
		46.60	Mudstone, pale gray.														47.50	100.0
		47.50	Mineralized zone gray~dark gray, brecciated, dolomite-pyrite matrix, contains a minor amount celestite and a small amount of sphalerite, pyrite and sphalerite are scattered.	38.52	25.36	55.34	4.23	829.3	<2.0	2.50	6.70	4.8	148.9				48.50	
		50		26.96	<5.0	39.25	2.91	512.7	<2.0	1.10	5.30	13.5	229.5				49.50	
				19.47	38.69	51.81	4.82	380.4	<2.0	1.00	1.50	20.2	34.55				50.50	100.0
				23.01	9.87	91.07	3.38	779.8	<2.0	1.60	5.40	12.7	16.70				51.50	
				40.95	271.8	15.38	4.01	231.2	<2.0	1.00	1.50	25.6	58.69				52.50	
			53.50m celestite-calcite-sphalerite-pyrite veinlets.	49.45	28.70	67.29	4.34	145.1	<2.0	0.80	0.30	3.5	163.6				53.50	100.0
				17.27	195.0	11.96	2.37	665.4	<2.0	2.10	3.60	23.3	13.20				54.50	
				27.66	6.07	30.33	2.91	410.8	<2.0	1.70	2.50	17.4	95.58				55.50	
				14.36	<5.0	23.32	1.44	26.3	<2.0	0.20	0.10	28.2	135.5				56.50	100.0
				55.16	<5.0	9.34	2.85	177.6	<2.0	0.80	1.20	18.4	125.6				57.50	
				39.47	78.48	16.72	2.28	290.1	<2.0	1.20	1.50	18.2	127.4				58.50	
		58.00	Mudstone, pale green, partially brecciated.														58.50	100.0
		59.50															59.50	
		60		48.97	8.49	24.54	3.92	490.8	<2.0	1.40	2.00	19.2	95.19					

附図1 ボーリング柱状図 (MJTK - B1 孔)

GEOLOGIC LOG

Hole : MJTK-B1
 Machine Model : RASKA30
 Elevation : 557.31m
 Drilled Length : 216.80m

Site Name : Bou Khil
 Period : 2000. 11. 11~2001. 1. 9
 Inclination : 70°
 Direction : 158°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr(%)	Ba		
		60	Mineralized zone	48.97	8.49	24.54	3.92	490.8	<2.0	1.40	2.00	1.92	95.19	60.50	100.0
			light gray~gray, brecciated, dolomite-pyrite in breccia matrix, contains a minor amount of celestite and massive pyrite.	58.27	127.6	7.80	6.57	349.5	<2.0	0.60	1.40	21.6	0.95	61.50	100.0
				49.15	221.6	16.15	7.47	305.4	2.47	0.70	1.00	25.4	0.33	62.50	100.0
				51.95	102.5	15.34	4.54	122.5	<2.0	0.30	0.18	21.8	61.19	63.50	100.0
				42.42	<5.0	14.66	2.47	324.6	<2.0	1.40	1.80	17.5	155.1	64.50	100.0
		65	Mudstone	29.76	531.9	9.30	2.48	415.9	<2.0	1.70	2.47	16.5	130.9	65.50	93.3
			greenish gray, pyrite disseminated, contains calcareous sandstone breccia.											67.80	93.3
		67.80	Mineralized zone	41.55	85.77	8.83	1.68	1672.7	<2.0	5.90	14.70	8.4	4.64	68.80	100.0
			light gray~gray, brecciated, dolomite-pyrite in breccia matrix, contains a minor amount of celestite.	68.08	107.1	25.38	3.56	849.9	<2.0	3.60	5.70	1.3	338.6	69.80	100.0
				38.18	368.3	11.65	2.96	523.2	<2.0	2.80	4.80	8.5	11.9	70.80	100.0
			72.30~72.50m drusy celestite-(calcite) vein with petrole materials.	60.80	0.18%	17.03	4.43	415.1	<2.0	1.70	2.50	9.2	52.8	71.80	100.0
				55.73	254.0	23.08	3.43	843.6	<2.0	2.80	4.40	13.9	11.6	72.80	100.0
		73.80	Marl, dark gray, brecciated.	99.50	72.87	26.14	5.43	1308.7	<2.0	4.00	6.90	5.3	2.39	73.80	100.0
		75	Mudstone												100.0
			pale green~pale gray, calcareous, partially brecciated.												100.0
		79.70	Brecciated zone												100.0
			dark gray~gray, contains a small amount of celestite and sphalerite.												100.0
		82.50	Limestone, gray, compact, mostly crushed.												86.7
		83.90	Brecciated zone												100.0
			dark gray~gray, brecciaes are composed of dolomitic marl, calcite-celestite vein.												100.0
		86.50	Limestone												73.3
			light gray, finely crystalline, with pyrite striation and drusy calcite crystal, limonite is found in the fissures.												73.3
		90.70	Brecciated zone												73.3
			dark gray~gray, brecciaes are composed of carbonate rocks, celestite matrix.												100.0
		94.00	Mudstone, pale green, calcareous.												100.0
		95	Marl, dark gray, dolomitic, celestite matrix.												100.0
		96.00	Limestone, pale gray, finely crystalline.												100.0
		97.40	Marl												100.0
			gray~dark gray, dolomitic, friable and crumbly, interbedded with thin bedded mudstone and limestone, partially brecciated, pyrite disseminated.												100.0
		103.10	Conglomerate												100.0
			gray, brecciaes are composed mainly of carbonate rocks and fossiliferous sandstone (brecciaes are as much as 1-20cm in diameter), 108.50m with drusy calcite veinlets.												100.0
		109.40	Marl, dark gray.												100.0
		110.20	Conglomerate												100.0
			gray~brownish gray, with drusy calcite veinlets.												100.0
		112.70	Sandstone												100.0
			light greenish white, coarse-grained, sub-rounded quartz pebble, fossiliferous.												100.0
		116.40	Marl												100.0
			dark gray~greenish gray, arenaceous, interbedded with thin bedded limestone.												100.0
		120													100.0

附図1 ボーリング柱状図 (MJTK - B1 孔)

GEOLOGIC LOG

Hole : MJTK-B1
 Machine Model : RASKA30
 Elevation : 557.31m
 Drilled Length : 216.80m

Site Name : Bou Khil
 Period : 2000. 11. 11~2001. 1. 9
 Inclination : 70°
 Direction : 158°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
		120	Limestone														100.0
		121.80	dark gray~dark brown. compact.														100.0
		125	Marl														100.0
		126.00m	dark greenish gray~dark gray, arenaceous, extremely friable and crumbly.														78.6
		129.50	interbedded with compact limestone.														80.0
		130	Sandstone														93.3
		131.80	dark gray, fine-grained, calcareous.														93.3
		135	Mudstone														100.0
		135.40	dark gray~gray, very pasty.														100.0
		137.95	Sandstone														86.7
		140	grayish white, fine to medium-grained, sub-angular~sub-rounded quartz pebble.														86.7
		142.50	Marl														93.3
		145	dark gray~black, arenaceous.														100.0
		147.10	Sandstone														86.7
		148.00	dark gray~black, fine-grained, sub-angular quartz pebble, calcareous, glauconite bearing.														86.7
		150	Marl, dark gray, arenaceous.														93.3
		153.20	Sandstone														100.0
		155	grayish white, glauconite bearing.														83.3
		156.30	Marl														93.3
		159.30	dark gray, arenaceous, friable and crumbly.														100.0
		160	Conglomerate														100.0
		162.20	gray, breccias are composed mainly of glauconite sandstone and siltstone.														76.7
		163.20	Sandstone														50.0
		165	grayish white, fine-grained, calcareous, glauconite bearing.														3.3
		166	Sand, light gray, unconsolidated.														0.0
		168	Mudstone														14.3
		170	dark gray~gray, very soft and pasty.														
		172	Sandstone, light grayish white, calcareous.														
		174	Mudstone														
		176	dark gray~gray, very soft and pasty.														
		178	Sandstone														
		180	reddish brown, fine to medium-grained, sub-rounded quartz pebble, oxidized, loosely consolidated.														
		182	Non core														
		184	Sandstone														
		186	gray, fine-grained, glauconite bearing.														

附図1 ボーリング柱状図 (MJTK-B1 孔)

GEOLOGIC LOG

Hole : MJTK-B1
 Machine Model : RASKA30
 Elevation : 557.31m
 Drilled Length : 216.80m

Site Name : Bou Khil
 Period : 2000. 11. 11~2001. 1. 9
 Inclination : 70°
 Direction : 158°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)			
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba	
180			Sandstone dark greenish gray, fine-grained, sub-angular quartz pebble, glauconite bearing, loosely consolidated.											14.3		
														30.0		
185														43.3		
														36.7		
190														53.3		
				193.00	Mudstone black, loosely consolidated.											26.7
195															40.0	
				196.80	Sand grayish white~light brownish white, unconsolidated, sub-rounded quartz pebble.											33.3
200															33.3	
															26.7	
205													23.3			
													16.7			
210													25.0			
		216.80														
215																
220																
225																
230																
235																
240																

附図1 ボーリング柱状図 (MJTK - B1 孔)

GEOLOGIC LOG

Hole : MJTK-B2
 Machine Model : RASKA30
 Elevation : 454.81m
 Drilled Length : 142.10m

Site Name : Bou Khil
 Period : 2001. 1. 14~1. 29
 Inclination : 90°
 Direction : -

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba		
		0.00	Overburden												
		9.00	Sandstone yellowish brown, coarse-grained, sub-rounded quartz pebble, weathered.												20.0
		12.00	Sand yellowish brown, fine to medium-grained, loosely consolidated, sub-rounded quartz pebble.											0.0	
		15.00												0.0	
		20.00												0.0	
		25.00												0.0	
		30.00												0.0	
		35.00												0.0	
		37.00	Mud grayish black~black, loosely consolidated.											20.0	
		40.10	Sandstone reddish brown, fine to medium-grained, oxidized, contains breccia.											20.0	
		43.10	Conglomerate reddish brown, oxidized, loosely consolidated, brown mud matrix, brecciaes are as much as 0.5-2.0cm in diameter and composed mainly of calcareous sandstone and limestone.											10.0	
		45.00												30.0	
		50.00												60.0	
		55.00												90.0	
		60.00												100.0	
		60.00												86.7	

附図2 ボーリング柱状図 (MJTK - B2 孔)

GEOLOGIC LOG

Hole : MJTK-B2
 Machine Model : RASKA30
 Elevation : 454.81m
 Drilled Length : 142.10m

Site Name : Bou Khil
 Period : 2001. 1. 14~1. 29
 Inclination : 90°
 Direction : -

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)	
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr
80			Conglomerate											86.7
		61.10	Sandstone											
		62.70	yellowish brown, medium-grained.											93.3
			Conglomerate											
		65	light yellowish brown, brown mud matrix, breccias are as much as 3~4cm in diameter and composed mainly of Tertiary carbonate rocks, garnet crystal bearing.											56.7
		67.20	Sandstone											
		70	yellowish brown, coarse-grained, sub-rounded quartz pebble, contains breccia.											33.3
		70.00	Conglomerate											
		75	reddish brown, oxidized, loosely consolidated, brown mud matrix, breccias are as much as 2-3cm in diameter and are composed mainly of Tertiary carbonate rocks.											40.0
		75												100.0
		80												53.3
		80												53.3
		85												100.0
		85												80.0
		90												36.7
		90												100.0
		95												46.7
		95												80.0
		100												10.0
		100												100.0
		105												100.0
		106.70	Sandstone											
		109.70	yellowish brown, fine~medium-grained, calcareous, sub-rounded~sub-angular quartz pebble, strongly pyritized.											43.3
		110	Mudstone											
		115	yellowish gray~brown, weathered, oxidized, loosely consolidated, contain breccias (breccias are composed of grayish white limestone and are as much as 2-10cm in diameter).											100.0
		115												36.7
		117.70	Mudstone											
		120	blackish gray, loosely consolidated.											20.0
		120												100.0

附図2 ボーリング柱状図 (MJTK - B2 孔)

GEOLOGIC LOG

Hole : MJTK-B2
 Machine Model : RASKA30
 Elevation : 454.81m
 Drilled Length : 142.10m

Site Name : Bou Khil
 Period : 2001. 1. 14~1. 29
 Inclination : 90°
 Direction : -

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)			
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba	
120		120	Mudstone blackish gray, loosely consolidated, very pasty, contain brecciaes of carbon- ate rocks.												100.0	
															80.0	
125															36.7	
		127.10	Sand yellowish brown, unconsolidated, medium-grained, sub-rounded quartz pebble.													6.7
130																16.7
																20.0
135																16.7
																20.0
140																
142.10																
145																
150																
155																
160																
165																
170																
175																
180																

附図2 ボーリング柱状図 (MJTK-B2 孔)

GEOLOGIC LOG

Hole : MJTK-L1
 Machine Model : RASKA30
 Elevation : 429.12m
 Drilled Length : 400.10m

Site Name : El Akhouat
 Period : 2000. 9. 27~10. 17
 Inclination : 75°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba
			Overburden											33.3	
														60.0	
														36.7	
														53.3	
														37.0	
														90.0	
														43.3	
														46.7	
		21.70	Gypsum-Mudstone complex											53.3	
			grayish white~gray (partially reddish brown).												
		25.10	Mudstone											86.7	
			blackish gray, calcareous, with gypsum.												
		27.70	Gypsum-Mudstone complex												
		28.90	Mudstone											83.3	
			blackish gray, calcareous, contains gypsum crystal.												
		31.70	Gypsum-Mudstone-Carbonate rocks complex											93.3	
			grayish white, brecciated.												
		33.70	Mudstone											56.7	
			reddish brown~gray, calcareous.												
		36.05	Dolomite											100.0	
			black~grayish white, finely crystalline, organic material matrix, with gypsum, 36.70~37.10m gypsum-mudstone complex.												
		39.95	Mudstone											33.3	
			blackish gray, with grayish white dolomite brecciaes (brecciaes are as much as 2~5cm in diameter).											90.0	
														86.7	
														83.3	
			51.70~52.80m with gypsum.												
		52.80	Gypsum, white, massive.											86.7	
		53.50	Mudstone, gray, calcareous.												
		54.80	Mudstone-Gypsum-Dolomite complex											86.7	
			reddish brown, contains gray dolomite breccia, with gypsum veinlets.												
		57.80	Mudstone											86.7	
			reddish brown, with gypsum vein.												

附図3 ボーリング柱状図 (MJTK-L1 孔)

GEOLOGIC LOG

Hole : MJTK-L1
 Machine Model : RASKA30
 Elevation : 429.12m
 Drilled Length : 400.10m

Site Name : El Akhouat
 Period : 2000. 9. 27~10. 17
 Inclination : 75°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba
60		60.70	Mudstone, reddish brown, calcareous.											86.7	86.7
	△ △		Gypsum-Carbonate rocks-Mudstone complex grayish white, contains dolomite and mudstone breccia, with gypsum vein.											100.0	83.3
	△ △	63.50	Mudstone-Gypsum-Dolomite complex grayish white (partially reddish brown), brecciated, composed mainly of calcareous mudstone, gypsum veinlets and brecciated dolomite.											100.0	100.0
	△ △	65												100.0	100.0
	△ △	70												96.7	96.7
	△ △	71.70	Mudstone reddish brown, with gypsum veinlets.											100.0	100.0
	△ △	73.70	Gypsum, grayish white, massive.											93.3	93.3
	△ △	74.70	Dolomite, grayish black, with gypsum.											93.3	93.3
	△ △	76.00	Mudstone reddish brown, with gypsum veinlets.											83.3	83.3
	△ △	78.70	78.70~79.00m massive gypsum.											100.0	100.0
	△ △	79.00	Dolomite, grayish white, finely crystalline.											93.3	93.3
	△ △	80.20	Mudstone reddish brown, with gypsum veinlets, 82.20~83.40m brecciated.											83.3	83.3
	△ △	83.40	Gypsum, grayish white, massive.											100.0	100.0
	△ △	85.00	Mudstone reddish brown, with gypsum veinlets, 85.00~86.15m with grayish white dolomite breccias											96.7	96.7
	△ △	90												93.3	93.3
	△ △	94.70	Mudstone-Gypsum-Dolomite complex blackish gray~reddish brown, brecciated, composed mainly of calcareous mudstone, gypsum veinlets and brecciated dolomite.											100.0	100.0
	△ △	99.30	Limestone gray, brecciated, breccia consists of Cretaceous carbonate rocks, calcite and gypsum cement.	81.54	0.15%	0.98	0.31	159.1	<2.0	5.25	16.00	2972.0	61.1	102.60	100.0
	△ △	103.60	Dolomite black, finely crystalline, contains abundant of hydrozincite.	23.05	308.20	8.02	1.18	175.3	<2.0	4.35	10.60	2798.7	112.0	103.60	100.0
	△ △	105		<10	76.09	3.71	0.55	100.1	<2.0	2.50	10.00	2479.2	100.2	104.60	100.0
	△ △	106.30	Mudstone-Gypsum-Carbonate rocks complex reddish brown (partially grayish black), brecciated, composed mainly of calcareous mudstone, gypsum veinlets, brecciated dolomite and limestone.											105.60	100.0
	△ △	110												100.0	100.0
	△ △	114.10	Dolomite grayish black, brecciated, with gypsum.											100.0	100.0
	△ △	116.60	Mudstone-Gypsum-Carbonate rocks complex reddish brown (partially grayish black).											100.0	100.0
	△ △	120												100.0	100.0

附図3 ボーリング柱状図 (MJTK-L1 孔)

GEOLOGIC LOG

Hole : MJTK-L1
 Machine Model : RASKA30
 Elevation : 429.12m
 Drilled Length : 400.10m

Site Name : El Akhouat
 Period : 2000. 9. 27~10. 17
 Inclination : 75°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)	
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr
120	Λ Λ		Mudstone-Gypsum-Carbonate rocks complex reddish brown (partially grayish black).											100.0
	Λ Λ													100.0
	Λ Λ	123.10	Mudstone reddish brown, with gypsum veinlets.											100.0
125	Λ Λ	125.60	Mudstone-Gypsum-Carbonate rocks complex reddish brown (partially grayish black).											100.0
	Λ Λ	128.10	Dolomite gray, brecciated, with gypsum.											96.7
130	Λ Λ	130.10	Mudstone-Gypsum-Carbonate rocks complex reddish brown (partially grayish black), brecciated, composed mainly of calcareous mudstone, gypsum veinlets, brecciated dolomite and limestone.											100.0
	Λ Λ		135.80~136.30m massive gypsum.											100.0
135	Λ Λ	137.40	Marl (Aptien age) grayish black, calcareous, homogeneous, lime mud matrix, sparry calcite cement, contains brown limestone breccia, vitrinite and peloid bearing, with carbonate network, a small amount of pyrite is almost invariably present.											96.7
	II II		137.40~142.70m mostly crushed,											100.0
140	II II		151.10~151.79m micropyrte rich,											100.0
	II II		156.50m carbonate network dominant.											100.0
145	II II													100.0
	II II													100.0
150	II II													100.0
	II II													100.0
155	II II													100.0
	II II													100.0
160	II II													100.0
	II II													100.0
165	II II													100.0
	II II													100.0
170	II II		169.10~172.10m carbonate network dominant.											100.0
	II II													96.7
175	II II													96.7
	II II													100.0
180	II II													100.0

附図3 ボーリング柱状図 (MJTK-L1 孔)

GEOLOGIC LOG

Hole : MJTK-L1
 Machine Model : RASKA30
 Elevation : 429.12m
 Drilled Length : 400.10m

Site Name : El Akhouat
 Period : 2000. 9. 27~10. 17
 Inclination : 75°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)			
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba					
180			Marl (Aptien age) grayish black, homogeneous, calcareous, lime mud matrix, sparry calcite cement, fossiliferous (gasteropodes bearing), contains brown limestone breccia, vitrinite and peloid bearing, with carbonate network, a small amount of pyrite is almost invariably present. 180.00~181.00m carbonate network dominant. 193.60~195.10m calcite veinlets with a trace amount of galena and sphalerite.													100.0	100.0	
																	100.0	100.0
185																	100.0	100.0
																	100.0	100.0
190																	100.0	100.0
																	100.0	100.0
195																	100.0	100.0
																	100.0	100.0
200																	100.0	100.0
																	100.0	100.0
205																100.0	100.0	
																100.0	100.0	
210		207.70	Marl (Aptien age) grayish black, calcareous, contains limestone nodule and framboidal pyrite, with carbonate network, crack dominant. 209.00m contains brown limestone, 214.10~216.10m calcareous marl, 217.20~217.50m carbonate network dominant. 220.10m calcite-(galena) network, 218.40m contains organic materials.													100.0	100.0	
																	100.0	100.0
215																	96.7	100.0
																	100.0	100.0
220																	100.0	100.0
																	100.0	100.0
225																	93.3	100.0
																	100.0	100.0
230																	100.0	100.0
																	100.0	100.0
235		233.20	Marl (Aptien age) grayish black, argillaceous, contains limestone breccia and framboidal pyrite, with carbonate network, crack dominant. 233.90m contains brown limestone breccia with calcite-(galena) veinlets.													100.0	100.0	
																	100.0	100.0
240																	100.0	100.0

附図3 ボーリング柱状図 (MJTK-L1 孔)

GEOLOGIC LOG

Hole : MJTK-L1
 Machine Model : RASKA30
 Elevation : 429.12m
 Drilled Length : 400.10m

Site Name : El Akhouat
 Period : 2000. 9. 27~10. 17
 Inclination : 75°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba
240			Marl (Aptien age) grayish black, argillaceous, contains limestone nodule and framboidal pyrite, with carbonate network, crack dominant.											100.0	
			240.10~244.60m mostly crushed.											100.0	
245														100.0	
														100.0	
250														100.0	
														100.0	
255														100.0	
														73.3	
			259.30~260.00m mostly crushed.											60.0	
260		260.00	Marl (Aptien age) grayish black, calcareous, lime mud matrix, sparry calcite cement, with carbonate network.											83.3	
			262.30~262.50m calcite-hydrozincsite veinlets.											93.3	
			266.00~266.50m sheared zone.											100.0	
270			271.40~273.20m carbonate network dominant.											100.0	
														100.0	
275														100.0	
														73.3	
280		278.00	Marl (Aptien age) grayish black, argillaceous, fossiliferous, contains limestone breccia and framboidal pyrite.											100.0	
			278.00~279.80m sheared zone.											100.0	
285														100.0	
														100.0	
290		287.00	Marl (Aptien age) grayish black, calcareous, lime mud matrix, sparry calcite cement, contains black woody material, framboidal pyrite is locally found, with carbonate veinlets (width 1mm).											100.0	
														100.0	
295														100.0	
														100.0	
300														100.0	

附図3 ボーリング柱状図 (MJTK-L1 孔)

GEOLOGIC LOG

Hole : MJTK-L1
 Machine Model : RASKA30
 Elevation : 429.12m
 Drilled Length : 400.10m

Site Name : El Akhouat
 Period : 2000. 9. 27~10. 17
 Inclination : 75°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
300	II		Marl (Aptien age)														100.0
	II		grayish black, calcareous, lime mud matrix, sparry calcite cement, contains vitrinite and framboidal pyrite, with carbonate veinlets.														100.0
305	II		301.30m														100.0
	II		carbonate-pyrite veinlets (width 5mm).														100.0
	II		310.00m calcite-(galena) veinlets.														100.0
310	II																100.0
	II																100.0
	II																100.0
315	II																100.0
	II																96.7
	II	318.80	Marl (Aptien age)														100.0
	II		grayish black~gray, dolomitic, alternating of argillaceous marl and thin bedded limestone, contains vitrinite fragment and framboidal pyrite, partilly brecciated, cruck dominant.														100.0
	II		323.30m calcite-(galena) veinlets.														90.0
	II		324.70m calcite-(sphalerite) veinlets.														100.0
	II		327.80~328.20m														100.0
	II		calcite-pyrite-(sphalerite) veinlets.														100.0
330	II		336.00m calcite-pyrite-(galena) veinlets.														100.0
	II		338.50m calcite-pyrite-(galena) veinlets.														100.0
	II		338.60m														100.0
	II		a trace amount of galena is found in the fissures.														100.0
335	II																100.0
	II																100.0
	II																100.0
340	II																100.0
	II																100.0
	II																100.0
345	II																100.0
	II																100.0
	II																100.0
350	II	349.80	Marl (Aptien age)														100.0
	II		grayish black~gray, dolomitic, contains vitrinite and peloid (pyrite coating), a minor amount of framboidal pyrite is almost invariably present.														100.0
	II		356.30~364.10m sheared.														100.0
355	II																90.0
	II																100.0
360	II																90.0

附图3 ボーリング柱状図 (MJTK-L1 孔)

GEOLOGIC LOG

Hole : MJTK-L2
 Machine Model : RASKA30
 Elevation : 519.01m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2000. 10. 21~11. 4
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)		
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba
		0.80	Overburden												
			Limestone (Coniacian age) brownish light gray~yellowish light brown, compact, finely calcite matrix, weakly oxidized, pyrite are scattered, with calcite-(pyrite) veinlets, limonite is found in the fissures.												69.4
	5		5.50m, 15.50m drusy calcite vein (width 5cm).												93.3
	10														100.0
	15														93.3
	17.70		Dolomite (Turonian age) grayish brown~yellowish brown, compact, finely dolomite matrix, weakly oxidized, contains organic materials, with calcite-(pyrite) veinlets, limonite is found in the fissures.												100.0
	20		24.60m drusy calcite vein (width 5cm).												100.0
	25		26.00~30.60m wholly crushed.												60.0
	30														46.7
	32.60		Dolomite (Turonian age) gray~grayish brown, finely dolomite matrix, with calcite-pyrite veinlets, limonite is found in the fissures.												100.0
	35		32.60~35.30m brecciated, fossiliferous.												100.0
	38.00		Dolomite (Turonian age) brownish gray, compact, finely dolomite matrix, with calcite network.												96.7
	40		40.00m calcite vein (width 7cm).												100.0
	43.00		Calcite-limonite-hematite vein												100.0
	43.60		Dolomite (Turonian age) brownish gray~light brownish gray, compact, fossiliferous, finely dolomite matrix, partially brecciated, with calcite veinlets~network.												100.0
	45		45.40~47.80m with calcite-pyrite-(galena) veinlets.												100.0
	51.40		Calcite-limonite-hematite-(sphalerite) vein												100.0
	53.10		Dolomite (Turonian age) gray~grayish brown, finely crystalline, finely dolomite cement, with calcite veinlets~network, weakly oxidized.												100.0
	55		53.10~53.70m, 57.80~60.40m brecciated, pyrite are scattered, contains a trace amount of galena.												100.0
	60														

附図4 ボーリング柱状図 (MJTK-L2 孔)

GEOLOGIC LOG

Hole : MJTK-L2
 Machine Model : RASKA30
 Elevation : 519.01m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2000. 10. 21~11. 4
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)		
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba
80		60.40	Dolomite (Turonian age) gray~light yellowish brown. finely dolomite matrix, with calcite veinlets. limonite is found in the fissures.											100.0	100.0
65		65.00	Dolomite (Turonian age) light yellowish brown~grayish white. weakly oxidized. finely dolomite matrix. contains Mn-oxide material. limonite is found in the fissures.											100.0	100.0
70		66.20~66.90m	with calcite-pyrite network.											100.0	100.0
		69.80m	drusy calcite vein (width 5cm).											100.0	100.0
75		75.00~75.20m	contains a trace amount of galena. calcite-hematite vein.											100.0	100.0
80		76.60	Dolomite (Turonian age) light yellowish brown~gray. compact. lime mud matrix.											100.0	100.0
85		81.30	Dolomite (Turonian age) light brown~light gray. pyrite are scattered. with calcite vein.											90.0	90.0
85		84.00	Dolomite (Turonian age) grayish black~grayish brown. organic. lamina is recognized. interbedded with light brown limestone. a minor amount of pyrite is locally found.											90.0	90.0
		85.40~86.00m	with calcite-(pyrite) veinlets (width 1~2cm).											90.0	90.0
90		89.00	85.40~86.00m light brown limestone part. 89.00~90.70m light brown limestone part.											100.0	100.0
		89.70m	drusy calcite-hematite vein (width 15cm).											100.0	100.0
95		94.20~94.70m	light brown limestone part. with calcite-(pyrite) veinlets.											100.0	100.0
100		100.90~101.00m	with calcite-(galena) network.											100.0	100.0
		101.00m	calcite-galena-(sphalerite) vein (width 10cm).											100.0	100.0
		104.70m	calcite-pyrite vein (width 5cm).											100.0	100.0
105														100.0	100.0
110														100.0	100.0
		114.90~115.00m	mostly crushed.											100.0	100.0
115		116.80~117.00m	limonite is found in the fissures. calcite-pyrite-galena vein (width 20cm).											100.0	100.0
		116.80												100.0	100.0
		117.00												100.0	100.0
120															

附図4 ボーリング柱状図 (MJTK-L2 孔)

GEOLOGIC LOG

Hole : MJTK-L2
 Machine Model : RASKA30
 Elevation : 519.01m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2000. 10. 21~11. 4
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)		
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba
120			Dolomite (Turonian age) dark gray~dark brown, lamina is recognized, organic, lime mud matrix, with calcite vein~veinlets, a minor amount of pyrite is locally found.											100.0	100.0
125			121.60~123.00m with calcite-(pyrite) vein~network.											100.0	93.3
130			132.70~132.90m calcite vein (width 20cm). 133.60~133.75m calcite vein (width 15cm). 138.10~138.60m with calcite network.											100.0	100.0
135			139.10m drusy calcite veinlets (width 2cm) with petorole nodule.											100.0	100.0
140			140.00m calcite-(pyrite) veinlets (width 3cm). 140.20m drusy calcite veinlets (width 2cm). 142.80m calcite veinlets (width 3cm). 142.90m calcite veinlets (width 3cm).											100.0	100.0
145														100.0	100.0
150														100.0	100.0
155			155.60m calcite vein (width 10cm).											100.0	100.0
160														100.0	100.0
165			163.80~164.00m with calcite veinlets. 167.10~168.10m brecciated, calcite-pyrite matrix.											100.0	90.0
170		169.40	Dolomite (Turonian age) grayish white~gray, altanating of grayish white compact dolomite and brownish gray lamina dolomite.											100.0	100.0
175		173.50	Sandstone (Turonian age) grayish white~gray, fine-grained, calcareous, with coarse-grained calcite pebble, interbeded with thin beded dolomitic black marl, with calcite-pyrite veinlets~network, pyrite are scattered.											100.0	100.0
180														100.0	100.0

附図4 ボーリング柱状図 (MJTK-L2 孔)

GEOLOGIC LOG

Hole : MJTK-L2
 Machine Model : RASKA30
 Elevation : 519.01m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2000. 10. 21~11. 4
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)	
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba			
360	[Cross-hatched pattern]	360.30	Mineralized zone limestone-hosted, brownish gray, dolomitized, organic material matrix, with sphalerite-calcite-pyrite-galena veinlets. 361.20~361.40m, 365.30~367.20m brecciated, sphalerite-galena-pyrite matrix. 364.50~365.00m calcite-sphalerite-pyrite vein.	775.1	1.22	24.43	2.96	248.7	12.69	0.33	10.92	2025.5	81.34	360.30	100.0	
361.30		6130.8		3.65	28.35	6.37	196.8	40.32	0.41	7.80	1523.9	77.07	361.30			
362.30		945.8		1.61	26.95	4.09	388.5	20.22	0.25	14.84	1318.8	244.7	362.30			
363.30		1190.2		1.72	35.18	4.61	206.3	27.89	0.16	12.32	1695.0	173.3	363.30			
364.30		1216.5		1.42	60.77	4.08	221.4	26.89	0.33	10.08	2673.0	117.6	364.30			
365.30		7677.6		2.30	76.15	3.22	328.4	32.15	0.20	7.20	3388.3	69.8	365.30			
366.30		2342.1		4.30	45.83	2.67	120.4	51.53	0.10	19.90	978.2	111.9	366.30			
367.30		1.92(%)		1.02	28.84	2.65	963.3	70.51	0.20	17.00	1124.0	49.0	367.30			
368.30		1.69(%)		1.06	39.71	2.78	747.6	86.35	0.20	14.00	934.2	41.9	368.30			
369.30		369.30		Cavity												369.30
370	[Horizontal line pattern]	370.80	Dolomite (Turonian age) light brownish gray, finely calcite matrix, lamina is recognized, with calcite-pyrite veinlets.												93.3	
375		375.05		3798.3	0.73	48.36	4.40	523.7	12.58	0.16	12.88	1267.4	46.67	373.90	100.0	
375	[Cross-hatched pattern]	375.05	Mineralized zone limestone-hosted, brownish gray~brown, dolomitized, partially brecciated. 375.10~377.10m, 382.00m 377.10~378.50m sphalerite-galena-pyrite matrix. 379.90~381.40m calcite-galena-pyrite-(sphalerite) veinlets. sphalerite-galena massive ore.	2.45%	8.23	40.62	2.36	840.3	236.7	1.24	26.32	638.4	94.51	374.90	100.0	
375		3.45%		8.78	41.84	2.49	704.9	382.9	0.58	24.78	816.9	71.64	375.90			
375		2.89%		1.74	21.70	2.90	1007.9	48.22	0.41	31.36	832.5	81.90	376.90			
375		1.65%		0.24	16.06	1.51	829.6	14.19	0.16	34.30	1042.9	141.2	377.90			
375		3701.6		0.92	28.47	2.91	588.9	17.65	0.08	21.00	969.2	173.9	378.90			
375		3.45%		16.00	68.99	5.22	1003	208.6	0.16	25.34	355.1	45.20	379.90			
375		3.46%		8.86	64.41	2.39	848.2	229.9	0.16	24.08	346.4	59.31	380.90			
375		694.1		1.15	28.05	2.96	899.8	23.43	0.08	35.42	1565.1	323.9	381.90			
375	382.90	Cavity											382.90	100.0		
380	[Cross-hatched pattern]	383.60	Cavity													
385																
390																
395																
400																
400																
400																
400																
400																
400																

附図4 ボーリング柱状図 (MJTK-L2 孔)

GEOLOGIC LOG

Hole : MJTK-L3
 Machine Model : RASKA30
 Elevation : 419.25m
 Drilled Length : 374.50m

Site Name : El Akhouat
 Period : 2000. 12. 30~2001. 1. 30
 Inclination : 70°
 Direction : 298°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)	
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba			
		0.60	Overburden													
			Limestone													93.3
			light brownish white, compact, homogeneous, finely calcite matrix, weathered and weakly oxidized, limonite and pyrite are scattered, with pyrite striation and a small amount of calcite veinlets, limonite is found in the fissures, 4.60~4.80m coarsely calcite cement.													78.6
																100.0
																93.3
																93.3
																86.7
																100.0
																100.0
																100.0
																96.7
																86.7
			30.60~32.80m crushed.													96.7
		34.30	Limestone													93.3
			light brown~light brownish gray, compact, homogeneous, finely calcite matrix, weakly weathered, alternating of light brown limestone and thin bedded black marl, limonite is found in the fissures, 34.30~34.90m crushed.													93.3
																100.0
																100.0
																93.3
		48.60	Limestone													96.7
			grayish white, finely calcite matrix, alternating of grayish white limestone and thin bedded black marl, with pyrite striation and calcite-limonite veinlets~network, 50.50~50.80m limonite-hematite-calcite are found in the fissures, 57.80~58.00m coarsely calcite cement.													100.0
																93.3
																100.0

附図5 ボーリング柱状図 (MJTK-L3 孔)

GEOLOGIC LOG

Hole : MJTK-L3
 Machine Model : RASKA30
 Elevation : 419.25m
 Drilled Length : 374.50m

Site Name : El Akhouat
 Period : 2000. 12. 30~2001. 1. 30
 Inclination : 70°
 Direction : 298°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
80			Limestone grayish white, finely calcite matrix, homogeneous, partially interbedded with thin bedded black marl. with calcite-(pyrite) veinlets. limonite is found in the fissures.														100.0
			61.00~61.20m black marl.														100.0
			61.30~61.90m black marl.														80.0
65																	96.7
70																	96.7
																	90.0
75																	93.3
80			80.80~80.90m calcite-(pyrite) vein.														96.7
		81.10	Limestone whitish gray, compact, finely calcite matrix, homogeneous, alternating of limestone and thin bedded black marl. with calcite network~veinlets.														96.7
			83.30m calcite-(pyrite) vein (width 2cm).														100.0
			88.80~88.90m with calcite-(pyrite) veinlets (width 3cm).														90.0
90		91.00	Marl gray~blackish gray, lime mud matrix, partially interbedded with dark gray mudstone, with calcite veinlets~network.														100.0
			91.00~91.80m crushed.														100.0
			94.70~95.20m crushed.														100.0
			95.20~96.40m with calcite veinlets.														100.0
			98.80~99.30m with calcite veinlets~network.														96.7
100			102.00~102.10m with calcite-(pyrite) veinlets.														100.0
																	100.0
105																	100.0
			113.60~113.80m with calcite veinlets.														96.7
																	100.0
110			116.20m calcite veinlets (width 5cm).														100.0
			117.20m calcite-(pyrite) veinlets (width 5cm).														100.0
			118.20~118.50m with drusy calcite vein.														100.0
115																	100.0
120																	100.0

附図5 ボーリング柱状図 (MJTK-L3 孔)

GEOLOGIC LOG

Hole : MJTK-L3
 Machine Model : RASKA30
 Elevation : 419.25m
 Drilled Length : 374.50m

Site Name : El Akhouat
 Period : 2000.12.30~2001.1.30
 Inclination : 70°
 Direction : 298°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
120			Marl dark gray~black, lime mud matrix, partially interbedded with mudstone, with calcite-(pyrite) veinlets~network.														100.0
125			123.00~128.00m dark gray mudstone, 126.40m calcite veinlets (width 2cm), 128.00m calcite veinlets (width 3cm), 129.60~129.80m with calcite-(pyrite) vein.														100.0
130			132.70m calcite veinlets (width 2cm), 133.10~133.50m with calcite-(pyrite) veinlets, 134.30~135.90m dark gray mudstone.														100.0
135																	100.0
140			141.35~141.50m with calcite-(pyrite) network.														100.0
145																	100.0
150			145.20~145.50m dark gray mudstone, 147.00~147.20m with calcite veinlets, 147.80~151.40m mostly crushed, 150.80m calcite-(pyrite) vein (width 7cm), 153.30~153.70m with calcite network.														100.0
154.00			Marl dark gray, lime mud matrix, fossiliferous, alternating of black marl and gray limestone, with calcite network~veinlets.														100.0
155																	100.0
160																	100.0
165			164.20m ammonite bearing, 165.80~168.80m mostly crushed.														100.0
170																	80.0
171.90			Limestone light brownish white, compact, finely calcite matrix, lamina is recognized, with pyrite striation and calcite veinlets~network.														53.3
175			174.90~175.10m sphalerite network, 178.40~180.80m calcite-(pyrite) veinlets with a trace amount of galena.														46.7
180																	13.3
																	66.7

附図5 ボーリング柱状図 (MJTK-L3 孔)

GEOLOGIC LOG

Hole : MJTK-L3
 Machine Model : RASKA30
 Elevation : 419.25m
 Drilled Length : 374.50m

Site Name : El Akhouat
 Period : 2000. 12. 30~2001. 1. 30
 Inclination : 70°
 Direction : 298°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
180			Limestone light brownish white~light brownish gray, compact, finely calcite matrix, partially interbedded with thin bedded black marl, lamina is recognized, with pyrite striation and calcite veinlets~network, pyrite are scattered.														66.7
			181.20~181.40m with calcite network~veinlets.														100.0
185			182.70m calcite-pyrite veinlets (width 3cm).														100.0
			187.80~190.40m, 192.80~193.80m mostly crushed, calcite-pyrite network.														90.0
190			192.70m calcite-(pyrite) veinlets (width 5mm) with a trace amount of galena.														76.7
			198.40~201.60m calcite-pyrite vein~network with a trace amount of sphalerite and galena.														93.3
195			202.00~203.40m with calcite-(pyrite) veinlets.														100.0
200																	86.7
		204.00	Brecciated zone dark gray~blackish gray, black mud and pyrite matrix, brecciaes are composed mainly of Cretaceous and Triassic carbonate rocks (brecciaes are as much as 2-20cm in diameter).														100.0
205			209.60m limestone breccia with calcite-pyrite-(sphalerite) veinlets.														90.0
			212.30~214.20m contains brownish gray limestone breccia with small amounts of celestite.														73.3
210																	73.3
		216.70	Gypsum-Carbonate rocks complex whitish gray~gray, gypsum-calcite matrix, brecciated (brecciaes are composed mainly of Cretaceous limestone and Triassic carbonate rocks), dolomitized.														76.7
215			218.10~220.00m massive gypsum.														100.0
		226.50	Gypsum-Mudstone-Carbonate rocks complex purplish~purplish gray, brecciated (brecciaes are composed mainly of Triassic limestone, dolomite and calcareous mudstone), with gypsum vein.														100.0
220																	63.3
		233.30	Mudstone-Gypsum-Carbonate rocks complex grayish white~pale greenish white, brecciated (brecciaes are composed mainly of Triassic limestone, dolomite and calcareous mudstone), with gypsum vein.														86.7
225																	80.0
																	86.7
230																	100.0
235																	
240																	

附図 5 ボーリング柱状図 (MJTK-L3 孔)

GEOLOGIC LOG

Hole : MJTK-L3
 Machine Model : RASKA30
 Elevation : 419.25m
 Drilled Length : 374.50m

Site Name : El Akhouat
 Period : 2000. 12. 30~2001. 1. 30
 Inclination : 70°
 Direction : 298°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)			
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba					
240	^ ^	240.00	Mudstone-Gypsum-Carbonate rocks complex light greenish white. brecciated (breccias are composed mainly of calcareous sandstone, mudstone, limestone and dolomite, with gypsum vein~veinlets.													100.0	100.0	
	^ ^			100.0	100.0													
	^ ^			100.0	100.0													
	^ ^			100.0	100.0													
245	^ ^			100.0	100.0													
	^ ^			100.0	100.0													
	^ ^			100.0	100.0													
	^ ^			100.0	100.0													
250	^ ^			100.0	100.0													
	^ ^			100.0	100.0													
	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
255	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
260	^ ^	260.80	Dolomite-Gypsum-Mudstone complex gray~blackish gray, strongly dolomitized and pyritized, brecciated (breccias are composed mainly of dolomite, calcareous sandstone and mudstone, with gypsum vein~veinlets, contains hydrozincite. 267.40~268.40m contains pyrite crystal.													93.3	100.0	
	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
265	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
270	^ ^	271.80		Mudstone-Gypsum-Carbonate rocks complex pale green~gray, brecciated (breccias are composed mainly of mudstone, dolomite and calcareous sandstone, with gypsum vein~veinlets, contains hydrozincite. 291.80~292.80m wholly crushed. 294.80~296.20m massive gypsum.													100.0	100.0
	^ ^	100.0			100.0													
	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
275	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
280	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
285	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
	^ ^	100.0	100.0															
290	^ ^	298.90	Mudstone-Carbonate rocks-Gypsum complex													100.0	53.3	
	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
295	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
	^ ^	100.0		100.0														
300	^ ^	100.0		100.0														

附図5 ボーリング柱状図 (MJTK-L3 孔)

GEOLOGIC LOG

Hole : MJTK-L3
 Machine Model : RASKA30
 Elevation : 419.25m
 Drilled Length : 374.50m

Site Name : El Akhouat
 Period : 2000.12.30~2001.1.30
 Inclination : 70°
 Direction : 298°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)			
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba	
300	△		Mudstone-Carbonate rocks-Gypsum complex dark gray, gypsum cement, brecciated (breccias are composed mainly of dolomite and limestone).											100.0		
	△			83.3												
	△			73.3												
305	△															
	△															
	△	307.80		Gypsum-Mudstone-Carbonate rocks complex dark gray~gray, brecciated (breccias are composed mainly of dolomite, mudstone, calcareous sandstone and Cretaceous limestone), dolomite matrix and gypsum cement.											96.7	
	△				100.0											
310	△				100.0											
	△															
	△															
315	△															
	△															
	△															
	△															
320	△															
	△															
	△															
	△															
325	△															
	△															
	△															
	△															
330	△															
	△															
	△															
	△															
	△	334.20	Brecciated zone dark gray~gray, breccias are composed mainly of marl and limestone (with calcite-pyrite veinlets~network), marl matrix.											100.0		
335	△			76.7												
	△															
	△															
	△															
	△															
	△															
	△															
	△															
	△	341.40		Limestone gray~brownish gray, finely calcite matrix, partially interbedded thin bedded black marl, with calcite-pyrite veinlets~network. 341.50~341.70m with calcite-pyrite-sphalerite veinlets, 342.40~342.80m with calcite-pyrite-sphalerite veinlets, 348.70m calcite vein (width 5cm), 351.70m calcite-massive pyrite vein (width 50cm), 355.90~356.50m with calcite-pyrite vein, 358.80~359.00m with calcite veinlets, 360.30~360.80m with calcite vein.											83.8	
	△		66.7													
345	△		100.0													
	△		100.0													
	△		100.0													
350	△		46.7													
	△															
	△															
	△															
355	△		100.0													
	△		100.0													
360	△															

附図5 ボーリング柱状図 (MJTK-L3 孔)

GEOLOGIC LOG

Hole : MJTK-L3
 Machine Model : RASKA30
 Elevation : 419.25m
 Drilled Length : 374.50m

Site Name : El Akhouat
 Period : 2000. 12. 30~2001. 1. 30
 Inclination : 70°
 Direction : 298°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
360			Limestone													100.0	
			gray~brownish gray, finely calcite matrix, partially interbedded thin bedded black marl, with calcite-pyrite veinlets~network.														100.0
365			361.20~363.40m sheared zone, 366.80~367.00m contains massive pyrite.														53.3
																	43.3
370																	66.7
																	61.1
		372.80	Mudstone-Carbonate rocks complex													100.0	
375		374.50															

附図5 ボーリング柱状図 (MJTK-L3 孔)

GEOLOGIC LOG

Hole : MJTK-L4
 Machine Model : RASKA30
 Elevation : 487.53m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2001. 2. 5~2. 27
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
			Limestone gray, compact, finely calcite matrix, weathered, with calcite-(pyrite) veinlets. limonite is found in the fissures.													66.7	
																38.9	
		5														53.3	
																53.3	
		10														76.7	
		11.00	Limestone yellowish brown, weathered, alternating of limestone and marl, with calcite-hematite veinlets~network and pyrite striation, limonite is found in the fissures.													80.0	
																80.0	
		20														66.7	
																66.7	
		25														66.7	
																96.7	
		27.90	Limestone light gray~gray, argillaceous, alternating of limestone and marl, crack dominant, limonite is found in the fissures.													86.7	
																66.7	
		30														23.3	
																83.3	
		39.00	Limestone brownish gray~gray, finely calcite matrix, with calcite veinlets~network and pyrite striation, limonite is found in the fissures.													83.3	
																100.0	
		45	46.30m calcite vein (width 2-3cm), 46.70m calcite vein (width 5cm) with a trace amount of galena,														
		48.80	Limestone light brownish gray~light gray, finely calcite matrix,													90.0	
		51.40	Brecciated zone breccias are composed mainly of limestone, calcite and limonite, with oxidized vein,													70.0	
		55														46.7	
		55.80	Limestone brownish gray~gray, finely calcite matrix, with calcite veinlets~network and pyrite striation,													96.7	
		60															

附図6 ボーリング柱状図 (MJTK-L4 孔)

GEOLOGIC LOG

Hole : MJTK-L4
 Machine Model : RASKA30
 Elevation : 487.53m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2001. 2. 5~2. 27
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)			
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba	
60			Limestone brownish gray~gray, finely calcite matrix, with calcite veinlets~network, limonite is found in the fissures.												100.0	
65			62.20m calcite vein (width 10cm), 67.10m calcite veinlets (width 3cm), 68.00m calcite veinlets (width 2cm).												90.0	
70			71.80~72.00m with calcite-(pyrite) vein.												100.0	
71.80			Limestone light gray~light brownish gray, alternating of limestone and very thin bedded black marl, with calcite veinlets~network and pyrite striation.												100.0	
75			74.30~74.90m calcite network with a trace amount of galena, 77.50~82.70m calcite veinlets~network dominant.												100.0	
80			91.50m calcite vein (width 20cm), 92.90m calcite vein (width 3cm) with a trace amount of sphalerite.												100.0	
85			95.30~95.70m calcite veinlets with a trace amount of galena, 96.70~97.80m calcite veinlets dominant, 98.90~99.30m calcite vein (width 20cm).												93.3	
90															100.0	
95															100.0	
99.30			Limestone brownish gray~gray, alternating of limestone and very thin bedded marl, with calcite veinlets and pyrite striation.												100.0	
100			106.70m calcite vein, 106.90m calcite vein with a trace amount of galena.												100.0	
105			109.20~110.00m calcite-(barite)-(galena) matrix.												100.0	
110			113.00~113.30m brecciated, calcite-(barite) matrix with a small amount of galena, 113.80m calcite-(galena) network, 114.40m calcite-(galena) veinlets (width 1cm), 115.60m calcite-(galena) veinlets (width 1cm), 117.30m calcite veinlets with a trace amount of galena, 119.30m calcite vein, 119.50m calcite vein with a trace amount of galena.	2338.2	371.9	8.63	1.09	1599	2.63	0.30	31.0	1268.8	>20000	109.10	93.3	
				6732.9	553.1	21.9	1.72	1217	<2.0	0.86	22.8	1397.7	>20000	110.10		
				379.27	216.3	22.8	0.72	2222	<2.0	0.20	20.0	2175.7	>20000	111.10		
				704.09	511.7	5.61	0.69	1183	<2.0	0.22	19.2	1797.1	>20000	112.10	100.0	
				1713.5	1657	8.42	0.91	1853	5.14	0.29	27.5	1917.0	>20000	113.10		
115															113.70	
120															100.0	

附図 6 ボーリング柱状図 (MJTK-L4 孔)

GEOLOGIC LOG

Hole : MJTK-L4
 Machine Model : RASKA30
 Elevation : 487.53m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2001. 2. 5~2. 27
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
120	[Lithology Column]	120	Limestone brownish gray~gray, argillaceous, with calcite veinlets and pyrite striation.													100.0	
		121.90m calcite vein with a trace amount of galena and sphalerite.															100.0
125		122.90~124.20m calcite-(pyrite) vein with a trace amount of galena and sphalerite.															100.0
		126.80~127.30m calcite-pyrite veinlets with a small amount of sphalerite and galena.															100.0
130		128.10~128.30m calcite veinlets with a trace amount of sphalerite.															100.0
		132.20	Marl dark gray, calcareous, lime mud matrix, with calcite veinlets~network.														86.7
135		137.70~138.90m calcite vein with a trace amount of sphalerite.															100.0
		138.80	Limestone light brownish gray~brownish gray, finely calcite matrix, with calcite veinlets~network and pyrite striation.														100.0
140		143.30	Marl dark gray, calcareous, lime mud matrix, with calcite veinlets~network.														100.0
145			152.30~152.70m with calcite vein~veinlets.														100.0
		154.50~154.70m calcite vein~veinlets with a trace amount of galena.														100.0	
150		159.20~160.40m brecciated, oxidized, wholly crushed, calcite-pyrite matrix.														73.3	
		160.40~164.90m calcite-(pyrite) vein~network with a trace amount of galena.														86.7	
155		167.60m calcite-(pyrite) vein(width 3cm) with a trace amount of galena.														93.3	
160																100.0	
165																100.0	
170																90.0	
		172.80	Limestone brownish gray, argillaceous, interbedded with black thin bedded mudstone, with barite-calcite-(pyrite)-(galena) veinlets~network.	446.3	2549.5	15.6	1.37	1339	8.40	0.56	30.0	891.6	>20000			173.20	
				1131.1	2776.2	15.0	1.53	907.6	6.50	1.00	29.0	780.8	>20000			174.20	
175				734.9	1059.0	15.0	1.07	1213	2.95	0.81	39.5	1089.8	>20000			175.20	
				1349.4	1285.0	4.94	2.19	2703	3.83	1.28	39.0	785.6	>20000			176.20	
				455.2	1006.2	9.76	0.98	792.1	<2.0	0.69	35.0	718.4	>20000			177.20	
				174.5	1790.5	11.8	0.94	960.8	<2.0	0.67	32.0	1013.7	>20000			178.20	
180			174.00m calcite-pyrite vein with a trace amount of galena.	2105.4	3061.1	10.0	0.27	2378	4.15	2.15	31.0	590.2	>20000			179.20	

附図 6 ボーリング柱状図 (MJTK-L4 孔)

GEOLOGIC LOG

Hole : MJTK-L4
 Machine Model : RASKA30
 Elevation : 487.53m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2001. 2. 5~2. 27
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba		
180			Limestone	662.1	2201.4	12.3	0.12	1246	2.85	0.64	33.0	745.6	>20000	180.20	
		182.20	brownish gray, argillaceous.	1562.5	2501.0	13.6	4.85	3213	<2.0	2.70	28.9	995.3	>20000	181.20	86.7
			Marl	9373.6	1184.0	20.0	3.59	2167	2.76	1.97	9.2	423.7	>20000	182.20	
			dark gray, partially brecciated, barite-calcite-galena-spharelite matrix, mostly crushed.	6838.9	1634.0	11.1	4.64	2698	<2.0	2.05	8.6	590.1	>20000	183.20	
		185		1.40%	1380.9	26.1	3.85	2053	6.72	1.60	8.4	612.4	>20000	184.20	73.3
				1.40%	1381.5	66.8	6.25	3480	2.06	1.65	13.7	806.5	>20000	185.20	
		186.70	Limestone	5807.0	1949.0	19.5	0.39	2966	<2.0	3.50	18.0	1125.0	>20000	186.20	
			brownish gray, argillaceous, altanating of limestone and marl, with calcite veinlets~network and pyrite striation.	736.0	1549.1	22.9	1.34	1182	2.70	1.00	37.0	1182.5	>20000	187.20	100.0
		190												188.20	100.0
		191.90	Marl												100.0
			dark gray, calcareous, lime mud matrix, with calcite veinlets.												100.0
		195													100.0
		195.40	Limestone												100.0
			brownish gray, argillaceous, altanating of limestone and marl, with calcite veinlets~network and pyrite striation.												100.0
		200													100.0
			205.10m calcite vein(width 5cm) with a trace amount of galena.												100.0
		205	Brecciated zone												100.0
			dark gray, calcite-pyrite matrix.												100.0
		207.80	Marl												96.7
			dark gray, lime mud matrix, with calcite veinlets~vein.												96.7
		210													96.7
			214.30~214.40m brecciated, calcite matrix, 219.30~219.00m mostly crushed.												90.0
		215													86.7
		220													96.7
		225													100.0
			227.30m calcite vein (width 10cm).												100.0
		230													100.0
			233.90~234.70m brecciated.												100.0
			234.90~235.40m calcite-pyrite vein with a trace amount of galena.												100.0
		235													100.0
		240													100.0

附図6 ボーリング柱状図 (MJTK-L4 孔)

GEOLOGIC LOG

Hole : MJTK-L4
 Machine Model : RASKA30
 Elevation : 487.53m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2001. 2. 5~2. 27
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)	
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr
240			Marl dark gray, lime mud matrix, with calcite veinlets~vein, pyrite is found in the fissures.											100.0
245														100.0
		246.00	Marl brownish gray~dark gray, homogeneous, calcareous, with calcite-pyrite veinlets~vein.											100.0
250			250.60~251.50m calcite-pyrite vein~veinlets.											93.3
255														100.0
260														100.0
265														100.0
270														100.0
275			275.3m calcite veinlets, 276.5m calcite veinlets,											100.0
280														100.0
285			288.10~288.70m calcite-(pyrite) network~veinlets. 291.30~291.70m calcite-(pyrite)-(chalcopyrite) veinlets.											100.0
290														100.0
		292.30	Marl dark gray, lime mud matrix, calcareous, with calcite veinlets, pyrite is found in the fissures.											76.7
295														83.3
300														96.7

附図 6 ボーリング柱状図 (MJTK - L4 孔)

GEOLOGIC LOG

Hole : MJTK-L4
 Machine Model : RASKA30
 Elevation : 487.53m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2001. 2. 5~2. 27
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)	
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba			
300			Marl dark gray, lime mud matrix, calcareous, with calcite veinlets, pyrite is found in the fissures.													90.0
		305														100.0
																100.0
		310														100.0
																100.0
		315	315.00m calcite vein (width 3cm). 315.30m calcite veinlets. 315.60m calcite veinlets.													100.0
			318.30m calcite vein (width 3cm).													100.0
		320	321.30m calcite vein. 326.20m calcite vein (width 5cm).													100.0
																96.7
		325														100.0
			330.50~331.90m with calcite network~veinlets.													100.0
		330														100.0
		335														100.0
		336.40	Marl dark gray, lime mud matrix, calcareous, with calcite veinlets.													100.0
			336.40~337.40m calcite-(sphalerite) veinlets with a trace amount of galena.													100.0
		340	339.30~340.50m with calcite-(sphalerite) veinlets.													100.0
			341.90~342.00m with calcite network~veinlets.													100.0
		345	344.20~347.10m brecciated, with a trace amount of galena.													100.0
			347.50~348.30m with calcite veinlets.													100.0
		350	352.40m calcite vein (width 2cm).													91.7
			357.00m calcite veinlets.													93.3
		355														100.0
		360														

附図 6 ポーリング柱状図 (MJTK-L4 孔)

GEOLOGIC LOG

Hole : MJTK-L4
 Machine Model : RASKA30
 Elevation : 487.53m
 Drilled Length : 400.00m

Site Name : El Akhouat
 Period : 2001. 2. 5~2. 27
 Inclination : 60°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba
360			Marl dark gray, lime mud matrix, calcareous. 365.60m calcite-pyrite vein (width 10cm).											100.0	
365			369.50m calcite network, 370.10m calcite-(pyrite) veinlets.											100.0	
370		370.40	Marl dark gray, lime mud matrix, with calcite veinlets. 373.80m calcite-(pyrite) veinlets.											90.0	
375			380.50~380.70m with calcite veinlets. 381.30m calcite veinlets (width 1cm).											100.0	
380			384.10~384.30m with calcite veinlets. 386.10~386.40m with calcite veinlets.											86.7	
385			386.70~386.90m with calcite veinlets.											96.7	
390			393.30m calcite veinlets. 393.70~398.50m with calcite veinlets.											84.0	
395			397.90~398.50m mostly crushed. 399.10~400.00m mostly crushed.											76.7	
400		400.00												100.0	
														100.0	

附図 6 ボーリング柱状図 (MJTK-L4 孔)

GEOLOGIC LOG

Hole : MJTK-L5
 Machine Model : RASKA30
 Elevation : 585.38m
 Drilled Length : 245.10m

Site Name : El Akhouat
 Period : 2000. 12. 5~12. 19
 Inclination : 65°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
			Limestone light brownish white, massive, weathered, oxidized, with calcite veinlets. limonite and hematite are found in the fissures.													43.3	
		5														73.3	
		10														100.0	
		15														100.0	
		16.30	16.30~16.50m fault clay.													100.0	
		16.50	Limestone grayish white~light gray, massive, weakly weathered, with calcite network. limonite is found in the fissures.													100.0	
		20														100.0	
		20.40	20.40~21.90m wholly crushed.													100.0	
		25														100.0	
		29.50	29.50~29.70m fault clay.													100.0	
		29.70	Limestone light yellowish white (partially gray), massive, weakly weathered, consists mostly limestone but contains some intercalated marl. limonite is found in the fissures.													100.0	
		35														100.0	
		40														100.0	
		43.10	43.10~44.30m gray marl.													100.0	
		44.30	44.50m calcite veinlets (width 5cm).													100.0	
		45														100.0	
		48.10	48.10~48.70m gray marl.													100.0	
		48.70	49.40m calcite veinlets (width 1cm).													100.0	
		50														100.0	
		53.20	53.20~54.10m gray marl.													100.0	
		54.20	54.40m calcite veinlets (width 1cm).													100.0	
		54.80														100.0	
		55.50	54.90~55.50m gray marl.													100.0	
		60														100.0	

附図7 ボーリング柱状図 (MJTK-L5 孔)

GEOLOGIC LOG

Hole : MJTK-L5
 Machine Model : RASKA30
 Elevation : 585.38m
 Drilled Length : 245.10m

Site Name : El Akhouat
 Period : 2000.12.5~12.19
 Inclination : 65°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba
60			Limestone light grayish white~light yellow, massive, weakly weathered.											100.0	
65		63.20~63.75m	limonite is found in the fissures.											100.0	
		68.90m	calcite veinlets (width 3mm).											100.0	
		69.10m	calcite veinlets (width 5mm).											100.0	
70														100.0	
		73.85	Limestone											100.0	
75			light whitish gray~gray, massive, partially oxidized, has lamina structure, interbedded with thin bedded marl, with calcite veinlets, limonite is found in the fissures.											100.0	
80		78.15~78.50m	oxidized.											86.7	
		81.10m	calcite veinlets (width 3mm).											100.0	
		82.25m	calcite veinlets (width 4mm).											90.0	
		85.00~86.35m	oxidized.											100.0	
		87.35m	calcite-(pyrite) vein (width 3cm).											100.0	
90		88.30~88.75m	calcite-pyrite veinlets (width 1-3mm).											100.0	
		89.00m	calcite veinlets (width 7mm).											100.0	
		90.45m	calcite veinlets (width 1mm).											100.0	
		96.10m	calcite veinlets (width 2-5mm).											100.0	
		98.70~99.10m	oxidized.											100.0	
		99.40~99.90m	oxidized.											100.0	
		102.20~102.70m	has lamina structure.											100.0	
100		102.70	Limestone											100.0	
			light whitish gray~gray, massive, partially oxidized, interbedded with thin bedded marl, limonite is found in the fissures.											100.0	
105		103.50~103.80m	oxidized.											100.0	
		104.90~105.30m	oxidized.											100.0	
110		112.00~113.25m	has lamina structure.											100.0	
		116.00	Limestone											100.0	
			dark gray, has lamina structure, contain pyrite nodules.											100.0	
120															

附図7 ボーリング柱状図 (MJTK-L5 孔)

GEOLOGIC LOG

Hole : MJTK-L5
 Machine Model : RASKA30
 Elevation : 585.38m
 Drilled Length : 245.10m

Site Name : El Akhouat
 Period : 2000.12.5~12.19
 Inclination : 65°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba
		120	Limestone dark gray, has lamina structure.											120	100.0
		123.65	Limestone light brownish white, weakly weathered, limonite is found in the fissures.											123.65	100.0
		125	Limestone light gray~light yellowish gray, mussy, limonite is found in the fissures.											125	100.0
		124.60m	calcite veinlets (width 3-10mm).											124.60	100.0
		130.65m	calcite-pyrite-(sphalerite) network.											130.65	100.0
		131.00~131.60m	calcite-(sphalerite)-limonite matrix.											131.00	100.0
		131.70m	calcite-pyrite veinlets (width 2mm).											131.70	100.0
		132.70	Limestone light gray, mussy, interbedded with very thin bedded marl, a minor amount of pyrite is almost invariably present, limonite is found in the fissures.											132.70	100.0
		133.00~133.50m	calcite-(sphalerite)-(pyrite) network.	96.3	280.6	10.1	0.82	352	9.23	0.22	53.2	1112	128	133.00	100.0
		134.70m	calcite-sphalerite-pyrite veinlets (width 5mm).	121	2700	10.0	0.82	352	21.5	0.31	48.7	1356	106	134.70	100.0
		134.90~135.10m	calcite-(pyrite)-hematite veinlets (width 1cm).	1226	1.2%	9.8	1.14	415	24.8	0.48	46.2	1349	209	135.10	90.0
		135.90~136.30m	calcite network.	154	<5.0	10.2	7.40	2679	5.42	0.64	1.04	204	425	136.30	100.0
		136.45~136.90m	calcite-pyrite-(sphalerite) network.											136.45	100.0
		137.25~137.45m	calcite-sphalerite network with a trace amount of galena.											137.25	100.0
		137.60~137.80m	calcite-(pyrite) network.											137.60	100.0
		137.80~138.00m	calcite-sphalerite network.											137.80	100.0
		138.10~138.70m	calcite-(sphalerite)-(pyrite) network.											138.10	100.0
		140.65~140.75m	calcite-(sphalerite) veinlets (width 2-3mm).											140.65	100.0
		142.10m, 142.60m, 143.25m, 143.40m	calcite-(pyrite) veinlets (width 3mm).											142.10	100.0
		144.90~145.40m	oxidized.											144.90	96.7
		147.20~147.35m	calcite-(sphalerite) network.											147.20	86.7
		148.45~148.55m	calcite veinlets with trace amounts of sphalerite.											148.45	100.0
		149.90m, 152.00m	calcite veinlets (width 2-3mm).											149.90	100.0
		156.15~156.50m	drusy calcite veinlets with trace amounts of sphalerite (width 1-3mm).											156.15	100.0
		158.25~158.70m	calcite-(pyrite) network.											158.25	100.0
		159.10m	calcite vein (width 1.5cm).											159.10	100.0
		159.30~159.50m	calcite network.											159.30	100.0
		163.00m	calcite veinlets with trace amounts of galena (width 3mm).											163.00	100.0
		165.35m	calcite veinlets (width 5mm).											165.35	100.0
		168.10~170.25m	calcite veinlets~network.											168.10	100.0
		172.70~173.35m	drusy calcite-(pyrite) network.											172.70	100.0
		173.35	Limestone light gray (partially gray), mussy, has lamina structure, with pyrite striations.											173.35	100.0
		175												175	100.0
		180												180	100.0

附図7 ボーリング柱状図 (MJTK-L5 孔)

GEOLOGIC LOG

Hole : MJTK-L5
 Machine Model : RASKA30
 Elevation : 585.38m
 Drilled Length : 245.10m

Site Name : El Akhouat
 Period : 2000.12.5~12.19
 Inclination : 65°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
180			Limestone light gray (partially gray). massive. finely crystalline. has lamina structure.													100.0	
		183.05m	calcite-sphalerite veinlets (width 1-3mm).													100.0	
185		183.90m	calcite-(sphalerite) veinlets (width 1-3mm).													100.0	
		184.70~184.80m	calcite-(pyrite) veinlets (width 1mm).													100.0	
190		185.10m	calcite-(sphalerite) veinlets (width 1-3mm).													100.0	
		188.10~188.15m	calcite-pyrite veinlets.													100.0	
		188.55m, 189.00m, 190.55~191.00m	calcite veinlets (width 1-3mm).													100.0	
195		191.30m	calcite-pyrite veinlets (width 1mm).													100.0	
		191.80m	calcite veinlets (width 2mm).													100.0	
		192.90m	calcite-pyrite veinlets (width 1mm).													100.0	
		193.90m	calcite veinlets (width 1mm).													100.0	
200		194.85m	calcite veinlets (width 7mm).													100.0	
		195.15m, 195.40m, 196.05m	calcite veinlets (width 2-5mm).													100.0	
205		200.85~201.40m	oxidized vein.													100.0	
		203.70~204.10m	calcite veinlets with trace amounts of sphalerite.													100.0	
210		206.55~206.80m	calcite veinlets (width 2mm).													100.0	
		207.90m	oxidized vein.													100.0	
		208.45m, 209.20m, 210.20m	calcite veinlets (width 1-2mm).													100.0	
215																100.0	
		217.10	Limestone light gray (partially gray). massive. has lamina structure. with calcite veinlets.													100.0	
220		217.15m	calcite-(sphalerite) veinlets (width 1mm).													100.0	
		223.60m	calcite-(sphalerite) veinlets (width 1mm).													100.0	
225		226.00m	calcite-pyrite-(sphalerite) veinlets (width 1cm).													100.0	
		231.70m	calcite veinlets (width 5mm).													100.0	
230		232.60m	drusy calcite veinlets (width 1mm).													100.0	
		233.25	Limestone light gray. massive. has lamina structure. with calcite veinlets.													95.2	
235		233.25~233.40m	calcite-(sphalerite) veinlets.													30.0	
		234.75~235.00m	calcite-pyrite veinlets.													30.0	
		235.00~235.50m	calcite veinlets.													30.0	
		234.40~234.80m, 236.35~236.45m	calcite veinlets (width 2mm).													3.3	
240																	

附図7 ボーリング柱状図 (MJTK-L5 孔)

GEOLOGIC LOG

Hole : MJTK-L5
 Machine Model : RASKA30
 Elevation : 585.38m
 Drilled Length : 245.10m

Site Name : El Akhouat
 Period : 2000.12.5~12.19
 Inclination : 65°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba		
240			Limestone												
		242.10	light gray (partially gray), massive,												3.3
			Non core (cavity)												0.0
245		245.10													
250															
255															
260															
265															
270															
275															
280															
285															
290															
295															
300															

附図7 ボーリング柱状図 (MJTK-L5 孔)

GEOLOGIC LOG

Hole : MJTK-C1
 Machine Model : RASKA30
 Elevation : 486.99m
 Drilled Length : 311.20m

Site Name : Bazina Kebira
 Period : 2000. 10. 11~10. 31
 Inclination : 75°
 Direction : 130°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)	
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba			
	^ o		Colluvial deposits yellowish brown, weathered, consists of Trias gravel, sand and clay, calcite cement.													50.0
	^ o			83.3												
5	o ^			66.7												
	o ^			83.3												
	o ^			83.3												
10	o ^			40.0												
	o ^			33.3												
	o ^			43.3												
15	o ^			63.3												
	o ^			63.3												
20	o ^		93.3													
	o ^		100.0													
	o ^		93.3													
24.00	o ^		Alternating beds of limestone and mudstone limestone : yellowish brown~light gray, argillaceous, oxidized, with calcite veinlets, a small amount of pyrite is almost invariably present. limonite is found in the fissures. mudstone : brown, oxidized, wholly crushed.												90.0	
25	o ^			100.0												
	o ^			93.3												
30	o ^			90.0												
	o ^			100.0												
35	o ^			100.0												
	o ^			100.0												
40	o ^			90.0												
40.50	o ^			Sandstone light gray~yellowish brown, fine-grained, calcareous, partially oxidized, with calcite veinlets (width 1-2mm), contains organic materials, limonite is found in the fissures.												100.0
	o ^				100.0											
45	o ^		100.0													
	o ^		100.0													
50	o ^		90.0													
	o ^		96.7													
55	o ^															
60	o ^															

附図 8 ボーリング柱状図 (MJTK - C1 孔)

GEOLOGIC LOG

Hole : MJTK-C1
 Machine Model : RASKA30
 Elevation : 486.99m
 Drilled Length : 311.20m

Site Name : Bazina Kebira
 Period : 2000. 10. 11 ~ 10. 31
 Inclination : 75°
 Direction : 130°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)			
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba					
80			Sandstone light gray~yellowish brown, fine-grained, calcareous, partially oxidized. contains pyrite nodules and micas, with calcite veinlets (width 1-2mm). limonite is found in the fissures.														100.0	
65																	100.0	
		66.50	Limestone gray~reddish brown, argillaceous, has lamina structure, partially oxidized (hematitized and limonitized).														90.0	
70																	83.3	
		72.00	Non core														0.0	
		73.00	Sandstone yellowish brown, fine-grained, angular~subangular calcite granulars, has lamina structure, interbedded with thin bedded argillaceous limestone.														100.0	
75																	93.3	
			75.00~75.50m argillaceous limestone, partially oxidized.														33.3	
80			Limestone brownish yellow~gray, massive, finely crystalline, arenaceous, calcite cement.														45.0	
		83.10															100.0	
		84.50	Limestone light grayish white, massive, fossiliferous, partially brecciated.														100.0	
85																		
		87.00	Limestone light brownish yellow, massive, fossiliferous, brecciated, oxidized lime mud matrix.	589	320	<0.5	0.78	1706	<1.0	0.20	46.5	821.1	352	87.00				
				488	280	<0.5	0.69	1632	<1.0	0.20	50.1	860.2	70.5	88.00			90.0	
				507	920	<0.5	2.54	1641	<1.0	0.17	46.8	582.9	95.9	89.00				
90																	90.00	
		90.90	Limestone gray, massive, interbedded with thin bedded mudstone, with pyrite nodules, striations and calcite veinlets (width 2-10mm). limonite is found in the fissures.														96.7	
95																	83.3	
			94.00~94.70m brownish yellow mudstone, 95.90~96.80m brownish yellow mudstone, 100.40~101.30m sheared zone.														80.0	
100																	93.3	
		101.30	Limestone gray, massive, contains arenaceous limestone part, with calcite veinlets (width 2-5mm). limonite is found in the fissures.														96.7	
105																	96.7	
			110.40~112.30m crack dominant.														100.0	
110																	100.0	
			116.50~119.40m crack dominant.														90.0	
115																	63.3	
120																		

附図 8 ボーリング柱状図 (MJTK - C1 孔)

GEOLOGIC LOG

Hole : MJTK-C1
 Machine Model : RASKA30
 Elevation : 486.99m
 Drilled Length : 311.20m

Site Name : Bazina Kabira
 Period : 2000. 10. 11~10. 31
 Inclination : 75°
 Direction : 130°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)			
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba	
120	[Limestone pattern]		Limestone gray, massive, contains arenaceous limestone part. with drusy calcite veinlets~network (width 2-5mm). limonite is found in the fissures.												76.7	
125			123.20m calcite veinlets (width 1.5cm), 125.90~126.70m arenaceous part, 128.10~128.50m arenaceous part.													100.0
130			Non core (cavity)													0.0
130.70			Sandstone light yellowish brown, fine-grained, oxidized.													100.0
132.00																
133.50																
135	[Limestone pattern]		Limestone grayish white, fossiliferous, brecciated, partilly oxidized, lime mud and limonit-hematite matrix, pyrite disseminated.	319	40.4	<0.5	0.71	2103	<1.0	0.23	50.4	690.6	67.8		134.50	
				217	140.9	<0.5	0.82	1073	13.9	0.26	43.7	915.0	93.2		135.50	
				195	160.7	<0.5	0.75	847	8.43	0.28	47.3	1029	37.5		136.50	
				280	420.6	<0.5	1.28	1318	<1.0	0.21	50.1	817.0	56.4		137.50	
															138.50	
140	[Alternating beds pattern]	140.40	Altanating beds of marl and limestone marl : dark gray, mussive, calcareous, partially crushed. limestone : light grayish white, mussive, arenaceous, thin bedded. 140.40~150.30m a minor amount of pyrite is almost invariably present.													100.0
145			156.00~156.30m wholly crushed. 156.50~159.00m cruck dominant.													100.0
150			162.80~164.20m sheared. 164.80~165.00m fault clay.													100.0
155			179.50~180.90m sheared.													100.0
160																100.0
165																100.0
170																100.0
175																100.0
180																100.0

附図 8 ボーリング柱状図 (MJTK-C1 孔)

GEOLOGIC LOG

Hole : MJTK-C1
 Machine Model : RASKA30
 Elevation : 486.99m
 Drilled Length : 311.20m

Site Name : Bazina Kebira
 Period : 2000. 10. 11~10. 31
 Inclination : 75°
 Direction : 130°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
180			Alternating beds of marl and limestone marl : dark gray, massive, calcareous, limestone : light grayish white, massive, arenaceous, thin bedded. 179.50~180.90m sheared. 182.70~183.30m fault clay.													100.0	100.0
185				100.0	100.0												
190		189.70		100.0	100.0												
195				100.0	100.0												
200			Alternating beds of marl and limestone has lamina structure, marl : dark gray, argillaceous, hematite is found in the fissures, limestone : light grayish white, massive, finely crystalline, arenaceous, with druzi calcite vein~veinlets (width 2-15mm). 212.30~213.30m sheared. 220.00~220.10m sheared. 223.70~224.00m wholly crushed, 224.60~225.10m crack dominant.													100.0	100.0
205				100.0	100.0												
210				100.0	100.0												
215				100.0	100.0												
220				100.0	100.0												
225		225.40		100.0	100.0												
230				83.3	100.0												
235		236.30		90.0	100.0												
240			100.0														

附図 8 ボーリング柱状図 (MJTK - C1 孔)

GEOLOGIC LOG

Hole : MJTK-C1
 Machine Model : RASKA30
 Elevation : 486.99m
 Drilled Length : 311.20m

Site Name : Bazina Kebira
 Period : 2000. 10. 11~10. 31
 Inclination : 75°
 Direction : 130°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)	
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba			
240			Alternating of limestone and sandstone limestone : dark gray. massive. sandstone : light grayish white. calcareous fine-grained. angular calcite granulars. galena and pyrite disseminated.													
245																
246.40			Sandstone light gray. fine-grained. subangular calcite granulars.	154	200	24.1	1.18	249	<1.0	0.11	0.33	52.7	182	245.90		
				287	120	<0.5	1.91	697	<1.0	0.11	0.47	50.5	77.6	246.90	100.0	
				196	121	<0.5	2.40	1099	<1.0	0.12	0.72	40.7	42.3	247.90		
				307	40	<0.5	1.41	797	<1.0	0.07	4.48	69.5	44.7	248.90		
250			Conglomerate light brownish white. breccia are com- posed of limestone and marl.	401	121	<0.5	1.11	824	<1.0	0.06	16.2	217.9	<1.0	249.90	100.0	
251.00			Marl dark gray. with pyrite nodules. 254.60~255.80m sheared. 258.40~259.40m sheared. 259.60~260.00m sheared.													
255																
260																
263.50			Alternating of marl and limestone marl : dark gray. friable and crumbly. limestone : light grayish white. massive. finely crystalline. arenaceous. with drusy calcite veinlets. 269.20m drusy calcite-(sphalerite) vein (width 1cm). 270.50m drusy calcite-(sphalerite) vein (width 2cm). 274.70m drusy calcite-(sphalerite) vein (width 5cm).													
265																
270																
275			Marl dark gray. with limestone block. 280.00m calcite-sphalerite network.													
275.30																
280			Limestone light grayish white. massive. brecciated. lime mud matrix. 281.50m calcite-sphalerite-pyrite matrix. 281.90m calcite-sphalerite-pyrite matrix.	379	1201	<0.5	1.39	1106	<1.0	0.30	51.8	411.5	153	280.70		
				657	1901	<0.5	1.73	1131	<1.0	0.28	50.4	430.9	<1.0	281.70		
				253	2500	<0.5	1.28	795	<1.0	0.26	51.8	497.8	<1.0	282.70	90.0	
				389	6000	7.80	1.40	612	13.5	0.27	47.9	545.3	38.0	283.70		
285			Limestone grayish white. brecciated. 286.20~286.50m with calcite-sphalerite-pyrite breccia.													
285.70																
287.30			Alternating of marl and limestone (Mal>>Ls) marl : dark gray. with calcite veinlets. limestone : light grayish white. massive. partially brecciated. with drusy calcite veinlets.													
290																
295																
299.00			Limestone light grayish white. massive. brecciated.													
300																

附図 8 ボーリング柱状図 (MJTK - C1 孔)

GEOLOGIC LOG

Hole : MJTK-C1
 Machine Model : RASKA30
 Elevation : 486.99m
 Drilled Length : 311.20m

Site Name : Bazina Kebira
 Period : 2000. 10. 11~10. 31
 Inclination : 75°
 Direction : 130°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
300			Limestone light grayish white, massive, partially brecciated. 301.70m with calcite-sphalerite-pyrite breccia.													100.0	
305		304.70m calcite veinlets with trace amounts of sphalerite.														100.0	
		307.20	Limestone light grayish white, brecciated, pyrite rich lime mud matrix, wholly crushed.														50.0
310		311.20															13.3
																	0.0
315																	
320																	
325																	
330																	
335																	
340																	
345																	
350																	
355																	
360																	

附図8 ボーリング柱状図 (MJTK-C1 孔)

GEOLOGIC LOG

Hole : MJTK-C2
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 386.10m

Site Name : Bazina Kebira
 Period : 2000.11.5~11.28
 Inclination : 65°
 Direction : 122°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)	
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba			
			Overburden													36.7
		4.70	Mudstone-Gypsum-Carbonate Rocks Complex light gray~gray, composed mainly of of calcareous mudstone, gypsum and brecciated limestone.													70.0
		6.50														86.7
			Mudstone-Gypsum Complex light gray~pale greenish gray, with calcite network.													93.3
			8.60m gypsum vein (width 3cm).													86.7
			9.00~9.20m massive gypsum.													
			11.10~11.30m massive gypsum.													
		15.80	Mudstone-Gypsum-Carbonate Rocks Complex pale greenish white~reddish brown, composed mainly of brecciated mudstone gypsum, limestone and dolomite.													100.0
																100.0
																100.0
		23.50	Gypsum white, massive. partially brecciated (especially upper part).													86.7
																100.0
																93.3
																100.0
																100.0
																100.0
																100.0
																100.0
																100.0
																100.0
		42.30	Mudstone-Gypsum-Carbonate Rocks Complex light grayish white~reddish brown, composed mainly of calcareous mudstone gypsum, dolomite and limestone.													100.0
		46.60														86.7
		47.70	Marl black, loosely consolidated, very pasty.													93.3
		50														90.0
		53.10	Sandstone yellowish brown, weathered, fine-grained angular~subangular calcite granular, oxidized.													86.7
		58.50														100.0
		59.80	Marl black, loosely consolidated, very pasty.													100.0

附図9 ボーリング柱状図 (MJTK-C2 孔)

GEOLOGIC LOG

Hole : MJTK-C2
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 386.10m

Site Name : Bazina Kebira
 Period : 2000. 11. 5~11. 28
 Inclination : 65°
 Direction : 122°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
60			Sandstone yellowish brown, weathered, fine-grained subangular calcite granular, calcareous, limonite is found in the fissures.														100.0
		64.00	Marl dark gray, friable and crumbly, with calcite veinlets.														100.0
		66.00	Sandstone yellowish brown, weathered, fine-grained subangular calcite granular, oxidized, with calcite veinlets (width 1-2mm). limonite is found in the fissures.														83.3
		68.20		121	60.8	7.09	1.35	457	6.8	0.48	1.68	5708	687	68.20			
		69.20		75.2	200	6.51	1.32	877	26.4	0.10	0.82	5446	587	69.20			
		70.20		54.4	140	5.63	1.16	659	16.4	0.09	0.72	2095	449	70.20	93.3		
		71.20		45.3	160	4.95	1.30	963	2.3	0.08	0.53	5693	620	71.20			
		72.20		232	200	7.08	1.13	459	27.7	0.22	0.95	7737	645	72.20			
		73.00	73.00~74.00m interbedded with marl.	106	152	6.25	1.25	683	15.9	0.20	0.94	5336	597	73.00	93.3		
		74.00												74.00			
		74.50												74.50			
		75	Sandstone light grayish white, fine-grained, calcareous, partially brecciated, contains organic materials, cruck dominant.														93.3
		78.70	78.70~79.00m fault clay.														100.0
		79.40	79.40~79.50m fault clay.														90.0
		80.50	80.50~80.60m fault clay.														100.0
		87.60	87.60~87.70m fault clay.														100.0
		88.00	88.00~88.20m fault clay.														100.0
		88.20	88.20~88.50m strongly oxidized.														100.0
		88.80	88.80~89.40m limonite is found in the fissures.														100.0
		90.30	Sandstone light grayish white, fine-grained, calcareous, angular~subangular calcite granular, calcite cement, has lamina structure.														100.0
		95.20	Marl black, loosely consolidated, very pasty, interbedded with calcareous sandstone, contain brecciaes of mulsive limestone.														90.0
		101.80	101.80~102.60m fine-grained sandstone.														96.7
		104.40	104.40~104.60m mulsive limestone breccia.														90.0
		107.50	Fault Clay														86.7
		109.20	Sandstone light gray~grayish white, fine-grained, subangular calcite granular, contains glauconite, pyrite disseminated, interbedded with thin beded marl.														86.7
		115.80	Marl dark gray~black, friable and crumbly, sheared, contain brecciaes of limestone.														96.7
		120															100.0

附図 9 ボーリング柱状図 (MJTK - C2 孔)

GEOLOGIC LOG

Hole : MJTK-C2
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 386.10m

Site Name : Bazina Kebira
 Period : 2000. 11. 5~11. 28
 Inclination : 65°
 Direction : 122°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
120			Marl dark gray~black, friable and crumbly, sheared, contain brecciaes of limestone.														100.0
			120.20m barite vein (width 3cm).														100.0
			121.80m calcite vein (width 2cm).														100.0
		126.10	Gypsum-Carbonate Rocks Complex light grayish white. composed mainly of gypsum, dolomite and lime mud.														100.0
130																	100.0
																	100.0
																	100.0
135																	100.0
																	100.0
			140.70~151.00m fault breccia.														76.7
			159.20~159.60m cotains hydrozincite.														100.0
																	100.0
145																	100.0
																	100.0
																	100.0
150																	100.0
																	100.0
																	100.0
155																	100.0
																	100.0
																	100.0
160																	100.0
																	100.0
		162.00	Gypsum-Carbonate Rocks Complex light grayish white. composed mainly of gypsum, dolomite and lime mud. contain brecciaes of calcareous mudstone														83.3
																	100.0
165																	100.0
																	100.0
																	100.0
170																	100.0
																	100.0
																	100.0
175																	100.0
																	100.0
																	100.0
180																	100.0

附図9 ボーリング柱状図 (MJTK-C2 孔)

GEOLOGIC LOG

Hole : MJTK-C2
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 386.10m

Site Name : Bazina Kebira
 Period : 2000. 11. 5~11. 28
 Inclination : 65°
 Direction : 122°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)			
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba					
180	^		Gypsum-Carbonate Rocks Complex light grayish white, composed mainly of gypsum, dolomite and lime mud, contain brecciaes of calcareous mud- stone, with gypsum vein.														100.0	
	^																	100.0
	^																	100.0
	^																	100.0
185	^																	100.0
	^																	100.0
	^																	100.0
	^																	100.0
190	^																	66.7
	^																	100.0
	^	192.00	Fault clay															
	^	192.60	Gypsum-Carbonate Rocks Complex light grayish white, composed mainly of gypsum, dolomite and lime mud, contain brecciaes of calcareous mud- stone.														100.0	
	^																	100.0
195	^																	100.0
	^																	100.0
	^																	100.0
	^																	100.0
200	^																	100.0
	^																	100.0
	^																	100.0
205	^																	100.0
	^																100.0	
	^																100.0	
210	^																100.0	
	^																100.0	
	^	211.50	Mudstone reddish brown, calcareous.														100.0	
	^	213.80	Mudstone-Gypsum-Dolomite Complex dark greenish white~light greenish gray, composed mainly of mudstone, gypsum, dolomite and lime mud.														100.0	
215	^																	100.0
	^																	100.0
	^																	100.0
	^																	100.0
220	^																	100.0
	^																	100.0
	^																	100.0
225	^																	100.0
	^																	100.0
	^																100.0	
230	^																100.0	
	^	230.80	Mudstone-Carbonate Rocks Complex pale green, composed mainly of mudstone, dolomite and gypsum vein.														100.0	
	^																	100.0
	^																	100.0
235	^																	100.0
	^																	100.0
	^																	100.0
240	^																100.0	

附図9 ボーリング柱状図 (MJTK-C2 孔)

GEOLOGIC LOG

Hole : MJTK-C2
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 386.10m

Site Name : Bazina Këbira
 Period : 2000.11.5~11.28
 Inclination : 65°
 Direction : 122°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
240	△ △		Mudstone-Carbonate Rocks Complex														100.0
	△	241.50	Mudstone														100.0
	△ △	242.50	reddish brown, calcareous.														100.0
245	△ △		Mudstone-Carbonate Rocks Complex														100.0
	△ △		pale green (partially reddish brown),														100.0
	△ △		composed mainly of mudstone and														100.0
	△ △		dolomite,														100.0
	△ △		with gypsum and calcite veinlets.														100.0
250	△ △																100.0
	△ △																100.0
	△ △																100.0
255	△ △																100.0
	△ △																100.0
	△ △																100.0
260	△ △																100.0
	△ △																100.0
	△ △	261.70	Mudstone-Carbonate Rocks-Gypsum Complex														100.0
	△ △		pale green,														100.0
265	△ △		composed mainly of mudstone, dolomite														100.0
	△ △		and gypsum vein,														100.0
	△ △		with calcite network,														100.0
	△ △	268.40	Mudstone-Carbonate Rocks Complex														100.0
270	△ △		pale green,														100.0
	△ △		composed mainly of mudstone, dolomite														100.0
	△ △		and gypsum vein~veinlets,														100.0
	△ △		with calcite network,														100.0
	△ △		dolomite contain crystals of anhedral														100.0
275	△ △		pyrite.														100.0
	△ △																100.0
	△ △																100.0
280	△ △																100.0
	△ △																100.0
	△ △	284.20	Mudstone-Gypsum-Carbonate Rocks Complex														100.0
285	△ △		light greenish gray,														100.0
	△ △		composed mainly of mudstone, gypsum														100.0
	△ △		and dolomite,														100.0
	△ △		dolomite contains pyrite and with calcite														100.0
290	△ △		veinlets.														100.0
	△ △		284.20~285.30m massive gypsum.														100.0
	△ △		289.00~290.10m massive gypsum.														100.0
	△ △		292.20~293.00m massive gypsum.														100.0
295	△ △																100.0
	△ △	296.70	Mudstone-Carbonate Rocks Complex														100.0
300	△ △		pale green.														100.0

附図9 ボーリング柱状図 (MJTK-C2 孔)

GEOLOGIC LOG

Hole : MJTK-C2
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 386.10m

Site Name : Bazina Kebira
 Period : 2000. 11. 5~11. 28
 Inclination : 65°
 Direction : 122°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
300	^	310.30	Mudstone-Carbonate Rocks Complex pale green, composed mainly of mudstone and dolomite, with Fe-rich calcite veinlets~network.														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
310	^	316.60	Gypsum-Dolomite-Mudstone Complex grayish white~pale green. composed mainly of gypsum, dolomite and calcareous mudstone, contain brecciaes of fine calcareous sandstone.														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
315	^	321.70	Mudstone-Carbonate Rocks Complex grayish white (partially reddish brown), composed mainly of mudstone and dolomite.														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
320	^	341.50	Gypsum-Dolomite Complex grayish white, composed mainly of gypsum and dolomite, contain brecciaes of calcareous mudstone.														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
325	^	348.20	Mudstone-Carbonate Rocks Complex grayish white (partially reddish brown), composed mainly of mudstone, dolomite, and Cretaceous marl and limestone.														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
330	^	359.30	Gypsum-Mudstone-Carbonate Rocks Complex grayish white, composed mainly of gypsum, mudstone and dolomite, contain brecciaes of Cretaceous marl and limestone.														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
335	^	359.30	Mudstone-Carbonate Rocks-Gypsum Complex grayish white (partially reddish brown), composed mainly of mudstone, dolomite, and Cretaceous marl and limestone.														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
340	^	359.30	Fault clay														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
345	^	359.30	Fault clay														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
350	^	359.30	Fault clay														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
355	^	359.30	Fault clay														
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
^																	
360	^	359.30	Fault clay														
^																	
^																	
^																	
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附図9 ボーリング柱状図 (MJTK-C2 孔)

GEOLOGIC LOG

Hole : MJTK-C2
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 386.10m

Site Name : Bazina Kebira
 Period : 2000. 11. 5~11. 28
 Inclination : 65°
 Direction : 122°

Scale	Column	Depth (m)	Description	Grade(ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn(%)	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
360		360.40	Fault clay														100.0
			Marl dark gray~black, loosely consolidated, pasty, contain brecciaes of limestone, with calcite veinlets.														83.3
365		365.80	Fault clay														73.3
			Marl dark gray, friable and crumbly.														53.3
370																	66.7
375																	53.3
380																	66.7
385																	63.3
		386.10															100.0
390																	

附図9 ボーリング柱状図 (MJTK-C2 孔)

GEOLOGIC LOG

Hole : MJTK-A1
 Machine Model : RASKA30
 Elevation : 181.09m
 Drilled Length : 198.80m

Site Name : Siliana
 Period : 2001. 9. 6~10. 10
 Inclination : 70°
 Direction : 35. 5°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)	
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba			
			Marl light brownish gray, weakly weathered, limonite and hematite are found in the fissures.													96.7
		5														90.0
		7.10	Marl dark gray, calcareous, contain pyrite nodules. 16.10m calcite veinlets (width 5mm).													100.0
		10														100.0
		15														100.0
		20														90.0
		21.80	Marl gray, argillaceous, has lamina structures, contains calcareous part, with pyrite nodules and calcite veinlets~network.													80.0
		25														100.0
		25.40														100.0
		27.00														100.0
		27.80														100.0
		29.70														100.0
		30.40														93.3
		31.00														93.3
		31.80														93.3
		32.80														93.3
		33.70														86.7
		34.80														86.7
		35.60														86.7
		36.20	Marl gray, argillaceous, has lamina structure, contains pyrite nodules, with small amounts of calcite veinlets~network (width 1mm±),													70.0
		40														70.0
		40.80														87.0
		41.30														85.7
		45														86.7
		47.20														63.3
		47.50	Marl gray, friable and crumbly, fossiliferous, contains pyrite nodules.													75.0
		50														61.1
		50.80														61.1
		51.00														83.3
		55														83.3
		55														100.0
		60														100.0

附図10 ボーリング柱状図 (MJTK - A1 孔)

GEOLOGIC LOG

Hole : MJTK-A1
 Machine Model : RASKA30
 Elevation : 181.09m
 Drilled Length : 198.80m

Site Name : Siliana
 Period : 2001. 9. 6~10. 10
 Inclination : 70°
 Direction : 35. 5°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
60			Marl gray, calcareous, extremely friable and crumbly, with pyrite nodules.													100.0	
65																100.0	
70																70.0	
75			75.80m calcite-sphalerite veinlets~network.													93.3	
80			80.60~80.80m calcite-sphalerite veinlets~network.													100.0	
85			84.00~86.00m calcite-(sphalerite) veinlets~network. 87.40~88.40m calcite-(sphalerite) veinlets (width 1-5mm). 89.10m calcite-(sphalerite) veinlets (width 7mm).													100.0	
90			91.40~91.60m calcite-sphalerite veinlets (width 2mm).													100.0	
95		93.20	Alternating of limestone and marl (Ls=Mal) limestone : grayish white, finely crystalline, has lamina structure, with pyrite striation and calcite veinlets, marl : gray, argillaceous, pyrite rich, 93.50~93.90m calcite-sphalerite network, 95.10m calcite-(sphalerite) veinlets (width 2mm±), 99.30~100.00m fault clay.													100.0	
100		99.30 100.00	Limestone grayish white, finely crystalline, contains minor amounts of pyrite striation and nodule, with calcite veinlets. 104.20m calcite-sphalerite veinlets.													76.5	
105		105.00	Alternating of limestone and marl (Ls>>Mal) limestone : grayish white, finely crystalline, with calcite veinlets~network, marl : gray, argillaceous, very thin beded, 112.90m sphalerite veinlets with pyrite and galena. 114.50m barite-galena-sphalerite vein (width 3cm), 114.60m sphalerite-calcite veinlets (width 1mm).													76.9	
110																90.0	
115		115.70	Alternating of marl and limestone (Mal>>Ls) 113.00~114.10m barite-galena vein with a small amount of sphalerite, 116.10~116.50m calcite-(sphalerite)-(galena) network, 119.00~119.30m calcite-pyrite-(sphalerite)- (galena) network.													75.0	
120																100.0	
				253	<5.0	6.47	1.92	901	8.12	0.32	8.26	203.9	154		100.0		
				1839	60.6	<0.5	4.24	1154	<1.0	0.47	2.04	130.0	301		100.0		
				2855	60.0	<0.5	3.70	1608	<1.0	0.35	6.33	1111	445		100.0		
				94.3	80.6	<0.5	4.25	1675	<1.0	0.46	4.36	225.6	582		100.0		
				604	<5.0	<0.5	5.30	2844	<1.0	0.77	2.04	168.9	824		100.0		
				<10	<5.0	<0.5	9.40	3739	2.15	0.77	0.90	1337	84.1		100.0		
				1116	40.0	34	4.16	1130	4.10	0.48	0.81	212.3	268		100.0		
				57.8	40.2	1.5	4.37	1513	<1.0	0.52	2.04	179.2	270		100.0		

附図10 ボーリング柱状図 (MJTK-A1 孔)

GEOLOGIC LOG

Hole : MJTK-A1
 Machine Model : RASKA30
 Elevation : 181.09m
 Drilled Length : 198.80m

Site Name : Siliana
 Period : 2001. 9. 6~10. 10
 Inclination : 70°
 Direction : 35. 5°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)			
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba					
		120	Alternating of marl and limestone (Mal>>Ls) with calcite-(sphalerite) veinlets~network.															100.0
		121.40	121.40~121.60m fault breccia.															73.3
		123.80	Limestone															73.3
		125.80	light grayish white, mussive, finely crystalline, with drusy calcite veinlets.															100.0
			Marl															100.0
			dark gray, with calcite network.															100.0
		130	Limestone															90.0
		131.60	light grayish white, mussive, finely crystalline, with calcite veinlets~network.															100.0
		133.00m	sphalerite-(calcite) veinlets~network.															100.0
		134.00	Marl															135.00
		135	dark gray, calcareous, with calcite-(sphalerite) veinlets~network.	96.5	<5.0	45.8	6.30	2070	<1.0	0.84	1.65	649.0	657					136.00
				<10.0	<5.0	53.4	8.30	3534	<1.0	0.97	1.93	195.7	313					137.00
				10.7	40.0	28.3	4.25	1048	<1.0	0.76	1.74	359.1	1088					138.00
		138.30	Limestone	<10.0	40.0	11.6	3.72	771	3.59	0.94	2.99	314.1	1806					139.00
			light grayish white, mussive, has pyrite striation and nodules, with calcite veinlets (width 2-5mm).	12.0	40.0	23.0	3.16	474	1.96	0.58	1.26	254.2	1140					140.00
		140	Marl															96.7
		140.40	dark gray, friable and crumbly, with calcite veinlets~network.															100.0
			142.60~142.90m calcite-sphalerite veinlets (width 2-10mm).															100.0
		145	145.10m sphalerite-calcite veinlets (width 2-5mm).															100.0
			145.60m fault clay.															100.0
			146.20m fault clay.															100.0
			146.60~147.00m sphalerite-calcite veinlets~network.															100.0
		150	148.70~149.00m sphalerite-calcite network.															100.0
			Altanating of marl and limestone (Mal>>Ls)															93.3
		155	marl : gray, argillaceous, limestone : light grayish white, mussive.															100.0
		155.30	156.10~156.40m calcite-sphalerite veinlets (width 2-4mm).															100.0
			156.90~157.00m sphalerite-(calcite) veinlets (width 5mm).															100.0
			158.00~158.80m calcite-sphalerite vein~veinlets.															100.0
		160	Marl															100.0
			dark gray, with calcite veinlets.															100.0
			162.10~162.40m calcite-sphalerite veinlets (width 3-5mm).															100.0
		163.40	Limestone															100.0
			grayish white, recrystallized, brecciated, lime mud matrix.															100.0
			163.60m calcite-(sphalerite) vein (width 3cm).															100.0
			165.10~165.60m calcite-sphalerite veinlets~network.															100.0
		170	167.10~167.30m calcite-sphalerite matrix.															100.0
			168.60~169.30m calcite-(sphalerite) veinlets (width 2-5mm).															100.0
			170.80m calcite-(sphalerite) vein (width 2cm).															100.0
			172.30m calcite-sphalerite vein (width 1cm).															100.0
			174.50~175.30m calcite-sphalerite-galena veinlets~network.															174.50
		175	Altanating of marl and limestone (Mal>>Ls)	473	40.0	<0.5	8.05	3410	<1.0	1.37	24.4	1055	<1.0					175.50
		175.30	with calcite veinlets~network.	<10.0	40.0	<0.5	6.30	2496	<1.0	0.68	1.12	1223	45.3					176.50
			175.20~176.20m calcite-sphalerite-(galena) network.	54.3	80.1	38.5	3.33	854	12.5	0.53	1.03	282.7	514					177.50
				32.6	200	32.6	4.27	749	<1.0	0.66	3.11	287.8	1053					178.50
			179.00~179.40m calcite-sphalerite veinlets~network.	55.1	6400	210	7.78	1381	24.4	0.84	3.19	310.0	1422					179.50

附図10 ボーリング柱状図 (MJTK - A1 孔)

GEOLOGIC LOG

Hole : MJTK-A1
 Machine Model : RASKA30
 Elevation : 181.09m
 Drilled Length : 198.80m

Site Name : Siliana
 Period : 2001. 9. 6~10. 10
 Inclination : 70°
 Direction : 35.5°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
		180	Alternating of marl and limestone (Mal>>Ls)													180	93.3
		181.30	Marl														100.0
		183.50	182.40m calcite-sphalerite-galena veinlets.														
		185	Alternating of marl and limestone (Mal>>Ls) with calcite-galena veinlets (width 2-5mm), marl : gray, with calcite-sphalerite veinlets, limestone : gray white, finely crystalline, has lamina structure, with pyrite striation.	402	80.8	18.2	2.45	730	8.24	0.35	3.27	405.1	1015			184.60	
			186.80~186.90m fault clay.	3305	60.4	176	4.62	1556	<1.0	0.85	2.35	357.1	1149			185.60	100.0
		188.20	Marl													186.60	100.0
		190	dark gray, with calcite-galena veinlets~ network (width 1-2mm).	133	60.3	30.2	3.85	851	<1.0	0.55	0.84	201.5	400			190.65	
			190.40~191.40m sphalerite-calcite network, 194.40~195.40m sphalerite-calcite network, 197.70~198.20m fault clay.	430	3800	36.9	2.14	716	<1.0	0.37	36.1	1092	275			191.65	100.0
		195	Limestone	312	68.1	70.3	5.10	1574	4.98	0.66	1.42	209.5	538			192.65	
			light grayish white, finely crystalline, with barite-(sphalerite)-(galena) vein,	1440	60.5	17.9	3.28	761	8.61	0.39	1.40	384.9	1254			193.65	92.0
		197.70		1512	620	23.1	3.56	835	13.0	0.46	2.07	325.8	600			194.65	
		198.20		314	100	33.3	3.23	819	10.7	0.48	2.24	460.6	754			195.65	100.0
		198.80		1687	80.3	24.0	8.80	3387	<1.0	0.95	2.18	378.5	821			196.65	100.0
		200														197.65	100.0
		205															
		210															
		215															
		220															
		225															
		230															
		235															
		240															

附図10 ボーリング柱状図 (MJTK - A1 孔)

GEOLOGIC LOG

Hole : MJTK-O1
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 352.60m

Site Name : Oued Jebes
 Period : 2000.12.25~2002.1.16
 Inclination : 80°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
		0.70	Overburden														85.0
			Marl yellowish brown~brown, weathered. limonite is found in the fissures.														70.0
5			5.50~7.20m oxidized.														50.0
		7.20	Marl black, with calcite vein~veinlets. limonite is found in the fissures.														70.0
10			14.30m fault breccia.														100.0
15			17.50~18.00m sheared.														100.0
		18.00	Limestone grayish white~gray, argillaceous. has lamina structure. with calcite veinlets~network. limonite is found in the fissures.														63.3
20			18.80m calcite vein~veinlets with a small amount of galena.														100.0
25			23.00~23.85m calcite vein~veinlets (width 1cm).														100.0
30			25.70~26.25m calcite vein~veinlets (width 2~20mm).														100.0
35			31.80~32.00m calcite-(sphalerite) vein (width 2cm).														100.0
			32.40m calcite vein (width 8mm). 32.55m calcite vein (width 2cm). 33.60m calcite vein (width 7mm). 34.30~34.50m calcite veinlets (width 2mm). 40.25m calcite veinlets (width 5mm).														100.0
40		40.30	Sheared zone contains breccia of marl with calcite vein~network (petrole bearing).														93.3
45		43.15	Marl black, crumbly, wholly crushed.														76.7
		45.40	Sheared zone														73.3
50		46.25	Marl black~dark gray, friable and crumbly, with calcite network.														70.0
			53.00~53.70m sheared.														100.0
55			55.30~55.50m calcite-(sphalerite) veinlets~network.														100.0
			56.85~57.05m calcite vein~veinlets. 57.35~57.55m calcite-(sphalerite) network.														100.0
60																	100.0

附図11 ボーリング柱状図 (MJTK - 01 孔)

GEOLOGIC LOG

Hole : MJTK-O1
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 352.60m

Site Name : Oued Jebes
 Period : 2000.12.25~2002.1.16
 Inclination : 75°
 Direction : 130°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)	
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba			
60			Marl													
			black~dark gray, friable and crumbly, with calcite veinlets~network.													
			60.00~60.10m fault breccia.													
			60.25m calcite vein (width 3cm).													
			67.95~68.15m sheared.													
			72.50~72.60m sheared.													
			72.65~72.70m													
			brecciated marl with a trace amount of sphalerite.													
		72.70	Alternating of sandstone and limestone													
			sandstone : gray, medium-grained, sub-angular~angular pebbles, calcite cement, with calcite-pyrite veinlets.													
			limestone : brownish white, massive, with calcite-pyrite veinlets.													
			79.35~79.45m calcite-(pyrite) vein with trace amounts of sphalerite (width 1.5cm).													
		80.25	Conglomerate													
			dark gray, contains glauconite.													
		81.45	Limestone													
			brownish white~pale brown, massive, with calcite veinlets~network.	1293	1747	15.1	2.57	260	4.88	2.05	36.7	2074	380			
			82.50m, 82.90~83.50m, 84.50m calcite-pyrite veinlets with trace amounts of galena and sphalerite (width 8mm).	224	1795	10.2	2.86	252	21.6	2.45	39.7	1889	316			
			85.50m pyrite-calcite veinlets (width 8mm).	1274	2501	15.2	3.00	285	8.80	2.58	30.4	2286	530			
			86.45m calcite-sphalerite veinlets with petrole materials (width 3-5mm).	163	2376	12.7	1.72	179	16.6	0.40	37.0	1408	91.5			
			87.00~87.80m drusy calcite-sphalerite-(pyrite)-(galena) veinlets (width 2-7mm).	183	3653	23.4	1.72	183	25.7	1.03	34.7	1994	161			
			88.40m, 88.70m, calcite veinlets with trace amounts of galena (width 2mm).	158	2419	12.3	1.57	159	14.5	1.26	32.9	2098	528			
			89.00m drusy calcite veinlets with trace amounts of galena (width 2mm).													
			89.95~90.20m, 90.75~90.90m calcite-(pyrite) veinlets with trace amounts of galena (width 2mm).													
			91.10~91.35m calcite-(pyrite) network, 91.45m pyrite-calcite veinlets (width 6mm).													
			92.00m, 92.60~92.90m, 93.30m calcite-(pyrite) veinlets with trace amounts of galena (width 2mm).													
			93.85~94.00m calcite-pyrite network, 96.30~97.00m calcite-pyrite veinlets~network.													
			97.10~101.80m wholly crushed, 101.60~101.80m calcite and galena are found in the fissures.													
		105.75	Limestone													
			brownish gray~brown, massive, has lamina structure, a minor amount of pyrite is almost invariably present.													
			103.90~104.00m calcite veinlets with trace amount of pyrite and galena.													
			104.60m calcite-(pyrite) veinlets (width 3mm).													
			104.85~105.00m calcite network.													
			105.70~105.80m drusy calcite veinlets.													
			107.20~107.40m calcite-pyrite network.													
			108.30~108.40m, 110.20~110.45m calcite-pyrite vein~veinlets (width 3-10mm).													
			111.20m drusy calcite-pyrite veinlets.													
			115.55m calcite-(pyrite) veinlets (width 2mm).													
			116.80m calcite-(pyrite) veinlets (width 2mm).													
			117.35~117.55m fault breccia.													
			118.30~118.65m fault breccia.													

附図11 ボーリング柱状図 (MJTK -01 孔)

GEOLOGIC LOG

Hole : MJTK-01
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 352.60m

Site Name : Oued Jebes
 Period : 2000.12.25~2002.1.16
 Inclination : 80°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
180			Limestone gray, massive, has lamina structure. with pyrite striations and calcite veinlets.														100.0
			180.20m calcite vein (width 1cm).														100.0
185			182.60m, 183.70m, 184.80m calcite veinlets (width 1-2mm).														100.0
			186.40m calcite vein (width 1.5cm).														
			187.60~187.70m calcite veinlets (width 2-7mm).														100.0
			189.60m drusy calcite veinlets (width 5mm).														100.0
190			191.00m calcite veinlets (width 3mm).														
			192.60~193.10m calcite-galena vein (width 2-4cm).														100.0
			193.25~193.35m drusy calcite veinlets.														
			194.70~194.90m calcite network.														100.0
195			196.80~196.90m drusy calcite network.														100.0
			197.10~197.70m calcite veinlets (width 2-5mm).														
			197.90~198.10m calcite veinlets (width 2-5mm).														100.0
			198.15~198.60m calcite veinlets (width 2-5mm).														
		199.00	Limestone dark gray, massive, sheared. with drusy calcite vein~veinlets.														100.0
200																	
		201.15	Limestone light gray, massive, weakly brecciated, crack dominant.														100.0
			201.90m drusy calcite-(pyrite) vein with trace amounts of galena (width 2-3mm).														
205			202.40~202.50m calcite network with trace amounts of galena.														100.0
			202.60~203.40m calcite-(pyrite) veinlets~ network with trace amounts of galena.														100.0
			205.60~206.00m calcite network with trace amounts of galena and pyrite.														100.0
210			206.30~206.50m drusy calcite-(pyrite) vein- let with small amounts of galena.														100.0
			208.40~208.80m calcite-pyrite veinlets with trace amounts of galena (width 1-3mm).														100.0
		213.30	209.85~210.10m calcite-pyrite network with trace amounts of galena.														100.0
215			211.25~211.60m calcite-(pyrite) veinlets (width 1-3mm).														100.0
			Limestone light gray~gray, massive, interbedded with thin bedded black marl. has lamina structure.														100.0
220			217.20~217.60m calcite veinlets (width 1-3mm).														100.0
			220.80~220.90m calcite veinlets with trace amounts of galena.														100.0
225																	100.0
		226.30	Limestone light gray~gray, massive, weakly brecciated, calcite-pyrite matrix.														100.0
230			227.05~227.15m drusy calcite-pyrite vein (width 10cm).														93.3
			230.90~231.20m contains framboidal pyrite.														
		232.60	Limestone light grayish white, massive, contains framboidal pyrite.														100.0
235			235.85m calcite veinlets (width 5mm).														100.0
			236.65m calcite vein (width 3cm).														
			237.00~237.40m calcite veinlets (width 3-5mm).														100.0
240			238.60~239.90m calcite network.														100.0

附図11 ボーリング柱状図 (MJTK - 01 孔)

GEOLOGIC LOG

Hole : MJTK-01
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 352.60m

Site Name : Oued Jebes
 Period : 2000.12.25~2002.1.16
 Inclination : 80°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)										Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)	Sr	Ba				
240			Limestone light grayish white~gray, massive, with calcite veinlets and pyrite striation. contains framboidal pyrite.													100.0	100.0
245																100.0	100.0
250			250.35m drusy calcite veinlets with trace amount of pyrite (width 2-3mm).													96.7	100.0
251.85			Limestone light grayish white~gray, massive, weakly brecciated, with calcite veinlets and pyrite striation.													100.0	100.0
255			252.60~253.15m calcite veinlets(width 1-3mm), 254.20~254.35m calcite-marcacite veinlets (width 1-10mm), 254.40~254.80m calcite veinlets(width 1-7mm).													100.0	100.0
258.40			Limestone light grayish white~gray, massive, weakly brecciated, crack dominant, interbedded with thin bedded black marl, a small amount of pyrite is almost invariably present.													100.0	100.0
260			258.50~259.10m calcite veinlets with trace amounts of of galena (width 1-5mm).													100.0	100.0
265			260.45~260.80m calcite network, 261.60m galena is found in the fissures, 262.20m calcite-galena veinlets, 262.90~263.30m calcite veinlets, 270.35m drusy calcite veinlets (width 5mm), 274.20m calcite vein (width 2cm).													100.0	100.0
270																100.0	100.0
274.20			Limestone brown, massive.	1.2%	593	36.7	1.72	165	2.47	0.20	45.4	1272	212			275.60	100.0
275			272.80~272.90m calcite veinlets with small amounts of galena (width 1mm), 276.00~276.30m calcite veinlets with trace amounts of galena (width 2-5mm), 276.85~277.00m calcite-marcacite veinlets (width 2-3mm).													276.60	100.0
277.15			Limestone grayish white, massive, with calcite-pyrite veinlets, a small amount of pyrite is almost invariably present.													100.0	100.0
280			277.20m calcite-(pyrite) veinlets (width 2mm), 279.00~279.30m calcite-pyrite veinlets (width 2-7mm), 281.45m, 281.80m calcite-marcacite veinlets (width 2-4mm), 284.35m, 285.40m, 285.55m, 285.65m calcite-pyrite veinlets (width 3mm), 287.90~288.05m calcite vein with a trace amounts of galena (width 7mm), 288.30~288.60m calcite veinlets(width 1-3mm), 288.80m drusy calcite veinlets (width 5mm), 288.90~289.30m calcite veinlets (width 1mm), 289.85m calcite veinlets with trace amount of galena (width 7mm), 293.45~293.65m calcite-(pyrite) veinlets (width 1-4mm).													100.0	100.0
285																100.0	100.0
290																100.0	100.0
295																100.0	100.0
300																100.0	100.0

附図11 ボーリング柱状図 (MJTK - 01 孔)

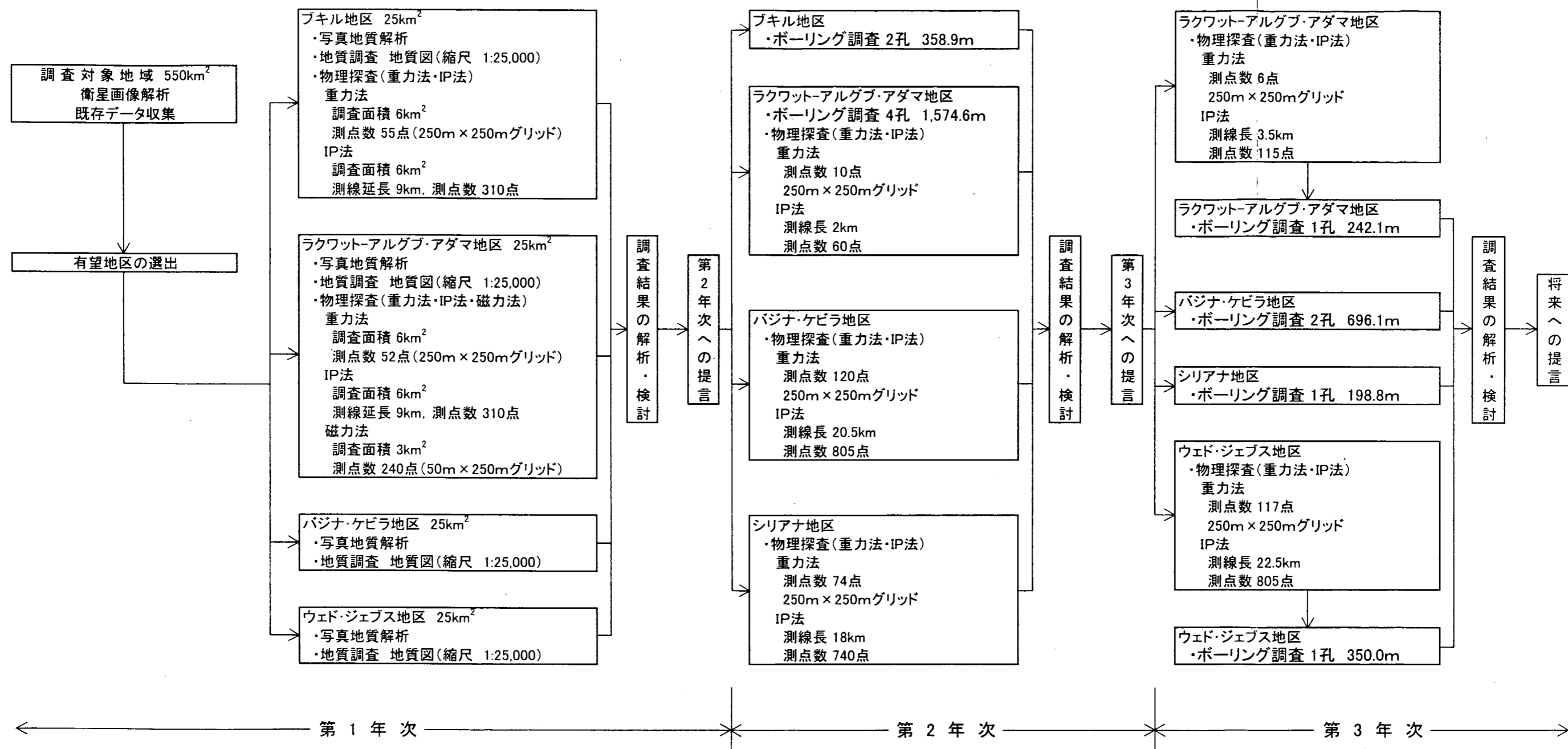
GEOLOGIC LOG

Hole : MJTK-O1
 Machine Model : RASKA30
 Elevation : 540.17m
 Drilled Length : 352.60m

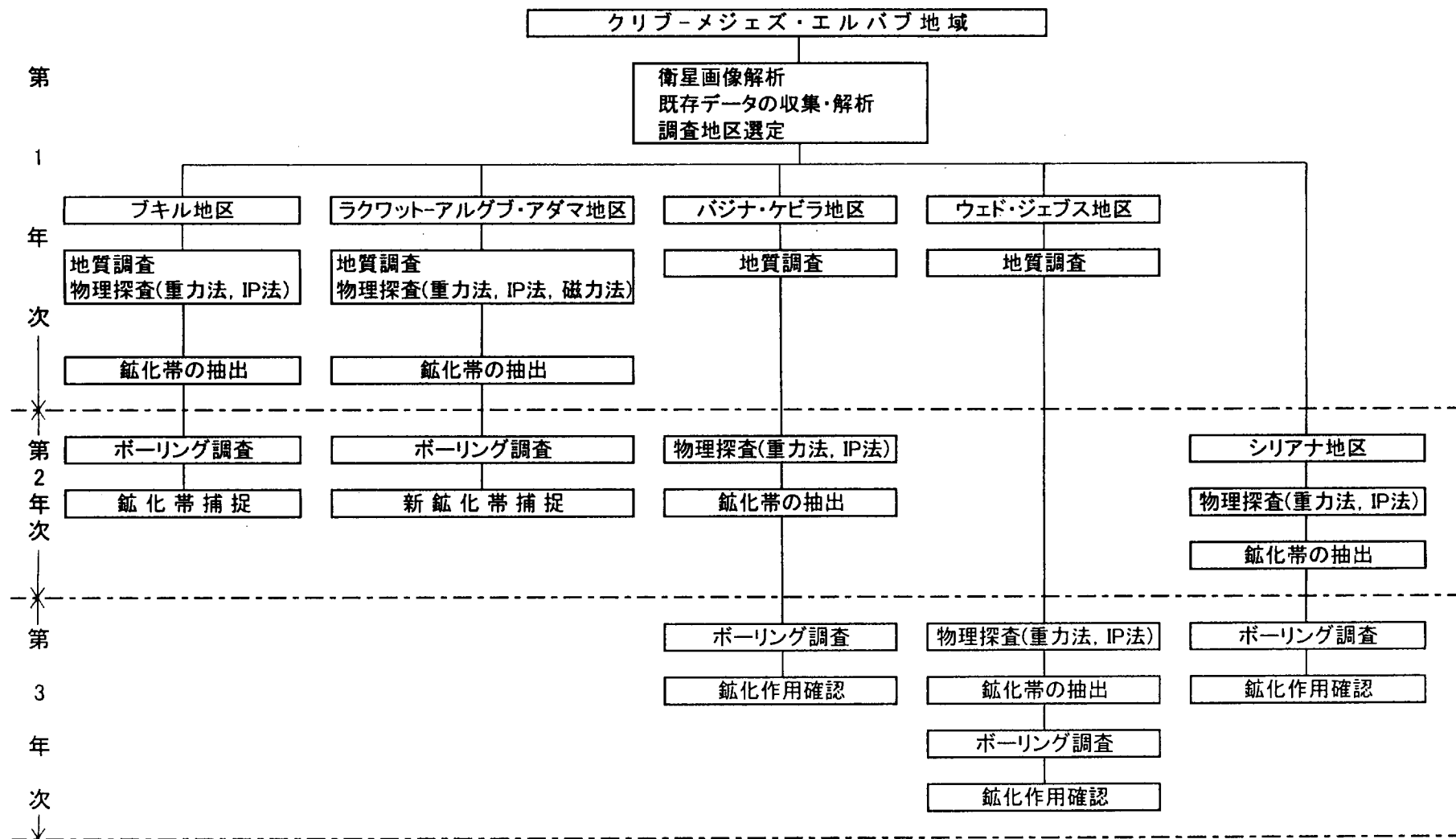
Site Name : Oued Jebes
 Period : 2000. 12. 25~2002. 1. 16
 Inclination : 80°
 Direction : 118°

Scale	Column	Depth (m)	Description	Grade (ppm)								Depth (m)	Core Rec. (%)		
				Pb	Zn	Cu	Fe(%)	Mn	Cd	Mg(%)	Ca(%)			Sr	Ba
300			Limestone grayish white, mussive, with calcite veinlets. a small amount of pyrite is almost invariably present.											100.0	100.0
305		305.00	Limestone dark gray, argillaceous, with calcite veinlets~network, contains framboidal pyrite.											100.0	100.0
310			305.10m calcite-(pyrite) veinlets (width 1.5cm), 308.20~308.40m calcite veinlets~network, 308.60~308.90m calcite-pyrite veinlets (width 1-2cm), 310.10~310.40m calcite veinlets~network, 311.25~311.75m calcite veinlets with trace amount of sphalerite.											100.0	100.0
315			313.00m drusy calcite veinlets (width 2mm), 316.10~316.20m calcite network, 316.80~317.50m drusy calcite veinlets (width 2mm), 317.70~318.35m calcite veinlets~network, 319.30~319.60m calcite-(pyrite) network with trace amounts of sphalerite.											100.0	100.0
320			320.10~321.10m calcite-pyrite vein~veinlets (width 1-2cm), 321.60~322.00m calcite veinlets(width 1-5mm).											100.0	100.0
325			322.40~322.70m calcite-(pyrite) veinlets (width 1-5mm), 323.65m calcite-pyrite vein (width 5cm), 326.70~327.30m calcite network, 327.40~327.55m calcite-(pyrite) veinlets (width 1-5mm), 327.70~327.90m calcite network, 329.00~329.10m calcite veinlets~network, 329.40~329.50m calcite veinlets (width 1-4mm).											100.0	100.0
330			330.50~330.70m calcite-(pyrite) veinlets~network, 331.20~331.55m calcite veinlets(width 3-7mm), 331.60~331.70m calcite vein (width 3cm), 331.90~332.15m calcite vein (width 2-3cm), 333.00~333.15m calcite-(pyrite) veinlets (width 1-8mm), 334.35~334.50m calcite veinlets(width 2-5mm), 334.80~335.10m calcite veinlets(width 1-2mm), 335.30~335.50m calcite veinlets(width 1-5mm), 336.30~336.50m calcite veinlets(width 1-3mm), 337.80~346.30m calcite vein~veinlets.											100.0	100.0
335			347.60m calcite vein with trace amounts of galena and sphalerite.											96.7	96.7
340			348.30m calcite vein (width 1.5cm), 350.00m calcite vein (width 1cm), 351.50m calcite breccia with trace amount of sphalerite.											90.0	90.0
345			351.65m calcite vein (width 1.5cm), 352.20~352.50m calcite veinlets(width 1-8mm).											100.0	100.0
350		352.60													
355															
360															

附図11 ボーリング柱状図 (MJTK-O1 孔)



資料 1 クリブ-メジェズ・エルバブ地域調査フローシート



資料 2 鉱床有望地区抽出フローチャート