Appendices

Appendix 1 Summary of previous studies of ore-dressing tests of ores from Zhaman-Aibat and Taskura deposits (1)

#	Author of a	Name of Report, year of issue	Stage, sub- stage of a project, scale of survey (type of samples)	Description of survey, weight of samples, description of ore-dressing technological process	Results and effectiveness of ore-dressing technologies. Reason of low effectiveness of ore-dressing
τ-	Parkhomenko L. P.	Report on assignments ## 495, 496; Studying of dressing of sulphide copper and copper-lead-zinc ores from Zhaman-Aibat deposit (samples 3, 4), Karaganda, LOP! TSLTSKNGO, 1986	Prospecting	 Studying of ore material composition; Grinding of ore before flotation; Sorting of grind ore up to ± 0,074 mm; Flotation of ore: copper ore, 52 kg (sample 3), copper-lead-zinc, 53 kg (sample 4), based on flow charts of ore-dressing facilities # 1 and # 3 of Zhezkazgantsvetmet Combine Additional grinding of concentrate and intermediate products. 	Copper concentrate (KM-2 brand) with copper grade 34.2% was obtained from copper ore (copper grade 2.12%) (recovery value equal to 90.1%). It was concluded, that improving quality of concentrate requires reducing consumption of foaming agents down to 60 g/t against 17-210 g/t as applied at oredressing facility. Three concentrates were obtained as result of dressing of copper-lead-zinc ore (grade of copper - 2.21%, lead - 1.44% and zinc - 1.83%): - copper (KM-7 brand) with copper grade 39.92% (recovery 79.1%): - lead (KS-7 brand) with lead grade 40.0% (recovery 71.0%); - lead (KS-7 brand) with zinc grade 48.5% (recovery 53.2%). Close intergrowth of copper, lead and zinc minerals was detected, it brings down selection in collective concentrate and results in hin loss of metals in intermediate.
N	Malinova T.V.	Report on assignments ## 554, 556. Studying of ore-dressing of balance oxidized and sulphide copper ores from Taskura deposit (samples ## 10, 11), Karaganda, LOP! TSL TSKPGO, 1991	Prospecting- estimation	1. Studying of ore material composition; 2. Grinding of ore before flotation; 3. Screening and precipitation analysis of ore for sorting into particle size classes; 4. Flotation of ore, including oxidized ore (sample # 10) with sulphidization; 4.1. Preliminary testing of sulphurous sodium consumption and separate flotation of sand and sludge; tion of sand and sludge; 4.2. Testing within closed cycle as per flow chart of Zhezkazgan ore-dressing facility # 1 of Zhezkazgan syetmet JSK	Dressing of oxidized ore (sample # 10 with weight 179,8 kg with copper grade 3.04%) resulted in obtaining copper concentrate (KM-7 brand) with copper grade 16.73% (recovery 77.70%). Sludge formation process, resulting in losses of copper in tailings of sand flotation and intermediate products. Dressing of sulphide ore (sample # 11 with weight 207.6 kg and copper grade 1.55%) resulted in obtaining copper concentrate (KM-2 brand) with copper grade 32.49% (recovery 91.88%)
က်	Malinova T.V.	Report on assignment # 590. Studying of dressing of sulphide zinc ore from Zhaman-Aibat deposit (sample # 60), Karaganda, LOP! Tst TsKPGO, 1991	Preliminary	Studying of ore material composition; Grinding of ore before flotation; Screening and precipitation analysis of ore for sorting into particle size classes; Ore flotation; The Freilminary testing; Testing within closed cycle as per flow chart and reagents regime of Zhezkazgan ore-dressing facility # 3 of Zhezkazgantsvetmet JSK	Dressing of zinc ore with sample weight 250 kg and zinc grade 1.16%, lead grade 0.33% and copper grade 0.29% resulted in obtaining 3 concentrates: - zinc concentrate (KTs-4 brand) with zinc grade 50.51% (recovery 6.36%); -lead concentrate (KS-6 brand) with lead grade 48.11% (recovery 69.01%); -copper concentrate (KM-4 brand) with copper grade 32.63% (recovery 45.52%).

Appendix 1 Summary of previous studies of ore-dressing tests of ores from Zhaman-Aibat and Taskura deposits (2)

## Autoro of a Name of Report, year of Sage, sage of a gescription of survey, weight of samples. Results and effectiveness of ore-dressing bothologists. Results and effectiveness of ore-dressing producing great of sample of survey. 4. Rayort M.A. Resport of sassignment a project, scale of survey weight of some project scale of survey. 5. Rayort M.A. Resport of sassignment a project, scale of some project, scale of survey and some scale of survey. 6. Carried of survey and scale of some scale of survey and scale of survey scale of survey. 6. National IV. Resport of assignment a project, scale of some scale of survey. 6. National IV. Resport of assignment a project scale of some scale of survey. 7. Sudying of one project, scale of some scale of survey weight of security scale of some scale of survey. 8. National IV. Resport of assignment a project scale of some scale					
Report sissue of Report, year of stage, sub- Report sissue signment # stage of a survey (type of survey stage). Raykh M.A. Report of assignment # Preliminary Sya. Studying of dressing of exploration suphide copper-silver ores from Zhaman-Aibat deposit (samples # 70. Karaganda, LOP! TsL TsKPGO, 1991 Nalinova N.P. Report on assignment # Preliminary Sya suphide copper-silver ores from Zhaman-Aibat deposit (samples # 91 and 100). Karaganda, LOP! TsL TsKPGO, 1991 Studying of dressing of 50 small-scale technological samples of copper ores from the deposit, for mapping aims (# # 59, 13-15, 13-15, 18, 19, 21-30, 32, 42-47, 50-53, 55-57, 61-64, 69, 77, 78, 80-89), Karaganda, LOP! TSL TsKPGO, 1991 T.S. Studying of ore-dressing of So small-scale technological cal samples of copper-zinc ores from Zhaman-Aibat deposit, Karaganda, LOP! TsL TsKPGO, 1991 T.S. Studying of ore-dressing of So small-scale technological cal samples of samples of size feach copper-zinc ores from Zhaman-Aibat deposit, Karaganda, LOP! TsL TsKPGO, 1991 T.S. Tsl Stop of Ore-dressing of So small-scale technological cal samples of	Results and effectiveness of ore-dressing technologies. Reason of low effectiveness of ore-dressing	Dressing of lead ore with sample weight 270 kg and lead grade 1.78%, copper grade 0.25% and zinc grade 0.17% resulted in obtaining lead concentrate (KS-6 brand) with lead grade 52.93% (recovery 85.84%). Tailings of lead flotation contain 18.5 g/t of silver, 18 g/t of rhenium, 0.18% of cadmium, 2.26 g/t of indium, 0.10 g/t of osmium, therefore they don't have to be wasted. They have to be directed into cycle of complex ores dressing of ore-dressing facility # 3.	Dressing of copper-silver ore - sample 91 with weight 349 kg, copper grade 1.05%, silver grade 42 g/t - resulted in obtaining copper grade 1.05%, silver grade 42 g/t - resulted in obtaining copper concentrate (brand KM-1) with copper grade 48.66% (recovery 87.31%), with silver grade 2092 g/t (recovery 91.93%); - sample # 100 with weight 120 kg, copper grade 0.75% and silver grade 52 g/t - resulted in obtaining copper concentrate (brand KM-1) with copper grade 55.4% (recovery 90.74%), with silver grade 4004 g/t (recovery 90.15%).	The ores can be processed at ore-dressing facility # 1. Dressing of those ores requires finer degree of gunding: chalcopyrite ores with increased content of pyrite require different reagent regime (providing depressing pyrite). There is an opportunity to dress off-balance copper sulphide ores, obtaining concentrates KM-6 and KM-3. Highest content of silver (1094, 5 g/t - average for 5 samples) is contained in KM-3 concentrate from off-balance copper ore from the Northern deposit, which is typical only for rich copper ores of the same deposit.	All ores can be dressed at ore-dressing facility # 3, except zinc ores, that require separate technology and reagent regime. Ores of the Central and Northern deposit are favorable for dressing. Deep grinding of ore or intermediate product is required; pyrite has to be extracted into pyrite concentrate.
Report of a ssignment # 593. Report of assignment # 593. Studying of dressing of suplinde lead ore from Zhaman-Aibat deposit (sample # 70). Karaganda, LOP! Tall TakRPGO, 1991 Report on assignment # 598. Studying of dressing of suplinde copper-silver ores from Zhaman-Aibat deposit (sample # # 91 and 100). Karaganda, LOP! Tall TakRPGO, 1991 Malinova T.V. Report on assignment # 550 Studying of dressing of 50 small-scale technological samples of copper ores from the deposit, for mapping aims (## 5-9, 13-15, 18, 19, 21-30, 32, 42-47, 50-53, 55-57, 61-64, 69, 77, 78, 80-89). Karaganda, LOP! Tall TakRPGO, 1991 T.S. Shamaeva Report on assignment # 550 small-scale technological cal samples of zinc, leadzinc, copper-lead copper-leadzinc ores from Zhaman-Aibat deposit, Karaganda, LOP! Tall TakRPGO, 1991 Tall TakRPGO, 1991	Description of survey, weight of samples, description of ore-dressing technological process	 Studying of ore material composition; Grinding of ore before flotation; Screening and precipitation analysis of ore for sorting into particle size classes; Ore flotation; Preliminary testing to determine consumption of xanthate; Testing within closed cycle as per flow chart and reagents regime of Zhezkazgan ore-dressing facility # 3 of Zhezkazgantsyetmet JSK 	Studying of ore material composition; Ginding of ore before flotation; Screening and precipitation analysis of ore for sorting into particle size classes; Pilot testing for selecting optimal degree of ore grinding, consumption f suiphurous sodium, butyne xanthate, foaming agent, re-concentration of concentrates.	1. Studying of ore material composition; 2. Grinding of ore before flotation; 3. Screening analysis of ore of original particles size 1.0-0.0 mm; 4. Screening and precipitation analysis of ore for sorting into particle size classes; 5. Testing of flotation within closed cycle as per flow chart of Zhezkazgan oredressing facility # 1 Sample weight from 5 to 28 kg.	1. Studying of ore material composition; 2. Grinding of ore before flotation; 3. Screening and precipitation analysis of ore for sorting into particle size classes; 4. Ore flotation; 4.1. Carrying out of preliminary testing; 4.2. Carrying out of flotation testing as per established flow chart and reagent regime; 5. Chemical assaying of original ore,
Report Raykh M.A. Malinova T.V. Shamaeva T.S.	Stage, substage of a project, scale of survey (type of samples)	Preliminary exploration	Preliminary exploration	Preliminary exploration	Prefirminary exploration
	Name of Report, year of issue	Report of assignment # 593. Studying of dressing of suphide lead ore from Zhaman-Aibat deposit (sample # 70). Karaganda, LOP! TsL TsKPGO, 1991	Report on assignment # 598. Studying of dressing of suphide copper-silver ores from Zhaman-Aibat deposit (samples ## 91 and 100). Karaganda, LOPI TsL TSKPGO, 1991	Report on assignment # 550 Studying of dressing of 50 small-scale technological samples of copper ores from the deposit, for map- ping aims (## 5-9, 13-15, 18, 19, 21-30, 32, 42-47, 50-53, 55-57, 61-64, 69, 77, 78, 80-89, Kanaganda,	Report on assignment # 550°. Studying of ore-dressing of 30 small-scale technological samples of zinc, copper-lead-zinc and copper-lead-zinc and copper-lead-zinc Karaganda, LOPI TsKPGO, 1991
# 4 0 0	Author of a Report	Raykh M.A.	Ivanova N. P.	Malinova 7.V.	Shamaeva T.S.
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Appendix 1 Summary of previous studies of ore-dressing tests of ores from Zhaman-Aibat and Taskura deposits (3)

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Results and effectiveness of ore-dressing technologies. Reason of low effectiveness of ore-dressing		Dressing of lead ore (sample # 105, weight 126 kg with lead grade 1,13%) as per established flow chart resulted in producing standard lead concentrate (KS-3a brand, as per OST 48-92-75 or KS-2 as per OST 48-92-75), option #1-5 with lead grade 62.37% (recovery 90.08%). Galena is highly active for flotation. Ore is classified as easily dressible.	Dressing of lead one in sample 121 with weight 8 kg and lead grade 1.18% and copper grade 0.28% resulted in producing two concentrates: - lead concentrate - (KS-4 brand) with lead grade 70.79% (recovery 85.44%) and copper grade 3.57; - copper concentrate - (KM-7 brand) with copper grade 16.76% (recovery 54.51%) and lead grade 4.86%. The ore can be dressed at Zhezkazgan ore-dressing facility # 3.	Ores can be dressed at Zhezkazgan ore-dressing facility # 1. Finer degree of ginding is required for ore-dressing. There is an opportunity to dress off-balance copper sulphide ores obtaining concentrates of KM-5 and KM-2 brand. Concentrate produced of 2 off-balance samples of ore from the Northern deposit contain the highest content of silver 1101 and 1816 g/t (silver grade in original ore is equal to, accordingly, to 19.8 and 25.3 g/t, which is typical only for nich ores.
Description of survey, weight of samples, description of ore-dressing technological process	intermediate products due to small weight of samples (5-16 kg) 6. Description of metrological (instrumentation) support for research	 Studying of ore material composition; Grinding of ore before flotation; Ore flotation tests with screening and precipitation analysis of ore with particles size as required for flotation; Ore flotation tests within closed cycle Description of required instrumentation 	1. Studying of ore material composition, 2. Grinding of ore before flotation; 3. Screening and precipitation analysis of ore with particles size as required for flotation; 4. Ore flotation as per flow chart and reagents consumption regime established at Zhezkazgan ore-dressing facility # 3; 5. Phase semi-quantitative spectral analysis of onginal ore from the deposits: Central one - 12 samples (## 59, 65-68, 73, 74, 89, 90, 94, 99, 103); Northem one - 10 samples (16, 17, 33-36, 49, 54, 75, 76); Eastern one - 7 samples (12, 20, 39-41, 58, 72)	1. Studying of ore material composition; 2. Grinding of ore before flotation; 3. Screening analysis of ore with initial particles size 1.0-0.0 mm 4. Screening and precipitation analysis of ore with particles size as required for flotation; 5. Flotation tests within closed cycle as per flow chart, established at Zhez-kazgan ore-dressing facility # 1. Samples weight from 5 to 22 kg. 6. Technological parameters related to distribution of accessory valuable and hollow components (silicates) in ore-
Stage, substage of a project, scale of survey (type of samples)		Preliminary exploration	Preliminary exploration	Preliminary exploration
Name of Report, year of issue		Report on assignment # 603. Studying of dressing of lead ore from Zhaman-Aibat deposit (sample # 105). Karaganda, LOP! TSL TSKPGO, 1991	Addition to the Report on assignment # 550°. Results of testing dressing of sulphide lead ore in small-scale technological sample # 121. LOP! TsL TsKPGO, 1992	Addition to the Report on assignment # 550. Studying dressing of 12 small-scale technological samples of copper ores from Zhaman-Aibat deposit for mapping purposes (samples ## 92, 93, 95-98, 101, 102, 104, 106, 111, 112).
Author of a Report		Ivanova N.P.	Shamaeva T.S.	Malinova T.V.
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Appendix 1 Summary of previous studies of ore-dressing tests of orestrom 2 trom 2 traman-Aibat and Taskura deposits (4)

Malinova T.V.	Report on assignment # F Report on assignment # F Studying of dressing of balance sulphide copper ore of Taskuduk Formation from Zhaman-Albat deposit (sample # 119), LOPI TSL TsKPGO, 1992 TsKPGO, 1992	stage of a project, scale of survey (type of samples). Preliminary exploration exploration	description of ore-dressing technological process description of ore-dressing technological personal additionally 50 more previously studied samples. 1. Studying of ore material composition; 2. Grinding of ore before flotation; 3. Screening analysis of initial ore with particles size 1,0-0.0 mm; 4. Screening and precipitation analysis of ore with particles size as required for flotation; 5. Preliminary testing of 5 weighted portions within closed cycle as per flow chart and reagine of 2hezkazgan ore-dressing facility # 1; 6. Testing within closed cycle of 10 weighted portions as per established flow charts and regime 7. Description of metrological (instrumentation) support 1. Studying of ore material composition; 2. Grinding of ore before flotation; 3. Screening analysis of initial ore with particles size as required for flotation; 5. Preliminary tests; 5.1. Ore dressing within open cycle as per flotation-gravity and gravity-flotation pattern; 5.2. Tests within closed cycle as per flotation flow-chart; 5.3. Tests as per gravity technology of 5.3. Tests as per gravity technology of	Son of low effectiveness of ore-dressing Dressing copper ore in sample 119 with weight 145 kg and copper grade 1.90%, lead grade 0.12% from lower ore horizons, resulted in obtaining copper concentrate (KM-2 brand) with copper grade 32.07% (recovery 91.28%) and lead grade 1.68%. Ore is suitable for dressing at Zhezkazgan ore-dressing facility # 1. Ores are suitable for dressing at Zhezkazgan ore-dressing facility # 1. or sample # 113 with weight 22.3 kg with copper grade 1.35% - KM-2 brand concentrate with copper grade 31.67% (recovery 91.90%): in sample # 114 with weight 15.4 kg and copper grade 1.96% - in sample # 115 with weight 17.6 kg and copper grade 3.61% in sample # 115 with weight 17.6 kg and copper grade 3.61% - in sample # 115 with weight 17.6 kg and copper grade 3.61% - in sample # 116-mixed - KM-0 copper grade 50.83% (recovery 94.07%):
Pack V.P., Chalova R.T., Chalova E.I.,	Report on testing in large- scale laboratory conditions of dressing two ore sam- oles from Zhaman-Albar	Preliminary exploration	dressing native copper by hydrocyclon. 1. Studying of ore material composition in small-scale laboratory sample # 5 ^a with weight 268 kg and # 6 ^a with weight 184	grade 44.46% (recovery 93.82). Gravity method for sample 116-mixed resulted in obtaining KM-0 copper concentrate with copper grade 81.47% (recovery 61.11%). Gravity products are suggested to be additionally extracted by flotation method. Applying flotation-for ore dressing shows acceptable technological parameters: obtaining copper concentrate from copper ore, with copper grade 32-35% (recovery 91-92%); from complex (copper-lead) ore - copper concentrate with copper grade

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Appendix 1 Summary of previous studies of ore-dressing tests of ores from Zhaman-Aibat and Taskura deposits (5)

	ng technologies. Rea-	d lead concentrate with 72-73%). Zhezkazgan can be tation. minary ore concentration) into ore-dressing ent in the course of an be utilized for propand (50% of tailings ed aluminum (0.03%).	a onto extraction of stive solution is pro- copper 90.0-95.1%, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	sample of strontum- 26% resulted in obtain- 14% (recovery from ore d no celestine, Stron- forming minerals - 3 of technology of to its low grade in
מבוספונס לפו	Results and effectiveness of ore-dressing technologies. Reason of low effectiveness of ore-dressing	39-41% (recovery from ore 82-83%) and lead concentrate with lead grade 42-43% (recovery from ore 72-73%). Recycled and underground water from Zhezkazgan can be used as sources of water supply for flotation. It is expedient to include a step of preliminary ore concentration (by medium-heavy and X-ray separation) into ore-dressing flow-chart, having made prior assessment in the course of further exploration. Tailings, remaining from ore-dressing can be utilized for production of porous concrete (50 and 75 brand) (50% of tailings with addition of lime (15%) and powdered aluminum (0.03%) and water.	In agitation regime the biggest influence onto extraction of copper, lead, zinc and silver into productive solution is produced by hypochlorite-ions (recovery of copper 90.0-95.1%, lead 85.7-97.3% and silver 81.4-95.3%). Regime of percolation in HCI media with hypochlorite-ion additives leads to full transformation of ore with recovery of copper, lead and silver 98-100% into productive solution. Highest extraction of copper from productive solution was reached using comentation sedimentation - 97%, extraction and sorption methods are similar - complete copper extraction 83.0-83.4%.	Applying gravity technology for dressing sample of strontium-containing rocks with strontium grade 0,26% resulted in obtaining concentrate with strontium grade 2,14% (recovery from ore 25,15%). Mineralogical analysis detected no celestine, Strontium was presumably correlated to rock-forming minerals quartz, feldspar, calcite, Further studying of technology of strontium extraction are inexpedient due to its low grade in
	Description of survey, weight of samples, description of ore-dressing technological process	2. Laboratory testing of dressing of ore samples ## 5 ^a and 6 ^a ; 3. Large-scale laboratory testing of dressing ore in sample of copper ore # 31 with weight 4640 kg and copper-lead ore # 71 with weight 6192 kg; 4. Designing of recycled water supply system for dressing ore from Zhaman-Aibat deposit; 5. Estimation of dressing properties in big chunks of copper ore by technique of r.X-ray separation; 6. Assessment of waste-less technology of ore-dressing providing utilization of tailings of ore-dressing for production of construction materials	1. Analyzing the status of a problem and possibilities of leaching-out of copper from poor ores; 2. Studying material composition of ores in three samples (107, 108, 109); 3. Studying of leaching-out of copper and accessory components: - in agitation regime, - in percolation regime, - working out of technologies for processing of productive solutions based on copper. - by extraction method, - by extraction method, - by sorption method, - by sorption method, - by sorption of metrological (instrumentation) suboort.	1. Studying of material composition of the sample 110 with the weight 240 kg. 2. Grinding of the sample; 3. Screening analysis of the sample 4. Studying of ore dressing as per flow chart for dressing celestine ore of Aurtast, Anyk deposits by gravity method.
	Stage, substage of a project, scale of survey (type of samples)		Preliminary exploration	Preliminary exploration
	Name of Report, year of issue	deposit as per flow charts of Zhezkazgan Mining and Smelting Combine providing complex utilization of raw materials. Almaty, KazNiiMS, 1991.	Report on laboratory studies of geo-technological technologies of extraction of copper an accessory components from ones of Zhaman-Albat deposit; flow charts for processing of productive solutions; feasibility estimation and selecting of the appropriate option for leaching out of copper, copper-lead, copper-silver ones in three samples with weight 50 kg each. Almary, MTsNK-International Laboratory, Kazakhstan branch, 1992.	Reference report on laboratory testing of oredressing of strontium-containing rocks from Zhaman-Albat field. Almaty, KazniiMS, 1992
	Author of a Report		Ospanova G.	Pack V.P., Chalova R.T.
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Appendix 1 Summary of previous studies of ore-dressing tests of ores from Zhaman-Aibat and Taskura deposits (6)

#	Author of a Report	Name of Report, year of issue	Stage, substage of a project, scale of survey (type of samples)	Description of survey, weight of samples, description of ore-dressing technological process	Results and effectiveness of ore-dressing technologies. Reason of low effectiveness of ore-dressing
	Ginatullin A.M.		Prefiminary exploration	1. Collecting and summarizing, statistical and correlation analysis of initial data (geological, chemical assay, mineralogical, ore-dressing), assessment of their variation; 2. Setting criteria (mathematical models) for estimating values of ore-dressing parameters, contents of minerals-concentrators, as based on ore composition; 3. Modeling of expected values of copper recovery into copper concentrate and bomite content in copper ore; 4. Compiling balance for breakdown of main and accessory components per minerals and ore-dressing products in 22 small-scale and laboratory samples (## 5, 6a, 19, 27-29, 31, 44, 57, 60, 63, 66, 69-71, 77, 82, 83, 85, 87, 99, 100)	1. Intervals of values of expected copper recovery into concentrate and content of bornite in ore were determined from chemical assay data based on worked out logic systems; correlation with experimental data was high. 2. Behavior of main and accessory components in the process of processing raw materials from ore to concentrate (including losses in wasted tailings separately for each type of ore) was amalyzed based on compiled balances of breakdown of 22 samples. 3. The conclusion was made on expediency of further oredressing test and related testing. 4. It is recommended to continue geological and technological modeling at PC, including compiling maps of contours of expected ore-dressing parameters and preparation of balances of elements breakdown into ore minerals and ore-dressing products.
	A.B.	Concluding Report on mining-geological conditions and mining-technological properties of development of Zhaman-Aibat deposit. Karaganda, KarPTI, 1990	Preliminary exploration	1. Field engineering-geological description of core in 25 exploration wells, including two benchmark-parametric wells (## 441 and 457) throughout total depth of drilling. 2. Analyzing and summarizing data of laboratory and geophysical studies of physical and mechanical rock properties. 3. Metrological (instrumentation) description. 4. The following issues have been defined and studied: 4.1. lithological types of rocks (at thin	Engineening-geological zonation of Zhaman-Aibat deposit (at the stage of preliminary exploration) was worked out based on complexity of mining-geological conditions and shock hazard for stripping and development. As per classification of engineering-geological conditions (VSECINGEO), the deposit is within V type. Based on difficulty of studying, the deposit is referred to deposits of medium difficulty. Based on complexity opening-geological conditions for stripping and development the deposit is characterized as having medium complexity (type 3b). Simple and medium complex areas with ore reserves (over 90%) are located at depths with potential shock hazard of
				sections - 121 pieces); 4.2. Hydrophysical properties of rocks (at 146 samples); 4.3. strength properties of rocks (528 samples); 4.4. elastic-deformation properties of rocks (at 306 samples); 4.5. technical properties of rocks (284 samples);	rocks and ores. The deposit can be developed by underground mining applying breast-pillar system.

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Appendix 1 Summary of previous studies of ore-dressing tests of ores from Zhaman-Aibat and Taskura deposits (7)

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Results and effectiveness of ore-dressing technologies. Reason of low effectiveness of ore-dressing									
Description of survey, weight of samples, description of ore-dressing technological process	4.6. drillability of rocks (102 samples	from 12 wells);	4.7. physical and mechanical properties	as determined by acoustic logging in 27	4.8. shock hazard of rocks (at 12 sam-	ples from 4 wells);	4.9. classifying areas as per stripping	conditions and conditions for the deposit	development.
Stage, substage of a project, scale of survey (type of samples)									
Name of Report, year of issue									
Author of a Report									
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Appendix 2 Assay Results of Samples from the Zhaman-Albat Ore Deposit,

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Serial	Sample	Au	Ag	Cu	Pđ	Zn
No.	No.	(g/t)	(g/t)	(%)	(4)	(1)
1	2		6	2. 09	0. 01	0. 01
2	3		13	4. 82	∀0.01	∢0.01
3	4		8	3.2	0.01	<0.01
4	5		7	2.62	<0.01	<0.01
5	6	<0.1	19	5.16	0.01	<0.01
6	10		5	1.56	<0.01	0.01
7	13		22	4. 28	0.02	0.01
8	14		60	8.99	0.03	<0.01
9	17		24	6. 24	<0.01	<0.01
10	19		11	2. 43	0.05	<0.01
11	21	<0.1	26	5.49	0.1	<0.01
12	22		25	5.28	<0.01	<0.01
13	23		15	3. 72	0. 16	<0.01
14	24		8	1.62	1.4	<0.01
15	28		14	7.04	0.01	<0.01
16	30	1	4	1.56	<0.01	<0.01
17	33		47	0.96	<0.01	<0.01
18	34		44	0.92	<0.01	0. 01
19	35		8	4. 42	<0.01	<0.01
20	36	<0.1	<1	0.78	<0.01	<0.01
21	41	<0.1	ा	2.88	0.01	<0.01
22	42		3	1.43	∢0. 01	<0.01
23	43		10	2.49	0.26	<0.01
24	44		10	2. 24	0.81	<0.01
25	45		67	12.1	0.03	<0.01
26	46	<0.1	26	6. 24	<0.01	<0.01
27	47		24	6. 32	<0.01	0.01
28	48		5	1. 43	0.13	<0.01
29	49		13	3.81	0.04	<0.01
30	50		17	4. 02	<0.01	0.01

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Appendix 2 Assay Results of Samples from the Zhaman-Albat Ore Deposit, (continued)

Serial	Sample	Au	Ag	Cu	Pd	Zn
No.	No.	(g/t)	(g/t)	(١)	(\$)	(\$)
1	l	<0.1	2	0. 25	0.38	0.01
2	7	·	<1	0. 23	<0.01	0.01
3	8		2	0.5	<0.01	0.01
4	9		2	0.63	0.06	0.02
5	11	<0.1	1	∢0. 01	<0.01	0.01
6	12		4	0.56	<0.01	0.01
7	15		1	0. 35	<0.01	<0.01
8	16	<0.1	2	0.37	0.5	0.07
9	18		2	0.43	<0.01	<0.01
10	20		<1	0.39	0. 09	0.01
11	25		<1 .	0. 19	0. 02	<0.01
12	26	<0.1	<1	0.34	0.8	<0.01
13	27		<1	0.24	0.04	<0.01
14	29		<1	0.46	<0.01	<0.01
15	31	<0.1	2	0.59	<0.01	<0.01
16	32		298	0.09	<0.01	<0.01
17	37			0. 07	0.01	0.16
18	38			0.64	0.01	0.3
19	39			0. 07	0.06	0.39
20	40	<u></u>	ļ 	0. 15	0. 17	0. 07

Appendix 3 Whole Rock Analysis of Samples from the Zhaman-Aibat Ore Deposit

Sample	MOQ	Depth	Formation	\$102	A1:03	TiO_2	Fe203	Fe0	CaO	Ouk	Naz0	Mgo	K20	P205	101	Total
No.	.v.	8		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	8	(%)	· · · · · · · · · · · · · · · · · · ·	(%)
WRA- 1	664	74.5	Pikn	21.2	4.01	0.2	92 .0	1.53	32.5	0.11	1.45	6.93	0.97	0.1	29.7	99.51
WRA- 2	577	130	Pizd	66.1	12	0.6	4.07	0.61	3.92	0.03	4. 19	1.23	.2. 1	0.14	3.92	99.57
WRA- 3	577	378	Csdz	68.8	12.7	0.57		1.1	2.8	0.08	4.83	1.07	1.33	0.12	3.46	99.54
WRA- 4	584	404.6	Csdz	66.5	12.1	0.42	0.71	1.52	4.96	0.12	4.53	1.08	1.72	0.11	5.01	98.78
WRA- 5	389	601.8	Cadz	65.4	12.6	0.55	0.95	2.88	4.27	0.12	4	1.78	1.61	0.15	4. 72	99.03
WRA- 6	593	601.9	Cadz	60.2	16.7	0.64	1.88	4.43	1.63	0.13	1.63	2.65	3.95	0.16	4.79	98.79
WRA- 7	577	972	Czts	49.2	11.4	0.39	2.14	0.87	12	0.08	5.05	1.73	0.5	0.11	3.58	87.05
WRA- 8	753	830	Czts	62.8	16.2	0.73	4.75	0.85	1.41	0.03	3.94	2.14	3.28	0.15	3.06	99.34
WRA- 9	584	827.8	Czts	63.8	15.5	0.61	1.33	3.48	1.15	0.09	3,97	3, 37	2.29	0.15	က (၈)	
WRA-10	373	1045	C1V3-5	27.9	5.39	0.22	0.65	1.47	34	0.16	0.76	1.07		0.16	26.9	99.68

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Appendix 4 Wicroscopic Observation of Polished Sections from the Zhaman-Aibat Ore Deposit (1)

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No.	<u> </u>	Crom (m) to	E (E)	Orebody //loni/200	Ore Type	Wineral composition (%)	•
á	179	643.5		্ৰ উ	Se ore	Main constituent minerals are bornite, chalcopyrite, sphalerite and galena, and small amounts of digonite, covellate and native silver are also identified under the microscope. These minerals, as an aggregate, fill parts of interstices of clastic particles.	S S S
P.2	719	629. 45	630	Central/4-1	90 B	Chalcopyrite, pyrite and a small amount of goethite occur as interstices-filling minerals among clastic grains. Anhedral grains of pyrite are included in intersitial	
P-3	200	635.3	635.8	635.8 Eastern/3-V	aro no	Native copper and a small amount of digenite fill the 95 5	
Þ-d-	296	575.5	576	Bastern/4-1	ರ್ ರಾ	Aggregates of chalcocite and digenite full the interstices of clastic particles. Digenite occasionally occurs as lamella in chalcocite.	-
P-5	200	625.8	636.6	fastern/3 V	ე ე	Round appregates of chalcocite and a small amount of digenite occur interstitually. Digenite is sometimes observed as lamella digenite in chalcoite negregates.	
P-6	200	624.9	625.7	Eastern/3-VI	3 5	Pyrite and small amounts of chalropyrite, covellite and goothite fill the interspaces of clastic particles. Chalcopyrite and covellite occur toghter as veinlets within interstitial pyrite.	
, d	593(11)	587.7	588.2	Eastern/4-1	Su ora	Chalropyrite and small amounts of bornite and covellite fill parts of the intersaces of clastic particles. Bornite is often included in intportitial chalcopyrite, and covellite occurs along fissures of some of rims of chalcopyrite.	
÷ .	380(11)	620.9	621.4	Central/4-1	Cu-Ag ore	Chalcocite, bornite, digenite and small amounts of native silver, covellite and an unkwoun mineral are constituent miderals. Chalcocite and bornite occur together, and are often found as graphic texture up to [2mm in max, size. Small grains of native silver (10-40 µm in size) are contained in digenite. An unknown mineral occurs as lamella in chalcocite. It's optical properties are: slightly darket than chalcocite, distinctly birefectant (creamy olive to bluish greev), and weakly anisofrence.	
ъ.	373	831.5	682.5	Central/4-1	Cu-Ag ore	Bornite, chalcopyrite, chalcocite, pyrite, native silver. digenite and covellite fill the interspaces of clastic particles. Small grains of native silver (40.50 μ m in size) 5 25 40 are found in the assemblage of bornite, chalcocite and digenite.	
P-10	179CXXXV1)	636. 5	637. 4	Contral/4-1	Cu-Pb ore	Galera and small amounts of pyrite, bornite, chalcocite, digenite, germanite series mineral (probably colusite?) Occur interstitially among clastic particles. Small grains of native silver (20-40xm in size) are contained in galenu grains. Germanite series minerals is brownish grey in color, slightly lighter than bornite, and isotropic. It is associated with bornite and galema.	99

Appendix 4 Microscopic Observation of Polished Sections from the Zhaman-Aibat Ore Deposit (2)

Sample	<u>ਵ</u>	Nepth	ទ	Orebody	Ore Type	Observation	Wineral composition (%)	
Ò.	9	from (B) to (D)	to (a)	/llorizon			nou make to the to the to the to the or and	ź
ď	500		628.7	628.2 628.7 Fastern/3-VI Cu-Pb ore		Constituent minerals are bornite, chalcocite and small amounts of disente and calona Remain and chalcocite	01 02 05	
 !	:				, , ,	occasionally occur as graphic texture.		
						Galena, pyrite and a small amount of goethite fill the		
21-2	\$52(17)	662.5	563. 4	663.4 Northern/4-1 Cu-Pb ore	Cu-Pb ore	interspaces of clastic particles. Large grains or	09 17 07	
						aggregates of galena(about 8mm × 5mm in size) include		
						prismatic crystals (0.2-1.2mm in length) of gangue minerals.		_
						Chalcocite, digenite and small amounts of chalcopyrite,		
č.		17.5	18.5 Taskura	Taskura	S or	covollite, pyrite, sphalerite and bornite are constituent	10 5 35 20 10 10 10	
						minerals. Chalcopyrite and bornite occur as relicts in the		
						assemblage of chalcocite, digenite and covelbite,		_

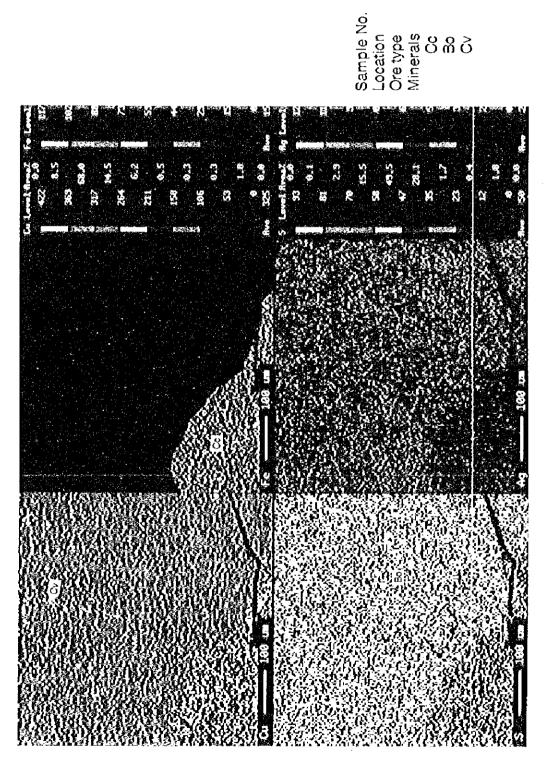
native copper	native silver	chalcopyrite	bornite	chalcocite	digenite	coverlite	germanite series mineral(?Xprobably colusite)	pyrite	goethite	sphalente	galonn	unknywn mineral
ខ្ច័	7,	ပ်	ភ	ឋ	ű	ò	ဉ် ပ်	ኟ	ö	ę,	ភ្	ZXX

Appendix 5 Microscopic Observation of Thin Sections from the Zhaman-Aibat Ore Deposit

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Codz (Red sandstone) Codz (archonatized conglomerate Rebble size congls.idax dia95m ¢. Watrix:carbonatization Codz (archonatized conglomerate) Codz (archonatized conglomerate) Codz Lamimatod very fine-grained Codz (archonatized conglomerate) Codz (archonatized conglomerate) Codz (Crey sandstone) Codz (Cre	DDII No.		×	Nock Nane	Nacroscopic Feature Mic	Microscopic Feature	Identified Minerals
Cadz (arbonatized conglomerate rocks. Limestone (micrites). Chert Cardz Liminated very fine-grained Average diameter:0.06mx Natrix:carbonitization conglomerate sandstone (Grey sandstone) Cadz (Grey sandstone) Cats (Green alevelite) Cat		314.0	23 	Very fine-grained sandstone (Red sandstone)	Poor sorting. Average diameter:0.08mm φ	Matrix:carbonitization	Quortz:angular, 40%, Feldspar:plagioclase, K-felkspur, 40%,
Cadz Laminatod very fine-grained Average diameter:0.06mmx Matrix:carbonitization Cadz (Grey sandstone) Cats (Grey sandstone) Cats (Garbonatized conglowerate Liaestone (micritic). Chert. Sandstone plagicalsae. K-foldspar. Cats (Theeformational conglowerate Liaestone (micritic). Chert. Sandstone plagicalsae. K-foldspar. Cats (Carso-grained sandstone Average diameter:0.05mm 6 Matrix:carbonitization Cats (Garso-grained siltstone Average diameter:0.05mm 6 Matrix:carbonitization Cats (Garso-grained sandstone Rock fragment:11mestone.chert, Matrix:carbonitization Cats (Red-sandstone) Rock fragment:11mestone chert, Matrix:carbonitization Volcanic rocks Volcanic rocks		673. 2	Cadix	Carbonatized conglomerate ("Raimundo" conglomerate)	Pobble size congls. Max. dia., 95mm ¢, volcanic rocks, Limestone (micrites).	Natrix:carbonatization	Muscovite, Opeque minerals, Goethite(?)
Cats Very fine-grained sandstone Average diameter:0, Imm & Matrix:carbonitization		381.2	Csdz	Laminated very fine-grained sandstone (Grey sandstone)	Avorage diameter: 0.06mmx	Watrix:carbonitization	Quartz:angular. 20%. Feldspar:plagioclase. Opeque minerals, Calcite (20%)
Cats Carbonalized conglomerate Pebble size congls. Nav. dia. 10mm x 6mm Matrix:carbonitiaztion, quatz. ("Interformational conglomerate") Limestone (micritic). Chert, Sandstone plagioclase. N-feldspar, chors grained sandstone Average diameter: 0.05mm \$\phi\$ Matrix:carbonitization (Green aleurolite)		523. 8	Codz	Very fine-grained sandstone (Grey sandstone)	Average diameter:0.1mm/d	Natrix:carbonit;zotion	Quartz:angular, 40%, Peldspar:plagioclase, N-feldspar, 40%,
Cots Pine grained sandstone Average diameter:0.18mm & Matrix:carbonitization		732. 0	Crts	Carbonatized conglomerate ("Interformational conglomerate")	Pebble size congls, : Max. dia, 10mm x 6mm Limestone (micritic), Chert, Sandstone		Vurgra: chiorite, Goethite(?)
Costs Coarse-grained siltstone Average diometer:0.05mm & Matrix:carbonitization (Green alcurolite) Cis Fossiliferous limestone Possils:brachiopods, mollusca, etc. (Biomicrite) Average diameter:0.05mm & Matrix:carbonitization Rocks fragment:limestone, chert, volcanic rocks Average diameter:0.5mm & Matrix:carbonitization Rock fragment:limestone, chert, volcanic rocks volcanic rocks volcanic rocks		912.0	Crts	Pinc grained sandstone (Red sandstone)	Average diameter:0.18maφ	Watrix: carbonitization	Quartz:angular, 30%. Peldspur:plogioclasc, K·feldspar, 40%. Chlorite, Goethire, Biolie
Cis Fossiliferous limestone Possils:brachlopods, mollusca, etc. Micritic (Biomicrite) Pikn Coarse-grained siltstone Average diameter:0.05mm // ("Marl") Rocks fragment:limestone, chert, volcanic rocks Pizd Coarse-grained sandstone Average diameter:0.5mm // Rock fragment:limestone, chert, valentization Rock fragment:limestone, chert, volcanic rocks		740.5	Cats	Coarse-grained siltstone (Green aleurolite)	Average dismeter:0.05mm 6	Matrix:carbonitization	Quartz: angular, 20%, Peldspar: playticelase, N-feldspar, 20%, Nuscovile, Chlorite, Oronio missorie
Pikn Coarse-grained siltstone Average diameter:0.05mm & Matrix:carbonitization Rocks fragment:linestone, chort, volcanic rocks Pizd Goarse-grained sandstone Average diameter:0.5mm & Matrix:carbonitizaton Rock fragment:linestone, chort, volcanic rocks	1	80 1.00	Sis	Possiliferous limestone (Biomicrite)	Fossils:brachlopods, mollusca, etc.	Micritic	Calci te, Opeque minerals, etc.
Pizd Coarse-grained sandstone Average diameter:0.5mm 6 Watrix:carbonitizaton Rock fragment:1smcstone, chert, volcanic rocks		74.5	Pıka	Coarse-grained siltstone ("Marl")	Average diameter: 0.05mm & Rocks fragment: lines tone, chert, volcanie rocks	Matrix:carbonitization	Quartz:angular, 20% Reldspar:plagioclase, K.feldspar, Perthire(?)
		7.05.7	Pizd	Coarsc-grained sandstone (Red-sandstone)	Average diameter:0.5mm & Rock fragment:limestone,chert, volcanic rocks	Watrix:carbon) tizaton	Quartz:angular, 40%. Feldspar:plugioclase, K. feldspar, Perthire(?), 40%. Rock fragment:10%, Others:10%.





: 95-EP-03 : Zhezkazgan South Mine : Ou Ore

chalcocite bornite covellite

Appendix 6 Electron Microprobe X-ray Color Image of the High Grade Ore in the Zhezkazgan Mine

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Appendix 7 Assay Results of Check Analysis of Ore Samples from the Zhaman-Albat Ore Deposit

Drill Sp No. N 364 16 364 16 364 16 364 16 364 16 364 16	pl. 60. 6624 6625 6626 6627	From (GL-m) 621.20 622.30	To (GL-m) 621.70 622 30	Cu %	zezukaz Pb %	gan Lab Zn	Ag	α.		emex L		
No. N 364 16 364 16 364 16 364 16 364 16 364 16	6624 6625 6626 6627 6628	(GL-m) 621.20 621.70 622.30	(GL-m) 621.70	%		Zn	1 40					
364 16 364 16 364 16 364 16 364 16 364 16	6624 6625 6626 6627 6628	621.20 621.70 622.30	621.70		V2.			Cu	Pb	Zn	Ag	Au
364 16 364 16 364 16 364 16 364 16 364 16	6625 6626 6627 6628	621.70 622.30				%	g't	%	%	%	g't	g't
364 16 364 16 364 16 364 16 361 16	6626 6627 6628	622 30	622 30		<0.03	<0.05	4.2	1.65	<0.01	0.02	4.1	<0.005
364 16 364 16 364 16 361 16	6627 6628			3.70	<0.05	<0.05	16.5	3.62	0.01	<0.01	10.5	<0.005
364 16 364 16 361 16	5528		622.80	11.06	<0.05	<0.05	50.0	10.20	0.02	<0.01	42.3	_<0.005
364 16 364 16		622.80	623.30	5.53	<0.05	<0.05	35.0	5.46	0.01	<0.01	22.8	<0.005
361 16		623.30	624.00	11.55	<0.05	<0.05	67.0	11.80	0.01	0.01	49.2	<0.005
1	6629	624.00	625.00	4.44	<0.05	<0.05	18.5	4.59	0.01	0.01	20.4	<0.005
266 30	6632	626.00	626.50	0.47	<0.05	<0.05	3.4	0.52	<0.01	0.01	1.6	<0.005
	0225	613.20	613.80	2.04	<0.05	<0.05	6.0	1.39	<0.01	0.01	5.6	<0.005
	0229	615.30	615.90	1.87	<0.05	<0.05	5.0	1.88	0.01	0.01	4.7	<0.005
	0230	615.90	616.60	4.56	<0.05	<0.05	18.0	4.55	0.01	0.01	15.9	<0.005
266 30	0231	616.60	617.10	0.50	<0.05	<0.05	4.0	0.49	<0.01	0.01	2.4	< 0.005
	0232	617.10	617.80	2.21	<0.05	<0.05	15.5	2.10	<0.01	0.01	23.1	<0.005
266 30	0233	617.80	618.80	5.28	<0.05	<0.05	23.5	5.13	<0.01	0.01	27.6	<0.005
279 30	2637	613.80	614.30	0.35	<0.05	< 0.05	2.0	0.33	<0.01	0.01	0.7	<0.005
279 30	2640	615.80	61630	3.72	<0.05	<0.05	19.5	3.35	<0.01	0.01	21.4	<0.005
279 30	2642	616.90	617.50	1.90	<0.05	<0.05	11.5	1.88	0.01	0.01	11.5	<0.005
252 13	3989	615.40	615.90	3.04	<0.05	< 0.05	17.0	3.12	<0.01	0.01	15.9	<0.005
254 30	0010	597.05	597.70	2.62	0.15	<0.05	10.0	2.65	0.01	0.01	10.6	<0.005
254 30	0011	597.70	598.20	3.40	<0.05	<0.05	9.5	3.45	0.01	0.01	8.5	<0.005
254 30	00 1 2	598.20	598.70	0.90	<0.05	<0.05	3.5	0.94	<0.01	0.02	1.6	<0.005
254 30	0013	598.70	599.20	0.23	<0.05	<0.05	0.5	0.23	0.01	0.02	<0.3	<0.005
254 30	0014	599.20	599.70	3.26	<0.05	<0.05	7.5	3.16	0.01	0.02	9.7	<0.005
254 30	2015	599.70	600.25	6.36	<0.05	<0.05	10.5	6.29	0.01	0.01	11.0	<0.005
245 15	5540	598.50	599.00	4.67	<0.05	<0.05	10.0	4.19	<0.01	0.02	14.7	<0.005
398 18	3005	528,90	529.90	2.88	<0.05	<0.05	4.5	2.93	<0.01	0.02	4.5	<0.005
398 18	3008	531.50	532.00	0.95	<0.05	<0.05	3.4	0.99	<0.01	0.01	3.4	<0.005
567 111	1883	523.45	524.10	1.50	<0.05	<0.05	4.4	1.34	0.01	<0.01	4.6	0.025
	837	526.25	526.80	0.43	<0.05	<0.05	3.0	0.45	<0.01	<0.01	2.6	0.025
726 120)448	574.10	574.60	3.05	<0.05	<0.05	16.0	3.35	<0.01	0.01	12.0	<0.005
726 120)149	574.60	575.10	6.25	<0.05	<0.05	21.7	5.98	<0.01	0.01	20.5	<0.005
726 120	1453	576.60	577.70	2.61	<0.05	<0.05	4.4	2.87	<0.01	<0.01	3.4	< 0.005
	042	600.60	601.50	3.16	<0.05	<0.05	7.3	3.01	0.01	<0.01	7.5	<0.005
402 18	3072	550.10	550.60	1.23	<0.05	<0.05	2.6	1.17	0.02	0.01	1.9	<0.005
1	3073	550.60	551.10	1.84	0.22	<0.05	4.6	1.93	0.06	0.01	3.5	<0.005
	3074	551,60	552.60	6.36	0.42	<0.05	15.0	6.26	0.11	0.02	10.9	<0.005
	3075	552.60	553.60	4.36	0.27	<0.05	10.0	4.53	0.07	0.02	6.8	<0.005

28 **%** K ខ \aleph 7 Appendix 8 Drilling Progress of the Hole "MJK-1", the Zhaman-Aibat Ore Deposit AUGUST ន្ត 2 **∞** 12 9 15 7 ij (ø mm) 112 93 59 Bit Size 38.3m 650.5m 4.0m Core Recovery (%) 20 40 60 80 Brownish sandstone/siltstone Brownish siltstone/sandstone Brownish sandstone/siltstone "Raimundo" conglomerate Brownish /grey sandstone Grey siltstone/sandstone Rock Faces Brownish siltstone Geologic Column 100m 200m 300m 400m 500m 600m Scale 700m $\widehat{\mathbf{E}}$

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Appendix 9 Drilling Equipments of the Hole "MJK-1", the Zhaman-Albat Ore Deposit

Article	Model	Specification	Quantity
Drilling machine	ZIF 650 M	Capacity: 659mm 800m	1 set
<u>.</u>		Inner diameter of spindle: 63.5mm	
	-	Spindle speed: 81~800 rpm	
	i	Weight: 2800kg	
Power unit	А-2-Ч 2-4	Electric Motor	1 set
		Revolution: 1450rpm	1
		Related power : 30 kw 380v	
Drilling pump	NB-320/100	Type: 3 cylinder single acting	1 set
		Volume (max): 320 Q/min	ŀ
		Pressure (max): 63 kg/cm²	
Power unit	4A200·M	Electric Moter	1 set
	6 U Z-220/380v	Revolution: 100rpm	
-		Related power : 22KW 380V	
Water supply pump	6-12-33A	Type: turbine	1 set
		Volume (max): 50 @ /min	
		Pressure (max): 50kg/cm²	
Power unit	AO2·У 1-6	Electric motor	1 set
		- Revolution : 960rpm	
		Related power : 3 KW	
Wire line hoist	K·6 3×25+1×16		1 set
Derrick	m R U 6 U·18/20	Pipe structual derrick	1 set
Generator	δ ms·13·41	Diesel engine	l set
	12 Om·4	Revolution: 500rpm	1
		Related power : 320kva	
		Weight: 4080kg	
Orill rod	CCK-59		650m
Water tank		9m³	1 set

Appendix 10 Consumed Materials of the Drill Hole "MJK-1", the Zhaman-Albat Ore Deposit

Article	Unit	Quantity
Diamond Bit 59mm	Pcs	10
Cemented carbide bit 112mm	Pcs	1
do. 93mm	Pcs	3
Diamond reaming shell 59mm	Pcs	2
Core lifter	Pcs	13
Core lifter case	Pcs	6
Core box	Pcs	130
Lost circulation mtarial	Kg ,	100
Diesel	1	8000
Gasoline	1	2800
Engine oil	1	400

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Appendix 11 Operational Results of the Drill Hole "MJK-1", the Zhaman-Aibat Ore Deposit

		D 111		· · · · · · · · · · · · · · · · · · ·
Item	-	Drilling hele N	0.	MJK - 1
item	Daillia - 1.			<u> </u>
·	Drilling leng	zin .	(m)	650.5
D	Core length		(m)	640.55
Drilling -	Core recover	•	(%)	98.5
	Depth by		(m)	4.0
Data	đo.	93mm size	(m)	34.3
	do.	59mm size	(m)	612.2
1	Cashing pipe		(m)	4.0
	đo.	89տա	(m)	38.3
	Drilling mas			ZIF-650
,	Working Per	riod		8.13~8.26
,	Actual Work	- •	(៨)	14
	No Working	Days	. (d)	. 0
	Total		(d)	14
Working		Mounting	(d)	0.5
i	Actual	Drilling	(d)	12.5
Period	Working	Dismounting	(d)	0.5
·	Days	Others	(d)	0.0
· ·		Total	(d) ·	13.5
	Drilling leng	th /	(m/d)	16.5
	Working Per	riod	,	
	Drilling leng	th /	(m/d)	52.0
	Drilling days	;		32.0
	Drilling leng	th/	(m/s)	26.0
	Dritting shift	s		
	Drilling		(h)	167°05'
	Hoisting &		(h)	132°55'
	Lowering roo	l etc.	. ,	-000
Working	Repairing		(h)	0,00,
	Sub total		(h)	300,00,
Time	Mounting		(h)	12°00'
	Dismounting		(h)	12,00,
	Others		(h)	0,00,
	Total		(b)	324°00'
	Dritting lengt	h /	(m/h)	3.9
	Drilling hour		.	0.5
	Total drilling			295
Workers	Total drilling			230
	Drilling lengt		(w/.m)	0.45
				<u>. v.4</u> .

Appendix 12-1 Geological Logging of the Drill Hole "MJK-1"(1/10), Zhaman-Albat Ore Deposit

Mine Paul (Paul 1997 199	N	/J	K - I	INCLINATION: - AREA: ZHAMAN-AIBAT BEARING: -	90	•	ELEVATION: 357.04 m	FIN	AL E	FPTI	4:650 50	m			
The control of the type and of the type and of the control of the	Ê	z		ATEX - EXCEPT SERVING -	٠	B	LECTATION SOLOTIN		<u> </u>		1	· · ·	PRO	ERTY	
The control of the type and of the type and of the control of the	4	5	DEPTH	DESCRIPTION		\$	MINERAL IZATION	١٧	5 .	Ĭ	SAMPLE No	L			
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1.80	3			Pro B. M. A. B. W. A. B. S. S. M. D. W. A. B. W. B. W. A. B. W.	_	<u> </u> ≃		╁╀	-1-1 -	l î	 	111	[//m]		
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Boddin have surely ablate problems and any sure of bodden in the bodden	- 50	333]	porture, undeatly expresses bedded structure. Grave's included in	٠,				11	1	1	[2,35			
RedSair bown, sardy shifted protein and a series of the se	l	0.0 P. 0	25.40	5年65年9月後後後7、	ł	1.			$\parallel \parallel$	+ 1	1	•	_		
### ### ### ### #### #### ############	l	<u> </u>			l	!	I		$\parallel \parallel$	11		•	4		
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Section string up to 20 at 25 are Numerous by set of operation (section) 1.10 am primited at 5-10 1.10 am primited at 5-10 am primited at 5-	l	X 24		Birs of prosum and chilorie at a sis of bactures. Lamination ancie is equal		7		11	1 †	Н		4.0			
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39.05 39.05 (4.5 m 6) (4.7 m, Light red 5m hown fareign sind sand time with carbon de-day yeared, including in lot days and sand time with carbon de-day yeared, including in lot days and sand time with carbon de-day yeared, including in lot days and being sand yeared by the day with the days and being sand by the day with the days and being sand by the day with the days and being sand by the day with the days and being sand days and the day of the days and being sand by the days and being being sand being being sand by the days and being sand being being the sand by the days and being sand being sand being sand by the days and being the sand being the sand being the sand by the sand being sand by the days and being the sand being the sand by the days and the sand being the sand being the sand by the days and the sand being the sand by the days and the sand being the sand being the sand by the sand	L					1			ш	11		1	_	_	
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### 19	l	19275	39.05		25	13			11	11			_		
### Service of Controlled Colory correct Notice in the Service Course grade of articlar by any bird, express tertificate and hardy service course grade of articlar by an express tertificate and hardy service course grade of articlar bird, service, builty service, compress to service and servic	Las		44.14	39 05 44 8m 45 1.47 9m Light reddish brown fire-grained	1	I ⁻		П	11	11	j	•		92	
### 4 ### 5 ### 6 ### 5	Γ~	- 3,		sandstone with carbonale-dayey general including interlayers of		1 5	1		H	11	1	•			
### 4 ### 5 ### 6 ### 5		3.5	[]			1 👯		Ш	H	11	1	•	_		
### 4 ### 5 ### 6 ### 5	1]	hier ayers (0.2011). There are numerous interfayers of Atler (8 at gy), sum	۷ ه	1 🖁		\mathbf{I}			1	:			
Section Shiphon with Segments and led inspective to the 35 x 2 cm by 2 x 4 cm in showed up to 30%. The grants and led inspective or strained and	l		5			∾	1	П	М	11	1	1:1			
# 3 point of the following in the product of 5: Poddsh brown affators (or fine grained muddy sandshare) with cofourable follows on next Particly the policy of defining a service and divine this are observed in the product of strong a service and divine this are observed in the product of strong a service and divine this are observed in the product of the produc		. Š	} ·	Emericae, Entistane with tragments of red alleuroscendistane from 0.5 x 2 cm	l				11		1				
## 193 Roddsh brown stations for fine grained muckly sandshmely in technologies for the grained stations of the fine stations of the fine stations and fine flavors of the fine stations and fine stations for the fine stations and fine stations for the fine stations in the fine stations for the fine stations for the fine stations in the fine stations for the fine stations for the fine stations in the fine stations for the fine stations in the fine stations in the fine stations for the fine stations in the fine stations		13.	! '		l				$\parallel \parallel$		1	•		1	
Reddsh brown sitistore (or fine grained muckly sandshare) with coborate forces on test Parliah provided, siding a sforce and children fine are obtained siding the fractures. Muckly sandshare has an horizontally bedded shuckse at 51 due to hidr agree of line pandshare layers in how bit to 30 on and machine fine to 18 mg sandshare layers in the bit to 30 on and machine fine to 18 mg sandshare layers in the side of model in the first pandshare layers in the side of model in the first pandshare layers in the side of model in the first pandshare layers in the side of model of model in the side of line first pandshare layers	l		47 90		ł		i			♣		•			
Paddish brown sitatore (or fine grained auckly sandshare) with deformed fiscous or next Partially brevailed, strings affects but disking this are observed string fine hautes. Hothly sandshare bet an historicality bedded structure and the biddy sandshare bet an historicality bedded structure and the biddy sandshare bet an historicality bedded structure and the biddy sandshare bet an historicality bedded structure and the biddy sandshare bet and the biddy sandshare in the structure and the biddy sandshare between the biddy sandshare in the biddy			1		l]			
Peddish brown sitistors (or fine grained muchly sandshare) with carbonals ferrous or next Parliarly bedded stiding a states and dividing this are obtained stiding a states as and dividing this are obtained stiding as a features. He dig sandshare has an individially bedded stiding sandshare logically bedded stiding as and share in the state as a final high sandshare in the stiding sandshare in	⊢ 50				41	1						25-16	4		
earborate festious content Parliaty besided, disting a afects and distraints are obtained by the Backers and Backe					آ ً ا				$\parallel \parallel$	11		•	$\overline{}$		
dividing Billing are photomed along fine hackness. Multiply sand thing sand-share in the fribit cast of the Billing sand-share in the Billing sand-sh]		l				$\parallel \parallel$			1:1			
biof 2) yes of largy sand-stone The Biodicess of the largy sand-stone (a) yes in leave to 10 t			1 : 1	dikulte tims are observed along the bactures	l					11			_		
Bons All bill of an and maximum flictures is \$1.6 m.	ŀ		'	 Interface of large sendations. The thickness of the large sendations were in 	1							,		1—	
Con oriented mostly at 5: 5 65-65 85m Bracciated, chicristration weak 2 8 4 94 4 94 4 94 4 94 4 94 6 4 93 6 5 5 65 85m Bracciated, chicristration weak 2 8 6 5 5 65 85m Bracciated, chicristration weak 2 8 6 95 2 85 2 85 2 95 2 95			!	from N) to 30 cm and maximum thickness to 1.6 m.		1		11				•			
65 65 65 65 65 65 65 65 65 65 65 65 65 6			i i		l	ŀ						•			
55 65-65 85m. Braccialad. 2 10		<u> </u>			۱	l			$\parallel \parallel$			[:]		11	
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Appendix 12-2 Geological Logging of the Drill Hole "MJK - 1" (2/10), Zhaman-Aibat Ore Deposit

i	MJ	K - I	Inclination :- Area: Zhaman-Aibat Bearing: —	-90) °	ELEVATION: 357.04m	Fin	ıΔι	U	PT	H: 650 50	m		
Ê	z	T			y		•				T 30.30	ROCK I		cord
SCALE	COLUMN	DEPTH (m)	DESCRIPTION	-	REMARKS	NINERALIZATION	34,705	SILICA	Š	BUCATE	SAMPLE No.	A-gh	No of iss	Core Poc
1.5	Ľ			÷	-₹		۱ĩ	- 1 -	-	1		11:3 13	/m)	<u>*</u>
			Red sandskone, including light red. Imy sandskone layers	1		İ		Т	l	П		4.3° -	2	95
		-	(elanais 10-30cm, thickness 12-5mm). These tooks are medium- trackined, gypsum at hacknes is offer took at 5°.	ķ.	.Į	=	11	1	l	1		<i>*,</i>	-	55 55
					1	•	ш	1	l			▎┇╟	2	93
Ļ	53	74 55	Red sandstone, line grained with carbonate-ferrous cement, horizon taky		İ		H	Т			[·	.	2	93
1			hodded structure due to time famine from with sitistance. The rock is medium front and Rock visibels of gripsum (51) with thickness up to 2 on, Contact				11	Т	ı	Н		•	2	95
1	3.2	7790	with underlying horizon is clear, at \$1, including rare tragments of brown					Т	l			*	5	95
1	=		colored sitistone				11	1	l			K•••	•	95
۱.,	MES	-	77 9-79 fm. Fied sitistone with sported structure due to spots of light-red	1	Į.		11	1			ļ	╽┇┝	-	93
- 60			colored liny sandstone. Rate Intelligers of Specifies gapsyin (selectie) in thickness up to 0.5 eac oriented at 51. Contact in throughlying	I	1		П	ı			1	Iː⊦	1	56
-			horizon is gradual				11	ı		ı		•	4	96
1			79 1-79 km, Red sandskine, fine-grained, bedded due to interlayers of				П					1 • [4	96
1	e de la como		aleurosandsiona 5° m in gypsum remiels 0.2-0 f on thick, oriented at 10- 20°				H		l			I ↑ L	4	96
ŀ			79 8-86 Sm. Red sitslane with interlayers of fine grained (83.9-84.15 m)				П	1		1		*	4	96
		86 50	gyptum and single gyptum veiriels 0 3-0 4 cm hick	1	~		П	1] -	-		;	1	96
1	A 4		Light red, sandsione, fine grained with carbon ata-famous cornect	Į .	:				H				4	96
		89 50	horizonlañy-bedded skruchura at 5°. Gradad beddarg and famina shuchtres ara developed. Tha tock is medium ill adured, veiriets of	k.	114.10		П		١I		[• [4	96
-90			grasum with thickness up to 15 cm. Corbonals grasum inclusions sizing	- 10"	=		Ш			- [1	_	4	96
		92.00	top to 1.0 = 1.5 cm s (this the interval from 87.2 to 87.8 m. Contact with funderlying horizon is clear, at 10*.		2	İ	П		l	1	1		:	96
1		9325	<u> </u>	23			Н		Н	1			4	96 96
	2010		Red sitstor a mith undersity expressed bedded structure including rare siteous-carbonate accumulations, weinliets of gypsum with thickness 5		=======================================		Į Į	18		Ī			4	96
ŀ			mrs, in leries and sine grained gray shred oxioned sandstone with		1							i i	4	\$6
1			Dickness 20 cm. Contact with underlying horizon is at 0*.	ĺ	5		1	П	Н			-	_	96
1			Reddish brown, sandstone, line-grained with carbonate-femous		dyptum		П				1	1 2-		96
			commit Lectioniar bedded six white at 10-15' due to historiaging with time.		3	1	Ιİ	11						96
-00			grained sitistone. The rock is medium trackined with grypsum (up to 1.5 cm.) Inick) hising in trackines. Contact with underlying horizon is at 0+.			1	ш	Н	ļ	1	l 1		— ŀ.	96
~~,			•••	İ	formation.		ш		ı			_		96
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	22.2				4 2							_	_	97
1						ļ		П	'		i I			97
110			RedGsh brown sitisfore with spotted or rarely horizontally-				Н	П				-		97
			keddod (al 5º) structure due to interfaying with line-grained sandstone Interfayers of line-grained sandstone with thicking as up to 25 cm.			<u>.</u>	П	П	-	ı	1 1	_		97
		1	madmum, 140cm. There is an interfayor of green colored sitistone at the		l		Н	П	ſ					97
		1	depth 94 8m, 106 25m and 110 6m with thickness 10 - 30 cm. These rocks are medium keethred, fractures are filed in by gapsum with	Z 6	Ì		П		į	1			_	97
1	7-		thickness from from to 5 cm. Contact with underlying horizon is undersor-				Н	Į I	1	1				97
			and gradual						I		}			97
		I				1			j			_		97
	\equiv			Z 8°				}	1					97
-150		- !							j			_		97
	===		Fied colored laminated sandstone, line grained, with carbonate- ferrous cement. Banded structure at 5-15. The rock is medium.					H	J	Ì	i I		~ -	97 97
	E, 1.7L		fractured, greater (form to 4 on thick) filling in fractures. Contact with						J			,, -4		97
		ı	underlying horizon is at 5°.			1		H	-	Į		• [97
1	==	1							-			4		97
	\equiv	127 20					П		1			*		12
		128 30		ı		1	Į I	11			_		- 1 -	97
						1				1		*		97
-430	2523	J	Reddish brown Inertike sitistone. The rook is medium trackined,	J		ĺ			-			" 4	1	97
	\equiv		records prown matches existed. The rock is medium trackined, gypsium velices at rare fractures (thickness up to 5 mm). There are	}		1		IJ	1			9 4	-	97
1	\equiv		numerous litter's as of fine grained sandstone with trickness 7-10 cm. The tayer is continued below:	- 1										97
			THE MYONE AND AND COUNTY.	- [П	1			/10-13 1 Z 1 1	-	97
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Appendix 12-3 Geological Logging of the Drill Hole "MJK - 1" (3/10), Zhaman - Albat Ore Deposit

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î	MJI	< - I	INCLINATION: - AREA: ZHAMAN-AIBAT BE ARING: —	90	•	ELEVATION: 357.04m	FIN	AL D	EPTH	E:650,50m
F	-		ALEA ZIATAT ACAT OCATINO.		1/2	LEELANGITOSIO				ROCK PROPERTY
ដ	COLUMN	OFBTU			REMARKS		R	4		1
SCALE	3	0EPTH	DESCRIPTION		≸	MINERALIZATION	20.52	SILICA	34548	SAVERE NO ANGLE No Core
Ιğ	8	(m)		-	Į į		1 5	รีบี	\$ 3	Figs (Figs. Rec. 1-1) (An) %
 "				г			11	11	1+	
1		. [Reddish brown colored satisfore with banded and spotted structure		i		11	11	11	
1		.	due to the interlayers of limy sandstone. Partings with thickness from t		ĺ		11	11	11	1 1 1
1			to 3 on and interlayers of fine-grained sandstone are described at		l		11	11	Н	4 4 97
1 1			Intervals 145.43-145 70 m, 147.3-147 6, 148 2-148 6, 156 9-157 20 m. Graded bedding structure (inclination, 10-15f) is observed in the		l		\mathbf{I}	11	Н	4 4 97 2 m 4 97
ŀ		.	obove intervals. The rock is medium knowned, knownes are fitted in by		l		\mathbf{H}	11	Н	
1		.	gypsum and are offerfied at 5°, 45° and 15°, flucturess of gypsum layers	Z vi	1	Į	11	11	11	∠s.c 4 97
ŀ	5227	: I	varying from I mento 2 cm. Contact with underlying herizon is gradual.	-19		ł	11	11	П	4 97
1					l	1	H	11	11	1 1 4 97
ì		•	-		l	ł	11	11	11	2 4 97
-50		•			l		11	11	11	7 4 97
1.00		j			l		11	1 1	l I	∠ 0.22 3 97
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1	62.50		. *				11	11		3 97
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Ł.	<u> </u>				ı		H	11	11	, 3 93
1			1		I		11	11	[1 3 93
1			Brown sandstone, Ede grained, with carbona's forces cement. Structure	}	I	156 50-156 55m, weakly ang Tited	11	11	!	8 3 97
1			is horizontally bedded at 51 due to intertaying a thirted polories's sill stone	١.	~	· .		\prod	}	4 3 97
1		159 00	The rock is medium factured, bactures are Med in by gypsom. Contact	25	2	!			11	6 3 97
Lien			e its underlying horizon is gradual	ĺ	•	•			11	4 3 97
F,00		160 50		1	Silvateria		11		†	2 97
1	E		Reddish brown shrione. Studius is besidally horizontally-		آ ا					2 97
ļ			bedded at 5° due to pastings of fine grained sandstone with thickness up		ě					a 2 97
1	<u> </u>		to 1 mm. Interfeyers of red fine-grained sendstone # Th thickness 10-15 cm		2		11	11		, 2 97
Į			occur all funush the layer fellerayer of medium-grained sandshare with		1 6		11	11		5 2 97
ſ			Bikárress 30 cm is des>Red at the depth 1650m and 169 9m		ŧ		11	11		2 97
1			* *	ķ.	1		11	11	Ιİ	9 2 97
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į	=			•	E Zea C		11	11		2 97
1	[=			l	۰ ا			11		9 2 97
Γ"	1250		-	ŀ	~		11			* 2 97
1				1	l		H		1+	* 2 97
1			1	Ι.	5			11	1 I	<i>y</i> ≥ 97
1		374.20	Fed sandstone, line grained, with carbonate ferrous cerrent. Structure is	Ζ.	Formation			11	H	// 2 97
Ł			horizontally bedded at 51 due to the graded bedding sit ucture interlayer of sitistone with thickness 33 cm. The rook is medium literatured, becauses		[[2 97
Į	151	176.10	are filled in by gypsom with thickness up to 2 cm. Contact with underlying		١.	ı	11	11	I	∠ 5- 5 3 97
1			horizon is at 0°.		ء ا		11		Н	8 4 97
1			<u> </u>	[4.	Zhideliae	1	11		Н	4 4 97
					;	İ			H	a 2 97
180			Brown massive sitistore. Undearly expressed bedded structure		1 3	ł		11	H	4 1 97
1.00	=		Rara partings of fine-grained sandstone with thickness up to 5 cm and interfeyers up to 25 cm. The rock is made in the store for the store is a fired in		l ^	Į.		11	П	6 2 97
			by grysum with thickness up to 3 cm, oriented at 10° and 30°. The layer is		ı	1		11	H	4 3 97
	=		continued below		ı	į.		11		97
1				ĺ	ı					6 97
Į.		[1	1		, 1		i I	2 97
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	=	}		Į	ı		11		11	3 97
L	<u>}</u>	i	200 08-208 65m, Brown colored massive sitistorie Unideaty enpresised	1	ı		11		1	4 97
1	<u>}</u> -	i	badded structure. The rock is medium insolved. Frequent verticts of	ĺ	ı				11	7 97
1		}	grosum with flickness up to 1 cm. Fractures are oriented at 45°, 15° and 5°. Grosum reinfets at 8 e 8 fers at 8 cm to 207,5 to 208,65 m are oriented.	ĺ	ı			11	1 I	9 7 97
1		1	by two groups (at 15° and 5° and along one axis). Contact with	ĺ	ı		11		I	1 1 97
1		l	underlying horizon is at 5°.	20	1	Į.			1 I	1 2 97
-20	1 <u> </u>	200 60	·	Į.	1	}			1	• 2 97
1	=	ļ .	208 70-209 15m Grayich-green sitistone Horizontally-bedded structure	ĺ	1			11	I	" Z 97
	<u> </u>	1	resulted from partings of red sitistine with their cass up to 1 cm. The rock is	1	1	-			 	* I 97
1]	medium frectured, flactures are titled in by gypsum with thickness up to 2 cm. Contact with underlying horizon is at itil*.		4		11			1 97
1	272	1		Γ	1				 	4 97
ŀ		}	209 15-210 0m. Brown sandstone, line-grained, with carbonate ferrous	1	ı	1.		11		ı ı ` ⊢—∛——
		ł	coment. Structure is sometimes bedded at 10°, 5° due to line termination	1	[11			1 1 h
1		{	with sitsions. The rock is medium hadured, hadures are filled in by	1	1	i				1 4 97
1		208 70	gypsum and are oriented at 30°, 10°, their thickness varies from 1 mm to 2 cm. Contact with underlying horizon is clear, at the angle 0°.	1	ı					2 2 97
1 314		209 15	്. ബോഗ് വാവ വിവ വേദ്യവിച്ചെട്ടി സംഗാവൻ എന്നുവി വാർക്ക് വിവർ വ	20	1				ļ I	1 2 37
5 IC	F	ـــــــــــــــــــــــــــــــــــ	<u> </u>	<u> </u>					┸┫.	

Appendix 12-4 Geological Logging of the Drill Hole "MJK-1" (4/10), Zhaman-Albat Ore Deposit

	МJ	K - I	INCLINATION: - AREA: ZHAMAN-AIBAT BEARING: -	90	•	El EMTONIA TOTAL			_					
Ê	Ş				B	ELEVATION: 357.04m	FI	NAL	. O	EPT	1:650.50 T		C PROF	con
SCALE	COLUMN	DEPT:	DESCRIPTION	_	REMARKS	MINERALIZATION		SILICA	٥,4	SULPATE	SAMPLE NO	Angle of Fige	No of Fiss	Core Pac.
		212 80	210 00 211 15m. Bittern sandstone, fine grained, it in calibrate femous content. Backing Studius at the angle 10°, 5° due to fine lenimation, after side in statute at the	∠\$' ~\$	-							Z - 40	2 2 1 2 2 2	97 97 97 97 97 97
-220		Z19 65	10. The took is medium thactured, flactures at a filted in by gaps and primited at 0°, 15°. Contact a fit underlying horizon is clear, wavy, at the gargle. O'. Brown statione, bedding structure [due to pastings of green at any ay statione with third ress up to 1 and at the angle 5°. The took is medium a schedul. Contact with underlying horizon is gradual. 219 05-219 55m. Brown polared time gradual (muddy) sends force with	∠3°	- rich Red					+		* * * * * *	0 1	97 97 97 97 97
-530		22805	ceition absolutes corrent, with graded bedding structure at the angle 51. Contact with underlying historican is sharp at the angle 51. 219 55-223 00m. Brown satistive with underly expressed bedded absolute. Brieflages of doctored five graded sandstructure with fill-divers 13 cm and interlayous of red octored five graded sandstructure with fill-divers 32 cm. The rock is medium haddened, flactures are Rised in by gypount, prior led at 51. Contact with underlying horizon is clear, at the angle 10. 223 00-226 20m. Pad sandstructure (the loopsurings of red fine-grained sandstruct) at the bedding structure (the loopsurings of red fine-grained sandstruct) at the angle 151. 51. Interlayers of satisfactors with fibrides a form 6 to 25 cm are observed. The rock is medium flactured, fractures or fine-field in bygg sum, flactures or foreited at 40°, fibridess of gyscum veirile's is up to 5 cm. Contact with underlying horizon is at c10°.	(B)	Zhidelinai Formation (Gypsum	·						2 30° ∠ 30° ∠ 3-10° ∠ 5-10°	_	97 97 97 97 97 97 97 97 97 97
240	2291	Z4Z 30	Stucture. The rook is reclum harbured Costact with underlying horizon is clear, at the analysis of the costact with underlying horizon is clear, at the analysis of the costact with carbonate terrous correct. Bedding structure due to partings of dark are under its horizontal at the engle of . Intelligence of dark and sittlene with budderlying horizon is unclear and gradual. Brown distores Bedding structure (due to time interlations with time.			238 to 238 don week's shafod 2014 with grysum veirbels						* * * * * * * * * * * * * * * * * * * *	2 2 1 2 2	97 97 97 97 97 97
-			grained sandstone) is horizontal at the angle 5%. The rock is masum brichhad, Pachues are filed in by gypsum and oriented at 30%, 10%. Interfayer with calcile gypsum and oriented at 30%, 10%. Interfayer with calcile gypsum analydrite aggregate with thickness 30 monotors at the decide 33% or interface.	֓֟֟ <u>֟</u>								٠.		97 97
-250		25240	on occurs all the depth 233 0 m. Interlayer of fine grained sandstone with thickness 35 on described at 233 7 m. Contact with underlying horizon is gradual. 242.36.242 75m. Light-brown colored, fine-grained sandstone with carbonal a ferrous cement. Badding structure (due to partings of dark brown sillations with thickness from anyle 5-15°. Partings of years to colored sittetions with thickness up to 2 on are observed as well. Contact with underlying horizon is clear, at 0°.	. 5	Sitteons >	4 6					3	∠ toʻ ∠s-vi	0 0 1 2 2 2	97 97 97 97 97
-			242.75-252.40m; Brown salistine, Unclearly expressed hedded structure interlayers of fine-grained sandstone with bioliness 5-7 and 50-25 on. The rock is medium fractured, fractures are filled in by propoun (silential), oriented at 5°, sometimes at 45°. Contact with underlying biolizon is gradual. 252.40-253 ISm Lightland colored fine grained sandstone, with cathonals feature contact. Bedding structure (due to fine Interlaying with dails and alternous content. Bedding structure (due to fine Interlaying with dails and alternous content. Bedding structure (due to fine Interlaying with dails and alternous content.	5	Formation (Rea							, ,	2 4 0 5 0 5	97 97 97 97
-260		265 70	at the angle 5". The rock is slightly fractured. Contact with underlying herizon is gradual.	5' 18'	Zhidetisal p						[. 9°	0 1	97 98 98 98 98
-270		270 IO 27+20	sandstore) is horizonfal at the angle 85°, brainston at the bottom of each toy at a file angle 5.15°. Interface of brown sitisfore(30 on thick) is also observed. The rock is isochared, factures are filled in by gream resinits: and fans with thickness 5 km. Contact with purcharing frozing is greated. Lighter of colored sitisfore. Partings of fine grained sandstone with histories 3.5 cm are described fineupon at the layer. The rock is sightly lightered foreigness contain fine of gream. Lightered colored fine grained sandstore with besting structure [due to changing granutonechic composition) at the environity. The rock is sightly fine threet, facture as contain fires of gream offented at the engle 5°. Contact with underlying bodzon is at 5°.									20.	1	96 95 96 98 98 98 98 98 98 98 98 98 98 98 98 98
280			of fractures with Biotocess 1 mm, oriented at 55°,45°. At the bottom of layer, the rock is abongly fractured (283.0-287.25 m). Contact is at 15°.				\perp						0 9	8

Appendix 12-5 Geological Logging of the Drill Hole "MJK - 1" (5/10), Zhaman - Albat Ore Deposit

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1	ИJI	K - 1	INCLINATION: -			nat ote pehosi							-	
Ê	7	.	AREA: ZHAMAN-AIBAT BE ARING:		'n	ELEVATION: 357.04m	FIN	AL	DEF	TH			PROP	coriv
SCALE	COLUMN	DEPTH	DESCRIPTION		PEMARKS	MINERALIZATION	¥	4.5	Ţ	ř	SAMES E NO	ANR	No ei	Core
3	8	{m}			Ž.		SULTOE	SILICA	CAPROLL	SUCEATE		Fiss 1	Fish 1	Rac
			Bruss proving statutes as the reduction to the day of the advance of	Г	-		11	11	Ť	ŧ	!	1.5	1/10)	99
			Brown, massive sitistone in thrunclearly bedded structure. Fine of grosum at leastness in thickness 1 mm, offer led at 55°,45°. At the bottom of layer,					11		١			۰	9.5
			Fire rock is strongly fractured (282 9-297.40 m). Contact is at 151. Thin fayors of green-dark green colored sitistons are observed within the			Ì	ÌΙ		1			∠ 2d ∠ 3d	3 4	98
			interval from 285m to 287 20m						1	ı		7.0,	×0	98
ł			f	2.5								٠	₽ .	98
	==	287.40	Light-red colored, fine-grained sandstone, with carbona's farrous carrent, cross bedded at 5-15' due to partings of dark-red sitistene.	ľ								C CTS	ID 0	9.0 98
	ν,		Intellayers of dark red sitistons with total frictness 0.6 mars observed as well. The rock is sightly fractured, fractures are fitted in by	ķ.	ļ					l		24-4	2	98
530			gytsum. Contact with underlying horizon is at 0°.						ı			Z. 10°	2	98
-		291.40		4.		•			1			<u>ر در :</u>	2	98
	. 35.1								ĺ	ı		∠ °°		9-8
			-			-			ŀ			ł	0	98
Ī										ı			0	95
	===		Brown sitistions is in unclearly bedded structure, including the interlay are		٠					l	į i	,	0	99
	o z ad		of fine-grained eardstone with thickness up to 30 cm, maximum frickness reaching 0.1 m. These rocks are fractured, fractures are \$2ed in by		1		11		ı	l	1	Z 10°		98
-300			gripsum (up to 1 nm fluid). Contact with underlying horizon is at 0°. Thin is, any of preen-dark green colored sitistors are observed mithin the	∠*	311727 ame				l				۰	98
1	CPEN		Interval from 312 9Cm to 313 10m		1	İ	П					Ì	0	98
1	2331		·		"	1				ı			Ö	98
1					Į	-					=		0	98 98
ŀ					~]	П						0	98
ł	12.0								1				0	98
	23.53				1		11		1	İ			0	98
-310			·						Т	ŀ			0	95
3.0					•				Т	l			٥	90
				l	-				1				0	98 98
ŀ	22.0		r							l			0	90
-			/ / Red colored line-grained sandstone with caltionale famous cerrent.		Z h 4 d		П			ŀ		∠ xo*	-	98
	2500	316 60	Structure is horizontally-bodded at the angle 5° due to positings of diark- red situstine, thickness of passings reaching those. Contact with		, r		П		1			۲۰	2	98
1	72	3:8 20	underlying horizon is at 0°.				$ \cdot $						0	95
-320	==	\$20.20	Light green colored sitstone	70,		-		11	1	Ť			0	98
[w	3	-	Red, massh a sitistore with unclearly bedded structure. Inchalling					Н	1	l			0	98
1	25.62		interlayers of fine-grained sandstone. Contact with underlying horizon is					П	Т	l			0	96 96
	7-30-	323 90	g alud				11	П	Т	ļ		i	0	99
1	31		Alternation of dark-red sitistions and line-grained sandstons]						0	98
			Sitistone tayers are dominant. Fine-grained samistone tayers occur at the intervals 324.0-324.4, 325.3-325.55, 328.1-328.4, 329.3-329.6				Н		ļ				0	98
	2235		m. Structure is horizontally besided at the angle 51. Fractures are	Z٠			11		1	ı			0	98
		329 90	filled in by gypsom lins.				П		1			∠ 6*	-	93
- 830	77		Afternation of dark red sitistone and line grained sandstone Sandstone	∠o*					-	t			ŏ	9.5
1		332.40	l'ayers et e donar et la Sandshar e layers et e light red colored, and malia.	2.5						1			0	98
1			interlaying eith sitstone; is horizontally bedded at the engle 5°.									∠±5°	0	98
L	2/		Stretched shared tragments of red ale arcitis 0.3 x 1.0 cm in size occur at the bottom of the Sandstota layer. Contact anti-underlying horizon is				11						٥	9.8
1			Cear at 15° as to core axis	Į.]]				۷۰,	0	98
													0	58
1			Brown, sandy sitistions with traguent interfagers of fine grained sandstone with thickness 10-15 on with lamination at 15-10°. The rock is medium									ا. ر	0	9.9 9.9
-340	2		hackend, hackers or a filed in by gopson, its distances verying from Recr			4.4						۲۰۰	•	98
	每		Re to \$ are, they are oriented at 5-15". Contact with underlying herizon is gradual.										0	98
		-	-									Z 26	-	97
L	¥ 73.7		<u></u>								,		ō	97
1			Light red colored fine-grained sandstone with carbonate farrous cement. SeSnentary structure (state to perforge of dark-red, fine-grained sitistone).			:						ا. ا	0	97
1	営		is cross-bedded at 65°, 0°, 10°. The root is stiphily isotured interligens of dark-red sercisions as a decorated finers. Contact with underlying	20			$\ \ $					∠•	-	97
		34930	horizon is delar at 0°.							Į			0	97
350				L	L	<u> </u>	Ш	┸	_L	t _	L,		0	97

Appendix 12-6 Geological Logging of the Drill Hole "MJK - 1" (6/10), Zhaman - Aibat Ore Deposit

	MJ	K - I	INCLINATION: AREA: ZHAMAN-AIBAT BEARING: —	- 94	o•	ELEVATION: 357.04m	FI	IN/	ΔL	_ E	EΡ	·T+	1:650 50	m		
Ê	₹				¥				_				1		C PRO	PERTY
\$CAL	COLUMN	(m)	DESCRIPTION		PFINABICS	MINERALIZATION		-SW-PROE	SILICA	, CLAY	CAMBOLL	SUCATE	SAVELE NO	angle Figa	Fiss Fiss	Cere Rec
			Dakirekijah brown, sandy sikulure a ih pored i beddad skulura duel interlaying mih kre-grained sandstone — klariayas oli kre-grained sandstone show or ose beddad skulture (if objects 15,75 cm) — The rot e skylify bedured, beddad skulture (if objects 45,864) ess 5 cm									Ī		۲۰,	0	97 97 97
-36		356 45 358 70	Reddish brown, sandsione, medium grained, sometimes coarse- grained, with carbonal e-factors coment. Graded be \$6 ng shinching and pross bedding shuchus are observed (all the angle 10-20%). Frequest accumulations of analystic layes with stign up to 10-10-8 or are described within the Interval II on 306-85 to 356-95 m. Fregment of red sitisting are described at the bollom of the layer with size up to 0.2 x 8.5 m. Contact with underlying horizon is clear at 5°. Gypsum Interlayer (1 on 1564) is occurred at the contact.	 							-			∠ 10°	0	97 97 97 97 97 97
-		363 50	Dark gray, sandy sitistane with posted and ienticular bedded structure due to interleyers and spots of light fine grained limp sandstone littledepens of time grained sandstone with blockness 18 on are also observed. Contact with underlying horizon is gradual. Resides hover, time-grained sandstone with carbona's forecast coment. Structure is horizontally bedded, sametimes cross should all the angle 10-15' due to partings of fine-grained sandstone with darke shading with thoses of the partings or past to 0.1 and. Partings of dark red sitistine with darks shading with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine with darks and sitistine and sitistine with darks and		Red Stiffstone)								-	₹3 6°	0 0 0 1	97 97 97 97 97 97 97
370		369 95	arrythia (10 x 15 on) are also observed there. The rock is styrely hactured, flactures are occifed by opposite this. Contact with underlying horizon is after. Interfayer of intraformational confluence is (8 on thick) at the contact. Feel, sandy sitistane, horizontal bodding, industing interfayers of this time.	Z = 10	~ ا								·		0 0 0 0	97 97 97 97 97
-38		379.70	grained sandstore with thickness up to 10 cm. The nock is hardwood. Contact with underlying horizon is all the englo 5%. 37 (6-372) tim, find-grained sandstone with certificate ferrous samest including it less grained satistics. Cross-bodded structure at the englo 5-10%.	Z 1.	Merica						-		-		0 0 0 0	97 97 97 97 97 97
			Sandstone layers: Re-555h brown, fine medium grained sandstone, with carbonal a- fine interfacing with fine-grained sandstone, (0 2cm finos), cross-bodded at the angle 35-102. The not its styling	/ e	2								į	∠10°	0 0 0 0 0 0	97 97 97 97 97 97 97 97 97
-390			include find in by grypom time. Contact with underlying horizon is way. 397.15-297 85m: Grayfish red, fine grained laminated sandstone with siliceous-carbonal-aferpous centers. Siliceous-carbonal-aferpous centers. Siliceous-carbonal-aferpous centers. Redish browns sandy silicione or alexa osandstone including interlayers of light time fine grained sandstone with tilichoses 3-5 on, horizontally bedded. Contact with underlying horizon is sharp at the angle 07.		610me >							- [Z 40*	0 0 0 0 0	97 97 97 97 97 97
400		39765	Reddish brown, sardy sitetone including spots of Egit red liny sandstone and rare spots of green alcurates interlayer of green's furging a modern at the depth 400 zm. Thin interlayers of gray torond fine-grained sandstone with bickness 20 cm are observed at the interlay and 410 to 415 m. Contact with tradefying horizon is gradual.	∠•	Parmation (Gray Sands	397,15-397 85m. Westly s5c/fied 433-20m. Appearance of gray sendstone								Z15	0 0 1 0 0 0 0 0 0 0	97 97 97 97 97 97 97 97
410			Redifishing ay, fine-grained sandstoke with siticeous carbonate- lemous carrent, horizontally bedded at 5°. Sometimes transforming into modulumbiase grained sandstone — Partings of geenishing ay elevation with trickness 3°.5 on, interlayer of red aleuroling with thickness 20 on are observed as well. Fragments of dark red aleuroline — Contact is with underlying horizon is gradual		Zhezhazgan F	·								-	0 0 0 0 0 0 0	97 97 97 97 97 97 97 97
420		415 75	Redd in brown, early silvione, spoted bedded shurture due to inled spin with fine grained sandstone. Contect with underlying horizon is underly expressed, oriented at the angle 0°.	∠s•	•	415 75 417 60m Weakly disseminated by pyrite Weakly distribed 419 85m-420 80m Wanify Cssaminated by pyrite Pyrite grains are ney fine								2.90	0	97 97 97 97 97 97

Appendix 12-7 Geological Logging of the Drill Hole "MJK - 1" (7/10), Zhaman - Aibat Ore Deposit

	COLUMN	1	AREA: ZHAMAN-AIBAT BEARING: -								. 1 5	1:650.50	***			
	₹				3		_					1		C P80F	ERTY	
	5 I	DEPTH	DESCRIPTION	.	REMARKS	MINERALIZATION	ı	9 :	٠,	Ę	1	SAMPLE NO.	Angle	No.	Care	
	ŠΙ	(m)	·	- 1	ă		ı	30. July 1	, * , *	1	3		ä	FILL	Rec.	
					<u> </u>		╁	ï	Ť	-ř	Ť	 	6.3	(W,	97	
	7	i	Fedush brown, sandy shistone, massive with lamination due to	ĺ			ı			1	1			1	97	
. ₽	, <i>T</i>		Interlaying with gray fine-grained sandstone Interlayer of re 50sh	1			ı	1 3	l	ı	1			-	91	
į į			gray fine grained sandstone occurs at the interval 421 3-421 75. Contact with underlying horizon is dear at the angle 5°.	- 1			ı	L		ı				•	97	1
Į.	=		Constant procedure to the control of	- 1		·	ı			ı	ı			•	97	*
- E	77		Gray medium-line-grained sandstone with siliceous earbonate femous	۷٠		426 65-428 40m.		L	IJ	-	1			0	97	
ŧ	-	426 65	cament. Interlayer of gray a surplite with thickness 10 cm, Fayments	- 1		Pyrite accumulations with size up to 0.4.0.8 cm, and a sakly dissortinal ad-		╁ -	1	١	1	Į.		0	97	
	3	428 40	of dark-gray at autofite 0.5 x 1.0 cm are observed as well. Contact	ر ،		ty py ile fivough te legar.	1	H	ŀ	ĺ	1	1	ŀ	-0-	97	
	77	720 10	with underlying horizon is clear at the angle 04.	''		West storeson	ı	† 1	ΙI	-	ı		l	10	97	
430	뀰	430 00	Reddish brown situtone with gray sprits with interfayors of line grained	۷,			ı	1-	ŀ	-	ı		1		97	
			sandstone with thickness 20 on Bodding structure is horizontal. Contact with underlying layer is gradual.	1		430 00-432 25m. Celo7e Wins			il	-	ı		l	H	97	
		432 25	<u> </u>	4.0		1	1		H	ļ	ı		l	10	97	
			Gray sandskinne with rad spels, line greined, with streetus cerbur at a peasent. Bedding structure is horizontal, cross bedded at the angle 5-	-~I			ł	ı		-	1		l	0	97	
			10. It a rock is slightly becaused with first of calculate at an area.				ı	1		1	1	433 Q# ~ 433 B a	Z.80		97	ł
	#		Contact with underlying teyer is undear at the single 0°.				ı	•	H	1	ı	44	1	•	97	
	<i></i>		Reddish brown, sarrly shistone including "sandstone balls" 2-40mf				ı		Н	1			l	0	97	
	Ź		and thin layers of sandstone. Interlayer of gray shared fine grained				ı		Н	-		1		<u> </u>	97	
	4	438 80	sandstone with thickness 16 on occurs at the dapth 437 55 m. Contact with underlying layer shows load casting structure(ways).				ı	Ŧ	Ιł	.	1	44154	2 **		97	
440		440 70	Control is a controlled told in the second process (201).	ا• ب		408 30-440 70m Weekly dissensir alled by pulle .		1	Ιĺ		1	452	I	°	97	İ
		11070	Dark greenish gray, sandy sitistone, horizontally-bodded at the engle 5".			_		1	† †	· †			∠~		97	i
ŀ			With larger about the basis of sands and a Contact with			440 7 442 Gm, 442 4-443 Zm. Dissensivated by pyrite		‡	H				۳ ا	╁	97	
ŀ			underlying layer is gradual.			Mesy Ajergeszou Frazeuma es talbarra	ı	ł	l	- 1	Т		l	÷	97	i
		444.40	Light-gray, coarse-fine grained sandstone with silveous-carbonale				ı	1 -	ŧΙ	ŧ	Т	445 84	l	0	98	Í
1		445 50	coment, with colone time cooling becauses. Creded bedding shuther it does doped at the engles 5°, 10°. Contact a thiunderlying layer is		_		1	∔ -	1		Т	48	1	0	96	
	==		occouped in the engles of the content of the opening of the rock.		2	445 50:451 93m. Dissersinalist by Darka	ı		1 1		Т	ŀ	l	0	9.5	
i		j .	mest -		Jandalone	446 \$-447.7m. weak	ı	ł			ŀ	•	l	0	98	
			Reduch brown, sandy stitute	H	•	447.3-443.2m, storig	ı	Ţ.	11		Т	4300-	l		98	ł
45d	==		445 50-449 00m. Dark-gray, laminated medium-grained sandstone	H		443 2-451 9m. neak	ı			!	Т	47 - 430 1 #	l	-	98	
[]		43190	with siliceous carbonals cament, with siltslore thin layers. There are	20	G ray		ı	ı	H		ì		l	10	97	
l l	==	43130	a lot of tragments of greenish-gray aleurolite with size up to 3 x 5 cm.		ē	451 90-454 50m Wedly	ı	1.	łΙ	1	Į		ļ	+	97	()
l f			Frequent small pyrite crystals occur in the rock mass. 449 00-451 90m, Black-dark gray sitistone with the bedding structure.	l	-	disseminated by pyrite	ı	1	H	1	l	1	1	1	97	1
lE		434 60	due to the fine lamination of fine-grained sandstone layers. Joints		347 los		ı	1.	ŀί	1	[435 ta ~ 458 1 a	l	0	97	h
├ }			are ofented at the angles 15-20, 80°. Contact with underlying tayer is		ž	<u> </u>	ì	ı	П	H	Т	48	1	٥	97	j
	11:1		at the angle Of . Frequent small pyrite crystals described in the rock	H	è		1	ı	l l	l	Т		l	٥	97	Į.
1			Gray, methon grained sandstyre with streets carbonate series (with	ll				ı	1		Т	-	l	<u>, </u>	97	
1			parangs of dark-gray alternates with thickness 1-3 cm, and with baginarits	ΙI	S			1.	ΙI	ı	Т	443.04	K	12	97	-
460			of dark-gray sieu office sizing from 0.5 x 1.5 cm to 3 x 4 cm.	ll	Zhekhazgan	454 50-464 80m Viesby		Ŧ	1		ł	49 -410 14	1 ² "	}-:-	97	4
	111	1	Dark gray block, sandy all stone, with the bedding structure at the angle 51. due to partings of time-or sixed sandstone, John's are coated with calcite.		4	disseminated by pyrite 459 0-459 6m. Nectum-shorely		Т	Ħ		1	ŀ	1	H	97	1
			Sins, joints are oriented at the engle 5", some times at the engle 45".	<u>ا</u> ۱۰	Ň	459 tr 438 6m; Necronstruction		1	ΙÌ			ŀ	1	-	97	1
			Contact with underlying layer is gradual	ΙI					П	1	ı			10	97	İ
		46480	459 10.450 45m; Light-gray, fine-grained sandstone with streecus- certion are cesteral.	ΙI			ı	1	П		Т	- 45 1 m		0	97	Î
t I			Variation of the state of the s	ll		454 80-474 80m, We≇.ly	١		Ī	Н	Т	50t.	1	•	97	
1				[disseminated by pythe 473 7-475 On: Strongly disseminate	ال			H				.0	97	1
		•	Gray Light gray, oclarse medium grained larninated sandstone, with	ا، يا		bypyne	I	1	}	H	ı	1	1	0	97	4
}			silicaous carbonale coment, horizontally beddied, including a lot of this interlayers of black silkstone with thickness up to 1 mm. The rock	ΓΊ			J	1	1	l	Ţ	470 fla		0	97	1
470	-	1	is slightly fractured with ceidle time coating joints. Interlayer of				J	1		{	Ţ	51C 3m	1,-	4	97	1
f		į	greenish-gray aleurolite occurs in the Interval 420,7-470 BS. The	Ιİ				+	П			1		\	91	1
		}	rock is slightly hackered. Contact with underlying layer is at the engine	Ιl			1		П	1				0	97	Í
		1	 "	ا. ا			I	1				1	1	0	97]
		474 80		ř *1			ļ	1	14	ŀI		- 478 A*	1	٥	97	
Г		l	La construir de la construir de la construir de la construir de la construir de la construir de la construir de	Ιl		474 & 430m Weak Chioritzelin	J		Н		Ţ	526	1	0	97	1
		l	Greenish gray-dark gray, sitistone, including lenses of gray line-grained sandstone. Utilitis oriented at the angle 60-55°, calcite this coaring.	Ιl		424 B 480/m Weat Creomizern 480 483 /m. Disseminated by pyrite	·		П	Ιĺ	1			0	99	4
		I	joins Contact with under hing layer is gradual	l l			I				1	1	1	•	99	
		i		ıl		I .	ı			ŀ	-	480 0 *	1	0	97	∮
460	[==]	I			ĺ		j	ŧ	1-	ŀĺ	1	530	1	Ĭ	97	1
1		I		ı l			١	I	ļ	lĺ	1			1 -	97	1
1 !		1		\	1		ı					1	27	-	97	1
		483.80	<u> </u>	j l	1		I	1.			П	1 .		0	97]
		<u> </u>			ŀ	464 0 451 0m Appear Bituminous	I	1		H	-	415 0 B	1	0	97]
Ţ		{	Brown, Atemation bads of Bitamicous saxistions (with sticeous-	[]	l	savistra	Į.	ţ	L	H	Ţ	54	1	0	97	4
} }	[<u> </u>	j	carbonate cement) and sitisfore. Interlayer of greenish-gray colored	4		487 4 489 0m weakly disseminated by pyrite	ľ		L	Ιĺ	Ţ	1		P	97	
	<u> </u>)	fine grained sands'one occurs in the interval 484 to 484 3m. After of oil saturation zones are described in the interval 484 0 491 0m.			-1 +1, ma	Į	ĺ	L	IJ	Ţ	1		10	97	4
		}				ļ	I	ı		IJ	1	1		0	97	1
			•	. 1			- 1		الما	ب				<u>`</u>	<u></u>	

Appendix 12-8 Geological Logging of the Drill Hole "MJK - 1" (8/10), Zhaman - Aibat Ore Deposit

٠.						•								
<u></u>	ИJI	K - I	INCLINATION: - AREA: ZHAMAN-AIBAT BEARING:	-90	•	ELEVATION: 357.04 m	FIL	NAL	Di	EPT.	H: 650.50	m		
Ē	ş			-	X					5 P	-	ROCK I	PROF	ERIT
SCALE	COLUMN	DEPTH	DESCRIPTION	,	REMARKS	MINERALIZATION		2	<u> </u>	3	SAMPLE No.	17.8	No.	Corn
🕅	8	(m)	:		Į į		3	1	4	1 3		Fire.		Pac Ye
		<u> </u>	Gray, line-grained sandstone with sificeous carbonate cement.	T-	tĒ	430 2 430 Sm. Appear Biturrânous	H	+	†	Ħ	35 4300=	 		97
		91 90	Accumulation of pyrite crystals observed at the interval 430 35-450 4m.	Z •	1	sandstor.e	l	1	1.	l I	~430 ta		0	97
l ·		493 20	Ctl saturation in the interval 490 2-430 9m. The mothis stightly Bactured, calcife time at factures — Contact with underlying tayar is at			493 20-435 10m; Cresemina ed by			1	Н	1		٥	97
l			The angle 5°.	١.,	Į	Dago.	1	1	1		435.4=	<u>[</u> .	9	37
ŀ	<u> </u>	455 10	Dark gray, skishne a in laminated and thinh bedded sandstone	4	1	-		ł	+.		36,2933	}-	•	9?
			Gray, fine-grained sandstone with sitiogous-carbonase cement, pross- bedded at the angles 15. Spots with increased pyrite content are also	1	ł	495 10-499 45m. Wash Chloritzation	!		1		•	2"	-	97
•			cooled in the angles 15. Spots with tho based by the content was also	1	ĺ	Very weak cyclic dissemination					1	}	ö	37
ŀ		400.4		ł	l			1	1	H		l 1	•	9.7
-500		4 99 45	Cark gray, stistone, with thinly bedded sandstone, at the angle S*. Including spots of light-gray ting sandstone — Joints contain calcite tins.	l	l		H	· †	f·	Ηl	570 0 m	ַן וַ	0	97
-		•	Contact with underlying tayor is gradual	Z .	!	499 45-502 90m. Weakly Jisseniraled by pyrte	1 1		ı	Н	3,	i L	٥	97
		502 90		Z a.	1	Yeinie's of calcila			1		1		-	97
		30.5	Gray line-grained sandstone with sinceous carbonate cement, with	í	l	502 9-505 0m: Westly disseminated	1 1		† ⋅	H	ŀ	ł	•	97
		ĺ	Firsty and horizontally bedded sitetione — Interlayer of intraformational	ı	l	by cyrite	1	ı	ı		308 9m - 536 3m	}	÷	97
Ī	<u> </u>	į	conglomerate is observed within the interval 500 8-500 86 Calcite	ŀ	l	502 9-506 fan. Weak Chiodicadon 505 9-505 3m. Ou minerafization Ou	1	1	1	1	58		0	97
	==		films coating joints and Veinlets of calcite 4 on thick is observed at the bottom of the tayer.	ı	l	12%,Ag 72 9 g/l		1	T	Ш	1	[[.	0	97
	讍	[L	Į	l						1		0	97
ŀ	==:	509,40	Greenish gray Dark-grey, fine greined sandstone with siliceous-	4.	ĺ	į į	H	1			100		0	97
-510			carbonate cement with horizontally and fixing bedded absurce and stone. The root is stightly fractured with celeste firm coating joints. Contact with	l	l		H	ſ	1		39 (1836		÷	97
			underlying layer is 0°.	l	l		1		Ì	Н		-	-	÷
1					l		IJ	1	1			F	•	97
				1	l			ı	ı		l	l 1	0	97
ļ.			Greenish-gray - dark gray, sandy stistone - Structure is bedded at the	Z :	ĺ	1			1		515 0 = - 5:5 3 a		٥	97
			engle 0-5" due to fine lamination with derk-gray sandstone — Contact with	١.	l		1				901		٥	97
			under ying leyer is gradual. Rare concretions of pyrite with size 1 x 1 - 15 - 2 0 cm are described through the layer.	1	_	1							읶	97
,	 -		The second secon	Ì	}	515 6-516 2m, 519 3-525 0m. Weakly dissended by pyrite	l		П				:	97
e ~~				1	Sandetone	ricon, y was solutioned by Pyrito	1		П		#170 fed ~170 fe	P	÷ŀ	10
-520	==		Gray-presnish gray, fine-med im grained sandstone with thinly and	1	:	<u> </u>	l		П		61	· -	•	97
:		521.70	horizontally bedded red-green colored shade with sticeous- calbonate cement. Concretions of pyrite are observed within the	l	<u>.</u>]	1	· 🕂	Н	. [, <u>,</u>	۰	97
			layer. The rock is me hum fractured with calcite films occasing joints.	20	;	521.70-524 60m. Oisseminated by			П			, <u>, , , , , , , , , , , , , , , , , , </u>	•	97
-		524.60		ı	~	Fyrite	IJ	Ţ	П		525 0 m	L	<u>• </u>	97
				1	9 1 0 A		1	- [H		62 - 8 1 5 50	! Ъ —	÷	97
					ě		l					! #_	÷	97
			Gray, sandy silistone Interlayer of honzontal micro-crystaline		F or B] }	!	1	l [0	97
	 - <u>-</u> -		limestone is observed within the interval 535 S-535 9 mand 528 2-	·		.	l				130 2-	_	0	97
530	==-	,	528.4m. Frequent concretions of calcite sizing from 0.1 x 0.2 cm to		8	527.4-534 6m, concretions of calcilla	l		П		63	I ⊩	0	97
			0.5 x 1.0 cm are described within the interval 527.4 - 527 8 mand 533 7-534.8 m. Contact with underlying layer is at the angle 0.5.		Zhezkos								0	97
					, .				\mathbf{I}^{1}				: 	97
					~				П			ļ .	÷ŀ	97
_	- <u>-</u>	533 45	.	۷.			اا		Ц	ļ I	1390m -1391=	i~	0	97
				1			l		L	i 1	64		ō	97
			Dark gray-greenish gray, afternation beds of fine-grained sandstone			507 9-539 Om, Weakly disseminated		.	L	l		-	<u> </u>	97
			and siltsione bedded at the engle 5° with calcile time and pyrite concretions at joints. Contact with underlying layer is at the engle 0°.			के कि के अनु		1	1				<u> </u>	97
			. คณะพอกระชามใหล่งค. คณะกระวามการแดงแห้งเดี เราใจและ 91 โดย 90ปี 9 ก."				H	- [1		340 6 A -340 3 m		ŏ	97
-540		54075		′•۲	i		ļ	1		ļ I	65[· -	0	97
									1				•	97
	==		Pale gray-greenish gray, attemation beds of fine-grained sandstone { with sificeous carrent and) sitistone bedded at the angle 6*.	,		\$40 75-552 15m; West pyrite Øsseminelion in the sandstone	ı		1				0	97
			Camination and graded be doing structure are developed. Weak			Pssemmetice on the sandstone	IJ				-1463-		: 	97
-	[:::::]		pyrite dissemination is observed at the sendstone layers OB			544 45-545 80m and 549 50-	1				66 (145 3 =	'	;	97
			saturation in the Interval 544, 45-545 80m and 549 50-550-35m.	20	l	550 35m Oil saturation	1		H		1	H	÷	97
						 							٥	37
	- <u>-</u> -					1		1	П		350 0 4		•	97
550					l	·	╽╂	}	П		3003 m	i i .	•	97
- • •							İ		П		[) —	0	97
		552.13					‡	Ŧ	П			J	}	97
			Greenish-gray dark gray, sandy sitisfore Structure is bedded at the			· .	Į (1	Н				<u>•</u>	97
į			angle 0-5" due to fine lamine/on with deficiency sondstane — Contact with underlying layer is gradual. — 556 8-557 15m gray, medium grained.	ا . ا					П		5000-	1 3 <u>-</u>	ڏا	97
			sandstone with week pyrite dissemination and with Oil saluration.	۷.		556 8-567 15m, weak pyrite			П	İ	80	44	2	97
ļ						dissemination and Oil saturation.	J		П] ;	1 —	0	97
			Falle gray, Coarse fine grained sandstone, with graded bedding and			559 00-560 00m Weak pyrite	Ī		П		1	_	0	97
,,,		559 00	lamination structure, bedding structure at the engles 10°.	£ 16		dissemination	ł	1	П			J.,	}	97
200	Ę.:::1		·····	لت	i	l			ليا		j		<u></u>	37

Appendix 12-9 Geological Logging of the Drill Hole "MJK-1" (9/10), Zhaman-Aibat Ore Deposit

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ħ	MJ ł	(- 1	INCLINATION: - AREA: ZHAMAN-AIBAT BEARING: —	90	•	ELEVATION: 357.04m	FIN	AL.	DEI	PTI	4: 650.50r	n,	٠,	
Ê	Z			-	Š				2	_	T		PROP	ERTY
SCALE	COLUMN	(m)	DESCRIPTION		REMARKS	MINERALIZATION	SULTER	٠ • •		FANOUS		Angle Fina L	el Fint (/m)	Core Rec %
		561 70	Gray, coarse fine grained sandstone, with sakeous commit. Graded bedding at within it densicy and all the langle 5°. Calcite films and fine abdundant pyrite improgradium films (cinit are of served through the layer.	Ze,		S60 00-561 70m, pyrke dissemination(medium) and calcile lims (west)			\prod		590 0 m • 140 5m		0	97
		56800	Gray gate greenish gray, fine alternation beds of sandy shistone and fine grained sands tone, at the angle 5'-15'. Sometimes it contains is and better. Cristials and contrations of pyrite are observed at the greenia time 56 6 to 565 0m. Contact with underlying layer at elliberangle 0'.	Z 8°		564 6-565 Om. Strongly discominated by pyrite 565 0-568 Om. Wesk'y discominated by pyrite	.				344 0si ** \$14 3.4 70		0 0	97 97 97 97 97
-570			Pale gray, coarse fine grained sandstone with strocous carbonaceous correct, graded be 55 ng structure is developed. Week pyrite dissemination is observed all through the tayer. Partially including becomes statione tragments at the interval from 57.8 is 574. In end from 57.0 is 577.5 m. Becking structure is horizontal, sometimes cross-bedded at the angle 51.5 lb. Joints are offented at the angle 51.55. Contact with underlying layer is wary and gradual.	۷¥.	(Grey Sondsone)	568 00-578 Zvm. Weak pyrite disservingson			Î		676 9 m 71	-	0 0 0	97 97 97 97 97
-580		578 20	All smallon beds at Sandstone and ultistone, horizontallly bedded 583 9-563 in: Weat typite decomination Sandstone layers: Coasse must are line grained sandstone layers showing graded to diffing structure with Weat of odor, thickness 9 time 1 time. Abundand fragments of greenish gray stitistone are of served in the layer. Contact with underlying layer is easy flood cast 1).		toen Formation			 -			72 - 976 (n. 72 - 976 (n. 72 - 976 (n. 73 - 976 (n.		0 0 0	97 97 97 97 97 97
-		353 30	Sillstone layers: Greenish gray, Rare carbonaceous corcretors with size up to 10 x 15 m and black mut ball are observed in the layer. Gray, five gained leminated sandstone, horizontally bedded the Ball gray code of initially as with abundant prite are observed flooright the sandstone layer. Contact with underlying layer is at the engle 10. Gray dark gray, laminated and thinly bedded sandstone including a	۷۰.	Zhekhazgan	581 0-585 3m Weak pyrile discerniusion Sandstone layers Weak oil odor			4		74 2774		0 0 0	97 97 97 97 97
-590		59084	small quaintry of sitistance thin layers. Distinct graded bodding structure (bodding inclination, 6°-10") is observed. Pyrite discernination is observed all through the layers, structly discerninated access see distributed in the coarse grained sandstone layers.	2 0		585 30-590 94m. Thin layers is its pyrite concentration. 590 94-597 60m. Pyrite					Sample Na (~ 43 (831.50 (* 615.50)		0 0 0	97 97 97 97 97
-			Omit gray, alternating bade of time grained servisional(servite) and sill-time, bedded at the angle 0:-5. Chalcoole concertained this layers and seate price dissemination (in dissemination and amount of graine-chalcopy) the bornital and observed at the servicional types.	∠ o* ^-ro*	Weekly Mineralized	disservinetion 590 94592 72m, strong 592 72593 95m, week 594 35594 64m, strong 594 64595 90m, west 595 80597 60m, strong	i i				5	∠ ¹⁹	0 0	97 97 97 97 97
-600		597.60 600 12	Light gray brown, medium graind massive sandstone, containing a small arcount of conglomerate and sitistone thin layers, bedded at the angle 37-7. Dissemination by checkod's \$25galars bomile, chabopymile pynile) are observed within the interval 539 0-505 75m.	۷.; ۱	2,00	599 00-600 12m: Chalcoole concentration layers and weak pyrite if scenning 50n 500 12-605 78m Dissemination by	\ \ \				20 20	4. F	0 0	97 97 97 97
			Brownish fight gridly green shiftight gray, inhaflometer at confidence the (RAMAPOD Congiture rate) consisting of angular inapprets of white or gridle colored limestone and sitiations (sizzing from 5 is 5 mm to 15 is 30 mm) and comant of green octored (caused by weak chicolication) modely another on A fire bodism of the larger, consent is represented by redisandations. No mineralization of served.	2:	Ca - Mineralized	chalcocite(>>gaiene,bomite, chalcocysite >pyrite) 600 12-606 78m strong 605 78-607 56m, very weak					30 35	Z 10°	0 1 0 2	97 97 97 97 97
-610	\$60	608 27 609 30 610 75	Cray (partially brown), fire medium grained sandstune(a entire) with salk-out-ceither account extend with horizontal graded bedding all uture Contact with underlying to an is every. Very week pyritial dissonmention is observed. Reddish brown, sitistone with indistinct beddied structure. Cabite	/• ·	Weakly	609 30-610 75m Very weak pyrite ตรระคาจังตัวก		 - 			43		0 0	97 97 97 97 97
_		614.55	concretions with size 0.3 a 0.6 cm and no mineralization observed. Pedition light brown, terminal of line medium grained sensistone, bedded at the angle 5-10. Pedition brown solved shall a period.			61435-624.40m. Very a colk pyrile						۷1	0 0	97 97 97 97
-620		621.40	observed within the Interval 617 20-518 30m. Contact with underlying layer is a axy	∠ 5°	uduk Pormetion	d ssemine 5 on					82c, am ~ 6215# 75	∠ 10°	0	97 97 97 97
-			Reddish brown, Nortzonfally bedded skistone, containing celoite concretions staing term 0:3 a 0 5 m to 0.5 x 2 0 cm. Brown colorad laminated sandstone tayer is observed within the interval 624 65-625 80m and 628 00-630 00m.	۷.6	Test to								0 0	97 97 97 97 97
630												<u>.</u>	0	97 97 97

Appendix 12-10 Geological Logging of the Drill Hole "MJK-1" (10/10), Zhaman-Albat Ore Deposit

1	MJI	< - I	INCLINATION: - AREA: ZHAMAN-AIBAT BEARING:	90	•	ELEVATION: 357.04m	FIN	A1.	DEPT	H: 650.50	D)	
Ē	Ę		-				$\overline{}$		P 1	1		PROPERTY
SCALE(m	COLUMN	(m) CEP1H	DESCRIPTION		REMARKS	MINERALIZATION	-800-106	-514.ICA	34538	SAMPLE No.	Angte et Fisa.	No Core of Rec Fine Ye
- 640		639 50 646 90 647.80	Recidish brown, silestone with indistinct horizontal bedded structule, containing calcitie concertions sizing from 0.5 a from to 2 a 3cm. Interlayers of medium grained sandstone and interlammational congruence to are observed at the mixture of the layer. Brownish gray, laminated medium grained sandstone, strongly fractured at the key of the layer. Contact a Thrundenty-ing by arise abov. Interformational politic congruences, consisting of red colored sitistone layer can be made in each grained sandstone matrix. Contact with unidentying layer is easy. Ped colored sitistone with and stand bedded structure. Catche concertions 0.5 a from in size concert, and the layer the layer. Interlayer of the gained sandstone is observed within the interval 6.40 83.	∠ • • ·	Teshudak Formation					642 0 -, 642 3 75(, iè,	0 97 2 97 0 97 0 97 0 97 0 97 0 97 0 97 0 97 0
650		650 50 I Final Ce	643 20m.				\prod	\coprod	\coprod	-		C 97
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Appendix 13-1 Assay Results of Core Samples from the Drill Hole "MJK-1"

	3								<u> </u>						3.13	Γ				7	Γ				4.80	Γ									6.99				~~	7
ર્કે ઉ		•	•	•	•	٠	•	•	•	٠	t	٠	1	٠		١	•	•	•	•	•	•	•	•		ľ	•	•	•	'	•	•	•	,		•	•	٠	•	1
S elem %	10:0 >		•	•	•	•		•	•	-		•		•	0.05		,	,	·	•	•	•	•	,	0.02		,	,	•	•	•	ı			0.04	•	•		•	-
S 101 %	68.0	0.78	1.05	0.74	0.74	0.48	0.45	0.59	0.49	0.68	7. O	0.85	4,0,0	1.41	1.71	98'0	1.36	1.35	4.78	0.69	0.62	1.38	30.00	1.34	4.07	29'0	0.78	040	0.68	1.49	1.02	2.61	0.76	0.57	1.96	0.13	600	0.19	0.13	9,0
S sulfate %	0.02	0'0	10.0	001	0.02	10.0	0.01	10'0	0.01	0.03	00.0	0,01	10.0	0.01	0.01	10.0	0.02	0.01	0.02	0.06	0.04	0.05	0.01	0.02	0.03	0,11	0.07	0.01	0.07	0.31	0.11	90.0	0.03	9.0	0.04	0.12	80'0	10.0	10'0	0.02
S sulfide %	78.0	0.77	40.1	0,73	0.72	0.47	0,45	85.0	0.48	0.67	49.0	48.0	0.53	1.40	1.70	58.0	<u>z.</u>	45.1	4.76	0.63	85.0	1.33	3,03	1.32	4.04	15.0	0.71	0.39	19.0	1.18	16'0	2.55	0.73	0.53	1.92	10.0	0.01	0.18	0.12	20.0
국 <u>영</u>	۲,	٧	w	v	< 1	9	4	. 4.1	^	< 1	7	٧	~ v	۲.	4	9	_	₩.	Ø.	11	11	8	3	14	ဌ	4	Y)	C1	٧	~	 V	4		C3	< 1	7	v	т	¥	₹
Fe % tot	2.36	1.81	36.	2.16	2.16	1,48	र्भ	338	1.79	1.35	2,24	23	2.92	8	3.61	2.34	2.97	3.25	3.30	2.68	1,34	1.34	8	1,55	0.00	1.23	1.30	4	1.35	0,80	1.43	2.35	2.35	1.81	1.48	1.67	2.01	2.77	4	2.93
	0.02	0.01	0.01	0.02	0.03	20'0	0.02	9.0	60.0	0.05	60.03	0.03	0,02	0.05	0.22	0.22	0.02	0.02	0.02	0.01	10.0	۸ 0.01	0.01	v 0.01	< 0.01	< 0.01	v 0.01	0.01	v 0.01	0.01	₹ 0.01	A 0.01	× 0.01	0.01	< 0.01	10'0	0.0	0.01	0.01	0.01
₹%	0.05	0.01	9. S	0.07	0.03	01.0	0.0	0.0	69	0.04	c0,0	0.01	9. 8.	0.07	0.11	0.02	0.03	0.08	<u>25</u>	3.27	1.04	6.54	0.08	0.26	0.21	c 0.01	0.74	₹ 0.01	A 0.01	< 0.01	< 0.01	v 0.01	0.03	v 0.01	< 0.01	10:0 ×	v 0.01	v 0.01	A 0.01	× 0.01
3 ≥	10,0	0.01	000	900	0.03	70.0	90.0	800	0.16	0,11	90.0	0.10	Š	Š	0.53	0.32	7.07	1.18	14.50	0.51	1.54	1.34	12.00	4.99	15.30	1,96	2.22	1.34	2.35	4.59	3.50	10.30	2.62	1.88	7.51	0.03	0.02	0.02	10.0	0.02
2, 2	0.3	1.0	0.3	0.7	٥.3	€"O	0.7	0.3	0.7	1.0	0.3	0.7	60	0.3	1.4	1,0	6.9	6,9	37,4	3.4	7.9	10.6	85.7	26.4	118.6	11.3	10,3	6.9	14.4	27.8	13.7	38.7	16,1	12.0	39.8	6.0	0,	0.3	0.0	0.0
₹ 8	v V	۷	v	۷	× 5	< 5	۸	۸	v. V	× .5	٧	۷	٧	٧	< >	۷. ۷	V	v.	۸	× 5.	۸ 5	٧ ٧	٧٠ ٧	٧; ٧	ν.	۶ ک	۸	9	V)	< 5	× 5	۸ ۸	vî V	v, V	< 5	S >	۷	۸ رم	۷	ν Υ
Length m	05.0	0.50	0.50	0.50	0.50	050	S	0.50	0.50	0.50	05.0	0.50	0.50	8.0	0.48	0.55	0.18	0.61	0.20	0.38	0.37	0.98	0.42	0.51	0.42	0.56	0,39	0.10	0.50	0.35	0.20	0.14	0.13	0.14	0.17	0.72	0,50	0.50	0.50	0.50
≙ €	591.50	592.00	592.50	593.00	593.50	594,00	594.50	295.00	595.50	296.00	596.50	597.00	597.50	598.00	598.48	599.03	599.21	28'665	600.02	600,40	600.77	601.75	602.17	89.209	603.10	603.66	604.05	604.15	604.65	605.00	605.20	605.34	605.47	19:509	605.78	606.50	607.00	607.50	608.00	608.50
From	291.00	591.50	592.00	592.50	593.00	593.50	594,00	594.50	595.00	595.50	396.00	596.50	597.00	597.50	598.00	598.48	599.03	599.21	599.82	600.02	000,40	600.77	601.75	602.17	602.68	603.10	603.66	\$2.55	\$6.15	604.45	605,00	605.20	605.34	605.47	19,509	605.78	606.50	607.00	607.50	608,00
Sample	No.01	No.02	No.03	8.0 <u>S</u>	No.05	No,06	No.07	%0.0%	86,8	No.10	No.11	No.12	No.13	No.14	No.15	No.16	Ze.17	No.18	No.19	No.20	No.21	No.22	No.23	No.24	No.25	No.26	No.27	No.28	No.29	No.30	No.9	No.32	No.33	No.34	No.35	No.36	No.37	No.38	No.39	No.40

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Appendix 13-2 Assay Results of Core Samples from the Drill Hole "MJK-1"

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54 28.28					2.1.						*****				0.7.					*** ******	***************************************	-			3.6						***************************************	**********			. 0.7	-		2.00 000.000	***************************************	
clem %		-			0.03										0.02		***		***************************************						0.01				***************************************			***********	***************************************		0.02		***************************************		***************************************	*************
S tot	0.02	0.07	0.0	0,03	1.74	0.20	0.21	9	11	0.82	01.0	0.39	0.03	9	0.73	65.7	1.15	0.03	0,03	0.74	2.56	8	0.32	0.20	0.15	0.02	0.31	0.03	0.08	0.38	0.05	0.10	0,05	0.08	0.05	50:0	10,42	10.41	9.64	8.73
S sulfate %	0.02	0.01	0.01	0.02	10.0	0.20	0.04	0.01	0.01	0.01	0.03	0.01	0.02	0.01	0.02	10.0	0.03	0.03	0.01	0.02	20.0	0.03	0.30	0.18	0.0	0.02	10,0	00.0	10.0	10'0	00'0	10.0	10.0	0.01	0.02	0.03	00:0	00:0		0.0
S sulfide %	< 0.01	90.0	0.03	0.01	1.73	< 0.01	0.17	0.03	1,10	0.81	20.0	0.38	0.01	0,03	0.71	1.58	1.13	0,01	10.0	0.72	2.54	1.07	0.02	0.02	90.0	< 0.01	0.30	0.03	0,07	0.37	0.05	0.0	90.0	0.07	< 0.01	¥ 0.01	10.42	10.41	9.94	8,73
3 ag	v	7	v	٧ŋ	٧]	\ V	'n	~ V	6.3	v	v	¥	L1	٧	٧	v	(3	v	Y	,	v	٧	v	٧	×	4	63	εş	v	\$	2	v	77	v	6	v	53	\$	¥	
Fe tot %	2.73	8. 4.	2.57	4 05	3.83	3.84	1.02	3.00	3.18	3.13	2,38	2.70	3,92	08.	1.47	3.50	5. 0	8	40.4	3.34	4.22	3.09	3.42	3.94	3.93	4.14	2.25	4,82	4.14	3.23	7. 13.	2.55	1.69	2.65	1.60	4.05	3.97	4.59	3.80	1.85
u7.%	0.02	0.01	0.01	A 0.01	0.01	10.0	< 0.01	0.0	0.01	0.01	0.01	v 0.01	0.01	v 0,01	A 0.01	* 0.01	v 0.01	0.01	v 0.03	0.01	0.01	0.01	0.01	0.01	0.01	10'0	0.01	0.02	0,01	0.01	▲ 0.01	0.0	0.0	0.03	< 0.01	0.01	v 0,01	× 0.01	10'0 v	v 0.01
₹ %	0.01	0.02	0.03	0.01	0.01	10.0	10.0 ×	0,05	× 0.01	• 0.01	0.01	10'0 v	A 0.01	10'0	0.01	0.0	< 0.01	× 0.01	₹ 0.01	< 0.01	< 0.01	0.0	₹ 0.01	A 0.01	< 0.01	10.0	v 0.01	v 0.01	0.03	0.01	v 0.01	× 0.01	0.0	v 0.01	0.01	× 0.01	800	20'0	0.01	0.0
 రేశ	0.03	0.12	90.0	v 0.01	0.01	10.0	10:0	0.01	10.0	₹ 0.01	10.0 >	V 0.01	0.02	A 0.01	0.0	0.0	0.01	0.01	0.01	0.01	0.01	0.07	0.01	0.01	0.01	10:0	0.01	v 0.01	0.05	0.01	v 0.01	v 0.01	0.03	0.05	0.01	10.0	31.90	27.70	29.60	30.90
Ag t/g	0'0	0.3	0.3	00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	00	0.0	0.0	0.0	0.3	0.0	0.3	0'0	0.0	0.3	0.0	0,	0.0	0.0	0.0	0	0.3	0.0	0.0	798.8	459.4	778.3	1028.6
Λu Ppb	S >	v. v	۸	v	۸ د	< 5	٧	۸	۷ ۷	۸	\$ >	٧) ٧	۸	٧	۸ ۶	د د	V	۸ ۵	v	< 5	۶ ۷	ν γ	۸	v	۸ ج	\$ >	V	v	٧ ٧	۸ به	٧ ٧	٠ ٧	ري د	۸.	× 5	۷.	Ş	S	۸ س	<u>~</u>
Length m		0.50			İ																					0.30				ı		0.30			,				Mine	
£ €	00,609	609.50	610,00	435.30	440.30	445.30	4.50.30	455.30	460.30	465.30	470.30	475.30	480,30	485.30	490,30	495,30	500.33	505.30	510.30	515.30	\$20.30	525.30	530.30	535,30	540.30	545.30	550.30	555,30	560.30	565.30	570,30	575.30	580.30	585.30	621.30	642.30	gan South	gan South	gan South	gan South
From	08.80	90.609	609.50	435,00	440.00	445.00	450.00	455.00	460.00	465.00	470.00	475.00	480.00	485,00	490,00	495.00	200,00	505.00	\$10,00	515.00	\$20.00	83.8	530.00	535,00	540.00	545,00	550,00	\$55.00	8 8 8	265.00	\$70.00	575.00	280.00	585.00	621.00	642.00	Zhezkuzgan (Zhezkazgan	Zhezkuzgan	Zhezkazgan
Sample No.	No.41	No.42	No.43	14.0N	No.45	No.46	No.47	No. 48	No.49	No.50	No.51	No.52	No.53	No.54	No.55	No.56	No.57	No.58	No.59	No.60	No.61	No.62	No.63	X0.05	No.65	00.0V	No.67	No.68	No.69	No.70	70.71	Z . 72	No. 73	No.74	No.75	So. 76	No.77	% % %	۶ 2 2	No.80

Appendix 14 Whole Rock Analysis of Core Samples from the Drill Hole "MJK-1", Zhaman-Aibat Ore Deposits

Sample No.		95-N45J3	95-N55J3	95-N65J3	95-N22J3	95-N26J3
Depth from	m	440.00	490.00	540.00	600.77	603.10
Depth to	m	440.30	490.30	540.30	601.75	603.66
SiO2	(%)	60.75	59.01	56.11	65.10	70.03
A12O3	(%)	14.04	9.78	14.54	9.86	10.00
TiO2	(%)	0.58	0.47	0.62	0.32	0.37
Fe2O3	(%)	3.30	1.41	1.61	0.14	0.04
FeO	(%)	2.26	0.78	3.87	2.04	1.86
CaO	(%)	3.53	11.85	5.13	5.14	5.50
MnO	(%)	0.11	0.27	0.16	0.11	0.09
Na2O	(%)	3.74	4.57	2.52	3.05	3.73
MgO	(%)		0.39	2.55	0.57	0.53
K20	(%)	•	0.66	3.21	1.94	1.56
P2O5	(%)		0.10	0.16	0.08	0.09
LOI	(%)		9.61	7.69	3.84	5.27
Total	(%)		98.90	98.17	92.19	99.07

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Appendix 15-1 Microscopic Observation of Polished Sections from the Drill Hole "MJK-1", Zhaman-Aibat Ore Deposit

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<u>ა</u>	© ,2 5	<u>6</u>	0	© .	<u> </u>	<u> </u>	<u> </u>	<b>©</b>
Observation	a Chalcocite-like minerals mainly chalcocite and small amounts of digenite and djuricite(60%), bornite y (38%), electrum (1%), goethite(1%), and gangue minerals are constituent minerals. Chalcocite-like minerals and bornite occur as interstice-filling product among sedimentary particles and as veinlets in clay-rich parts of the rocks. Ag-rich electrum (max 0.1mm in size) occurs in veinlets of less than 2mm in pirely, which consist of chalcocite-like minerals (mainly chalcocite) and less bornite, in dark bluish green clay.	<ul> <li>Chalcocite-like minerals mainly chalococite (95%), goethite (4%), covellite (1%) and gangue minerals are y constituent minerals. Chalcocite-like minerals are interstitial among sedimentary particles.</li> <li>Aggregates of goethite grains as secondary products probably after pyrite within some of sedimentary particles are also observed.</li> </ul>	Chalcocite-like minerals (mainly chalcocite, less digenite and rare djurleite )(98%), goethite (2%) and y gangue minerals are constituent minerals. Chalcocite-like minerals occur interstice-filling products among sedimentary particles, and also within some of the particles. Goethite occurs as secondary products after pyrite.	This constitutes chalcocite-like minerals (chalcocite >> digenite > djurleite) (80%), bornite (19%), y gersdorffite-cobalitie series mineral (1%) and gangue minerals. Chalcocite-like minerals occur as aggregates of small grains and dots and occasionally as patches up to 3mm x 5mm in size. Bornite occurs as small inclusions in chacocite-like minerals and as anhedral grains with chalcocite-like minerals up to 40 micro-m in size. In such a case, these minerals tend to arrange linearly in the rock. Gersdorffite cobalitie series mineral occurs as small euhedral crystals in chalcocite-like minerals generally with bornite inclusion, and might be misunderstood as skutterudite by Russian researcher.	Chalcocite-like minerals (mainly chalcocite and less digenite ) (97%), bornite (1%), covellite (1%) and y gangue minerals are constituent minerals. Chalcocite-like minerals occur interstitially among sedimentary particles. Bornite rarely occurs as small inclusions in chalcocite-like minerals. In such a case, bornite is surrounded by secondary djurleite which is an alteration product after chalcocite. Covellite and goethite are also secondary products after chalcocite-like minerals and probably pyrite, respectively.	This polished section consist of chalcocite-like minerals (mainly chalcocite) (98%), bornite (1%), agoethite (1%), and gangue minerals. Interstible chalcocite-like minerals among sedimentary particles are predominant. Bornite occurs as small inclusion in chalcocite-like minerals. Goethite occurs as secondary products after pyrite in some of sedimentary particles.	This is also composed of chalcocite-like minerals (mainly chalcocite) (99%), goethite (1%) and gangue y minerals. Chalcocite-like minerals occur as interstice-filling products among sedimentary particles. Goethite occurs in some of sedimentary particles as secondary products after pyrite.	This polished section consists of chalcocite-like minerals (mainly chalcocite and less digenite) (99%), y goethite (1%) and gangue minerals. Chalcocite-like minerals occur as interstice-filling products among sedimentary particles. The sulphide minerals are generally more concentrated in sandy parts than silty parts.
Location	Eastern Orebody	Eastern Orebody	Eastern Orebody	Eastern Orebody	Eastern Orebody	Eastern Orebody	Eastern Orebody	Eastern Orebody
To (m)	600.02	600,77	601.75	602.17	602.68	603.10	605.20	605,34
Dritt No. From (m)	599.82	600.40	600.77	601.75	602.17	89.209	605.00	605.20
	MJK-1	MJK-1	MJK-1	MJK-1	MJK-1	MJK-1	MJK-1	MJK-1
Sample No.	95-PS-01	95-PS-02	65-PS-03	95-PS-04	95-PS-05	95-PS-06	95-PS-07	95-PS-08

Cc: Chalcocite like minerals, Bn: Bornite, Cv: Covellite, El: Electrum, Dz: Zhezkazganite, Gr: Gersdorffite-cobaltite series minerals, Go: Goethite ©: more tan 50%, Q: 30% - 50%, Q: 10% - 30%, +: less than 10%

Appendix 15-2 Microscopic Observation of Polished Sections from the Drill Hole "MJK-1", Zhaman-Aibat Ore Deposit (continued)

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Cc Bn Cv E1 Dz Gr Go		+ 2
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ង		0
ပိ	<b>©</b>	0
Observation	Chalcocite-like minerals (mainly chalcocite) (97%), electrum (2%), goethite (1%) and gangue minerals are constituent minerals. Chalcocite-like minerals interstitially occur among sedimentary particles. Agrich electrum occur as small inclusions up to 50 micro-m in size in open spaces in chalcocite-like minerals and in direct contact with chalcocite-like minerals. Goethite occurs as secondary products after pyrite.	Sulphide minerals is predominant. It is composed of chalcocite-like minerals (mainly chalcocite) (60%), © bornite (39%), electrum (1%) and gangue minerals. All of these ore minerals occur as interstice-filling products among sedimentary particles with quartz and other gangue minerals which occur as euhedral crystals. Chalcocite-like minerals and bornite coexist with each other. Ag-rich electrum is included within both chalcocite-like minerals and bornite, and the former case is rather common. Rarely "dzhezkuzganite"-like minerals (?) occurs in chalcocite-like minerals, but it is difficult to identify this phase because of its tiny size.
Locatio	Eastern	fine an Mine
To (m)	605.61	The South Mine of the Zhezkazgan Mine
From (m)	605.47	of the
Drill No.	MJK-1	MJK-1
Sample No. Drill No. From (m) To (m) Location	95-PS-09 MJK-1 605.47 605.61 Eastern Orebody	03-PS-10

Cc: Chalcocite like minerals. Bn: Bornite, Cv: Covellite, El: Electrum, Dz: Zhezkazganite, Gr: Gersdorffite-cobaltite series minerals, Go: Goethite ©: more tan 50%, C: 30%-50%,  $\Delta$ : 10%-30%, +: less than 10%

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Appendix 16 Microscopic Observation of Thin Sections from the Drill Hole "MJK-1", Zhaman-Aibat Ore Deposit

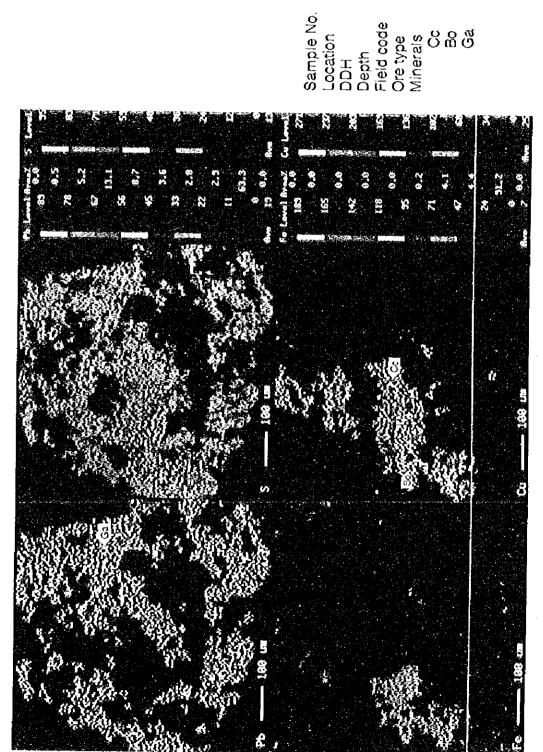
Sample No.	DDH No.	Depth (m)	Formaton	Rock Name	Description	Identified Minerals
95-78-01	MJK-1	203.5	Zhiderisai Formation	Laminated siltstone ( red alcurolite )	averige djameter : 0.02 - 0.05mm matrix : carbonitization (weak)	quartz, plagioclase, K-feldspar, sericite, chlorite, smectite, goethite(?)
95-75-02	MJK-1	329.4	Zhiderisai Formation	Calcarcous sandstonc (red sandstonc)	average diameter : 0.15mm matrix : carbonitization	quartz, carbonate minerals (mostly calcite), plogioclase, K-feldspar, opeque minerals, chlonie
95-73-03	MJK-1	458.9	Zhczkazgan Formation	Thin laminated siltstone	average diameter: 0.02 - 0.0mm matrix: carbonitization	quartz, plagioclase, K-feldspar, opeque-minerals, carbonate minerals (mostly calcite), smectite quartz, plagioclase, K-feldspar,
95-75-04	MJK-1	\$39.9	Zhezkazgan Formation	Thin laminated siltstone	average diameter: 0.15 - 0.05mm matrix: carbonitization	opeque minerals, carbonate minerals (mainly culcite), chlonite quartz, plagioclasse, K-feldspar,
95-TS-05	MJK-1	586.2	Zhezkazgan Formation	Calcareous fine-grained laminated sandstone	average diameter: 0.15mm matrix: carbonitization	opeque minerals, carbonate minerals (mainly calcite),
95-75-06	MJK-1	601.5	Zhezkuzgan Formation	Thin bedded (or laminated) sandstone	average diameter: 0.4mm matrix: carbonitization, copper minerals	quartz, plagioclase, K-feldspar, opeque minerals, carbonate minerals (mainly calcite), tourmaline
95-TS-07	MJK-1	644.2	Taskuduk Formation	Calcareous sandstone	average diameter : 0.2mm matrix : carbonitization	quartz, plagioclase, K-feldspar, opeque minerals, carbonate minerals (mainfy calcite), sericite, chlorite, smeetite

Appendix 17 EPMA Quantitative Analysis of Ore Samples from the Drill Hole "MJK-1" and Zhezkazgan Ore Deposit

No.	Fe (wt %)	Cu (wt %)	Ag (wt %)	Pb (wt %)	S (wt %)	Total (wt %)	Minerals
95.EP-01	10.63	66.656	0	0	23.801	101.087	bornite
(field code: No.23)	11.451	65.623	600.0	0	23.854	100.937	bornite
	11.28	64.029	0.032	0	23.692	99.033	bornite
	0.055	82.068	0	0	19.361	101.484	chalcocite
	0.076	82.192	0.04	0	18.951	101.259	chalcocite
	0.158	47.695	23.994	0	15.925	87.772	stromeyerite
	0.322	78.741	1.608	0	20.199	100.87	chalcocite
95-EP-02	0	0.185	0	86.638	13.505	100.328	galena
(field code: No.19)	0	0.037	0	86.392	13.211	99.64	galena
	10.69	64.588	. 0.014	0	23.929	99.221	bornite
	10.866	64.723	0	0	23.85	99.439	bornite
	0.041	82.831	0.026	0	19.497	102.395	chalcocite
	0.029	82.263	0	0	19.495	101.787	chalcocite
95-EP-03	11.292	64.929	0.297	0	24.042	100.56	bornite
(field code: No.80)	11.286	64.956	0.212	0	23.835	100.289	bornite
	0.032	82.186	0.395	0	19.038	101,641	chalcocite
	0.023	83.572	0.353	0	19.054	103.002	chalcocite

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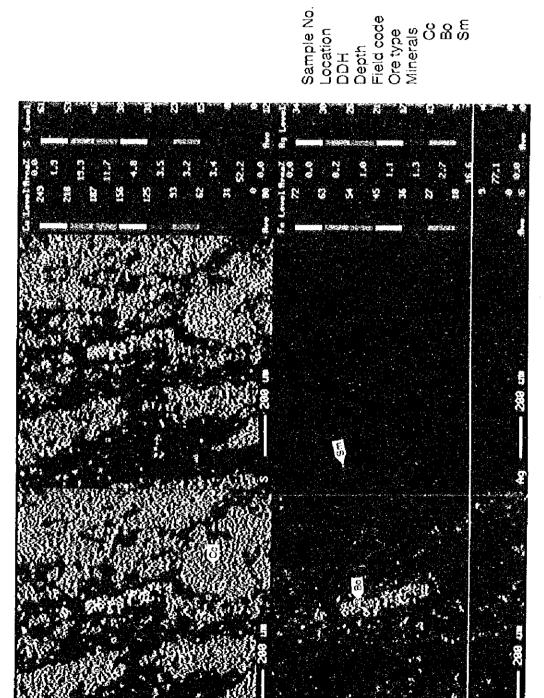


:96-EP-01 : Eastern Orebody : MJK-1 : 600.0m : No.19 : Ou ore

chalcocite bornite galena

Appendix 18 (1) EPMA Color Image of Complex Ore from the Central Grebody of the Zhaman-Aibat Ore Deposit





: 95-EP-02 : Eastern Orebody : MJK-1 : 602.00m : No.23 : Cu ore

chalcocite bornite stromeyerite

Appendix 18 (2) EPMA Color Image of Complex Ore from the Central Orebody of the Zhaman-Aibat Ore Deposit

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64 Drilling Progress of the Hole "MJK-2", Zhaman-Aibat Ore Deposit ~ င္တ 62 €3 60 July 22 . 92 \$2 2.4 23 22 ~ 700, Om Bit Size (dmm) 112 93 59 19. 6m 3. 5m Core ZO 40 60 80X ◆ Brecciated zone/ fine graind sandof sandstone and Alternaton Deds Reddish brown, stone including granule conglointer layers of siftstone with merate layers fine grained Dark grey, Rock Facies sandstone silfstone Appendix 19 noitom107 iosi19bidZ <u>.</u> Geologic Column Scale ê E 100 200 300 400 500 900 700

Appendix 20 Drilling Equipments of the Hole "MJK-2", Zhaman-Aibat Ore Deposit

Article	Model	Specification	Quantity
Drilling machine	Z I F-650M	Capacity: 059mm 800m	1 set
		Inner diameter of spindle: 63.5mm	
;	,	Spindle speed: 81~800 rpm	-
	:	Weight: 2800 kg	-
Power unit	4A180M	Electric Motor	1 set
		Revolution: 1500 rpm	
	<b>;</b>	Related power: 30XW 380 V	
Drilling pump	HB3-120/40	Type:3cylinder single acting	1 set
		Volume (max): 120 1/min	1300
		Pressure (max) : 40 Kg/cm²	
Power unit	4 A 132 S 4	Electric Motor	1 set
	6 U Z - 220/380v	Revolution: 1000 rpm	1300
		Related power: 22KW 380 V	
Water supply pump	6-12-33A	Type: turbine	l 1 set
		Volume (max): 32 1/min	130
		Pressure (max) : 50 Kg/cm²	
Power unit	АО2-У1-6	Electric Motor	l set
	ļ ,	Revolution: 1000 rpm	1 301
		Related power: 3 XW	
Wire line hoist	K6-3×25+1×		1 set
•	16		130
Derrick	mRU6U-18 /20	Pipe structual derrick	1 set
Generator	6 m s -13-41	Diesel engine	1 set
	12Om-4	Revolution: 500 rpm	
_	:	Related power: 320 KVA	
	:	Weight: 4080 kg	
Drill rod	ССК-59		700m
Water tank		18m³	1 set

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Appendix 21 Consumed Materials of the Drill Hole "MJK-2", Zhaman-Aibat Ore Deposit

Article	Unit	Quantity
Diamond Bit 59mm	Pcs	13
Cemented carbide bit 112mm	Pcs	1
do. 93mm	Pcs	2
Diamond reaming shell 59mm	Pćs	6
Core lifter	Pcs	20
Core lifter case	Pes	11
Core box	Pcs	130
Lost circulation material	Kg	125
Diesel	1	8700
Gasoline	1	3100
Engine oil	1	560

Appendix 22 Operational Results of the Drill Hole "MJK-2", Zhaman-Aibat Ore Deposit

		Drilling hole No.		MJK-1
m				
	Drilling lengt	th j	(m)	700.0
	Core length	į.	(m)	683.7
•	Core recover	γ ΄	(%)	97.6
Drilling	Depth by	112mm size	(m)	3.5
	ძი	93mm size	(m) ·	16.1
)ata	do	59mm size	(m)	680.4
	Cashing pipe	: 108mm	(m)	3.5
-	do	89mm	(m)	19.6
	Dritting masi	hine		ZIF-650 · ·
	Working Per			7.19~8.60
	Actual Work		(d)	19
	No Working		(d)	0
	Total	•	(d)	19
Verking		Mounting	(d)	2
	Actual	Drilling	(d)	14
Period	Working	Dismounting	(d)	3
	Days	Others	(d)	0.0
	,-	Total	(d)	19
	Drilling leng	L.,	(m'd)	36.8
	Working Pe		(,	
	Drilling leng		(m'd)	50.0
	Drilling day		` •	
	Dilling lengt		(m'd)	21.2
	Drilling shif		•	
	Drilling		(h)	203° 25'
	Hoisting &		(h)	78° 50°
	Lowering ro	od etc.	• •	•
Working	Repairing	-	(h)	37° 45'
B	Sub total		(h)	320° 00'
Time	Mounting		(h)	28° 00'
- 11.10	Dismountin	<u>o</u> r	(h)	25' 00'
	Others	•	(h)	0, 00,
	Total		(h)	373° 00'
	Doilling leng	gth /	(m.p)	3.44
	Drilling hou	<u>-</u> '	• ,	
	Total drillin			428
Workers	Total drillin	=		
				1

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## Appendix 23-1 Geological Logging of the Drill Hole "MJK - 2"(1/10), Zhaman - Albet Ore Deposit

MJK-2

INCLINATION: -90°

			AREA: ZHAMAN-AIBAT BEARING:			ELEVATION:	F	IN.	LD	FPIH	: 700,00a	n.		
SCALE(m)	COLUMN	DEPTH (m)	DESCRIPTION		REMARKS	MINERALIZATION		SUCTOR	۲	SUCATE	SAMPLE NO	Ave	No of Fac	Core Erc (5)
18	Q .a./	<del> </del>	Reddish brown weathered sand and clay	r-	2		1	<u> </u>	T.	11		(1)	( an)	
1	à / à	·	+ 0.00-1.00m. Average 20% send with day made.	ı				11		Ш			0	100
[	/ ^ \	2.85	1 00-2 85m: Avarage 80% sand with day mark	1			1			1			٥	100
ł	E	}	Purplish brown sitistone with light brown sandstone	1	Ì					!	1	ŀ	0	81
L		}	patches and partings. Sefenile up to 25mm width, in	ķ.	1			П		li			0	81 81
	=	1	lower horizon.	1	ĺ	j		l ļ					0	81
ł		1	• 12 00-12 40m. Pink find grained sandstone			1	1	П		!			0	61
10	E		• 17-30-17.45m. Brown's By sandstone	200	Į		ŀ			l i		1	0	81 81
[,,			4 2				ŀ	11		H	1		0	81
1		12.00 12.40	*	ļ	İ		ı						0	81
		į		1				H			<u> </u>		ŏ	18 18
	i		•		i		ı		1	ļ			0	61
ł		17 30	i .	П				П			<b>i</b>		0	51 81
	==	17.43	•		l		1	Н					ŏ	18
							l	П		Ì		Ì	٥	81
20	1.0	19.80	Light brown fine grained sandstone with brown silty	ابي			ı	I	ı	1		ŀ	0	96
1	13.3	21.40	sandstone and grey to white gypsum	<b>45</b> °			ı					Ì	ō	93
			Weakly laminated brown sittstone with light grey spots o	1					1		1		0	93
1			grained limestone.			ŀ	ı	П				ł	<u></u>	93
[		i i	• 23 10m. Gypsum spot (1 5 X2 5 cm).					11	П	[		į	0	93
		27.25	+ 28 00m-27 20 Selenite films up to 1 5cm width.	1				ll	П	ij		ļ	_	100
ł		ł	Light brown line grained sandstone with selenite veins(up to 1 cm width)	۷۶۰		İ		Ш		i		ł		100
30		39 20	- 29 90-30 10m Intralarmational pebble conglomerate					Н					$\rightarrow$	100
1				1 1				H				- 1	_	100
Ì			Light brown sittstone showing paralel famination.	П				Ш	П	i		l		100
ŀ			· 27 00-32 00m Gypsum up to 1 Scm width(avarage 2 vains/m)and	П		ļ	1	11	П	1		Z:3"		100
			sporadic selentia  • 36 10-51.40m Selentia veins(2.5cm) and chloride in frectures						П			Z13.		100
Ī			es es established som after som and constant at a south as	П				Ш	П	†				100
1	==			H			ł	Ш	П	ĺ		- 1		100
40	~-							Ш	П			ŀ		100
["				200				П				[		100
ł								Н				ŀ		100
l				Z3-1					Н			t		100
				Ιİ			l	İΙ	П				-	100
				Н				ii	П			- 1		100
		Ì		Н			1	Н	П			- [		100
				Н				Н	Н			ŀ		100
50				H				H		j		į		100
1	34.54	52 25	Light brown sandstone.	25				П		i		- }		100
1			Brown siltstone with spots of limy fine grained	H				!			· [	ŀ		100
1		55.40	calcareous sandstone. Gypsum veins up to 8cm width.	∠5"				Н			l	- [	-	100
ŀ	35	57.00	Reddish brown fine grained sandstone	<u>-</u> 00			П		Ш		1	- 1	_	001
		-71.00	Photos house about the star control for inches				l					Į		100
		ı	Purplish brown sitistone showing parallel famination 59 00m Gypsom of 20cm width							- [ ]	-	- [		100
60			• 63 00m Cypsum of 10cm width.	ı			П	1	П	i l		ŀ		00
			• 68 20m Grey'sh graen sihatone parting of 2cm thickness	260			П			;			ř	100
	$\equiv$										Ī	╌┞		60
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### Appendix 23-2 Geological Logging of the Drill Hole "MJK-2"(2/10), Zhaman-Albat Ore Deposit

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MJK-2

INCLINATION: - 90°

M	IJ	K 2	inclination: -90°											
			AREA: ZHAMAN-AIBAT BEARING:			ELEVATION:	FI	NAI	. DE	PTI	700,00n			
£	3				REMARKS			.1 62	,		ĺ		C PROF	Core
SCALE(m)	COLUMN	DEPIN	DESCRIPTION		3	MINERALIZATION	13	OVARTZ	¥	SUUPATE	SAMPLE NO	of	No. of Fee.	Prc.
13	§	(m)	:		Ã	Nint lotte Later Con-		3 3	CLAY	3		Fis	( m)	(*)
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ļ		}	Purplish brown sitistone showing parallet lamination.					11		- 1			0	100
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ļ	<u> </u> :	1	<ul> <li>76 00-86 00m.Numarous gypsum veirs</li> </ul>	ı				Н		!			. 0	100
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1	<b>!</b> ==	9480			1			Ш	П	į	1	Z5-	Ĺ	100
			Brown line to medium grained sandstone	ζs	4				П	1		∠10*	1.	100
İ	2.55	97.40	De la la la la la la la la la la la la la	1		1			П	į		₹29,	1	100
1		<b>}</b>	Purplish brown sitistone interbedded with thin sandstone	۷.	-1				П				<u>°</u> .	100
	-	}	layers	ر∞	┨				П	i			0	100
100	<u> </u>	1	+ 196 00-104 00m.Numarous gypsum veins up to 12mm slidts	l	ŀ	j			П	!	1		0	100
		3	•	1	1			H	П	i			o	100
1	=	102 40		1				Н	11	!		Z16.	0	100
			Reddish brown fine to medium grained sandstone	<b>/2</b> :					П	ŧ		Z2#	0	100
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	<u> </u>	1			1		1		П	į			0	100
ŀ		}	Dark brown siltstone with intercalations of greanish blue		1		1		11				0	100
1	=	1	sitstone in 115 80-117.00m, 121 20-121 26m, 122 60-		ļ .		1	ΙI	П				٥	100
ľ		1	122 80m and 123 49-123 60m		1		1		П	!	ł		0	100
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1		125 80	=	1	I			Н		i		1	-	100
1	12.1-	126 63	Brown fine grained sandstone with intercalation of dark	٥)	1			H		!		I	0	100
1		127,40	brown sitstone in 126 60-127.40m.	Z≪								1	٥	100
ł		120 30		0								l	0	100
1			Thinly bedded alternation of purplish brown siltstone	1	I			H				1	0	100
130		3	and reddish brown line grained sandstone	1	!					ļ į		l	.0	100
l	E.F.E	<b>j</b>		1	!						Ī		Ļ	100
ĺ	200	3		Zo	4					i		ŀ	0	100
Į	2.77	135,70		1	1	l				!	1	ŀ	0	100
ſ	===	1	Purplish brown sitistone with fine grained sandstone.	1	1		1				1	I	0.	100
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# Appendix 23-3 Geological Logging of the Drill Hole "MJK-2" (3/10), Zhaman-Aibat Ore Deposit MJK-2 INCLINATION: -90" AREA: ZHAMAN-AIBAT BEARING: ELEVATION: FINAL DEPTH: 700.00m

<b>p</b>			AREA: ZHAMAN-AIBAT BEARING:			ELEVATION:	FINAL	DEPTH:	700.001	11		
ĺ	] 3	DEPT			3		Йи	5 N				PERTY
1	NAT JOS	(m)	DESCRIPTION		REMARKS	MINERALIZATION	SULPIDE	SLAY SEAT	SAMPLEND	Arge of Fig.	Na ol Fus.	Core Erc (\$)
14		<u> </u>	* .		2	.	133	ý 3 3			_	L.,
'~	Ĭ	1	Purplish brown silkstone with fine grained sandstone.								0	100
Ì		1 .	- 143 90-143 90m Congromatic arthydria(0.5X4 0cm).								Š	100
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ŀ		∄		П			Ш				0	100
Ţ	4	153.0	Brown fine grained sandstone	۷,		1		;		ŀ	0	100
1		1		1		İ					0	100
ŀ		1		H						ŀ	0	100
1	===	3	Purplish brown sitistone				[ ] ]	:	1	ł	0	100
1		3	• 154 00-165 40m.Massiva facies is dominate 1	ł			H H	!			0	100
16		-	<ul> <li>156 40-188 60m Facies showing territation is dominated</li> <li>Many interfayers of gypsum(seferite) up to 6cm in</li> </ul>	1						ł	0	100
ŀ	E	1	width.			ļ			1	Į	0	001
		1	- Thin line grained sar-distone layers a minterbookled in 166 50m-	l				<u> </u>   1		ŀ	0	100
Ì		∄	166 70m,170 50m-170 65m,170 70m-170 80m, 175 00m-175 10m							ŀ	-	100
			170 90m-171 00m.			·					0	100
i		1	= 184 70-385 20m Carbonate concretion (0.5 X 4.0cm).	1 1						ŀ		100
Ì		3								ŀ		100
170	d=	1										100
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										F		00
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1		188.6						111			_	00
I			Brown siltstone interbedded with fine grained	<b>_</b> 54					İ	-		00
1'90		l	sandstones and breccia	ZΧ							_	00
ŀ		191.7	Oran a fine qualitation and analysis and		ı				1	F		00
1		1936	Brown fine grained sandstone	20				151	i			00
ſ			Reddish brown fine grained sandslone with rare braceia		- 1	-			- 1		<u> </u>	00
			parting		- 1			j	ľ	_ <b>-</b>	_	60
l			- 200 SO. Gypsym fibers up to 6cm.						İ			00
1			į	. ]		į						00
200					- [	1			ļ		_	00
	•	201.5	Reddish brown teclonic breedia consisting of fragments		-	İ				- 1		90
-		202.7	of light brown siltstone and gypsum cemented by line		- 1	ļ				Ι.	2	00
			grained sandstone	]	- [					-	_	00 00
			Dark brown siltstone							_		60
	$\exists$		- Gypsum 203 10-203 60m, 204 90-206 30m, 205 70-207 60m			j		1:1		-		co
	〓		and 208 40-208 80m. After saterate intertayers up to 2cm with			. [	$\parallel \parallel \parallel$			- 1		00
510				1		· · · · · · · · · · · · · · · · · · ·			}	-	— ŧ · ·	00

Appendix 23 - 4 Geological Logging of the Drill Hole "MJK - 2" (4/10),
Zhaman - Aibat Ore Deposit

M	[]]	K - 2	INCERNATION: -90°											•	
			AREA: ZHAMAN-AIBAT BEARING:			ELEVATION:	F	N/	AL E	F?	H	700.00 n			
Ê	8				3	İ		ur .	<del></del>	F	_				Car.
SCALE(m)	COLUMO	(B)	DESCRIPTION		REMARKS	MINERALIZATION			C A 4	Į	3.C.A.T.	SAMPLE NO	er Fea	No of Fool	₽e¢.
3	g	(84			9		1.	\$ 3	S A S	3	₹	•	Ö	(+)	(7)
210		211.50		Г			†-	t	17	†	1			٥	100
1			Dark brown sandslone	li	1		ı	l	Н	1	į			0	100
		1	. •	∠ 5-	l		ı	l		ı	i			0	100
-	ندد.	214.32	·	Į Į	1		ı	l	H	ı	!		ł	0	100
1		1	Dark brown sätstene interbeded with fine grained	H			ı	l	H	ı	i			۰	100
1	$\equiv$	} '	park brown seisione altercedes with the grames sandstone	li	l	•		l	ļ	ı	!		ļ	9	100
ļ		1	• Gypsum (up to 45cm wigith) 217 20-217 49m,218 20-				ı			1	İ			•	100
	巨	1	215 50m, 219 90-220 20m, 221 20-221 70m, 225-10-			ļ	1	l	!	ı	ŀ			0	100
550	ŧΞ	<b>i</b>	225 99m,229 50-238 80m.	<b>43</b>			1	l	H	ı	ı			0	100
	<u> </u>	1		∠10			1	l	ļ	1	ļ			0	100
1		1				<u>.</u>	1	l	H	ı	į			0	100
		1 :		l	ŀ			l		Т	i	i	1	0	100
		]	-			_		Ιí	H	1	ļ			0	100
ł		1	·	li				li	H		Į	i		0	100
1	==	1			Ī						į	}		٥	100
		1		l	1					1	į		]	0	100
230	<u> </u>	1 1			l		1	П		1	1	l i		0	100
1		1	-			·			[		1		ŀ	0	100
1	=	1						П		1	Ī			0	100
ļ		<u> </u>	·					П	ll		i			0	100
1		235 70	·	١ ١				П		1	Ţ			÷	100
ł	7	236 40	Brown fine grained sandstone	1				П	H	1	Į			0	100
ı		1		1				П		1	į	}		0	100
		1	Dark brown sillstone interbeded with light brown fine					П		ı	į	i	- 1	0	100
240	<del></del>	1	grained sandstone.  • Gyseum(selante) from zom to 15cm in all horizon.	l				l		Į	!		ŀ	0	100
1		1	- Da's greenish grey sitistone partings (2-3cm thickness) in 251,10-	l							1	]	ł	0	100
		1	251 40m.			1				ı	į		1	0	100
		3		Z3:			1	l	!	ı	i			0	100
i		1		æ	Ī			l	H	ı	ļ	ļ	ı		100
ł		1						l		ı	!		l	o	100
l		]							l	ı	į	1		0	100
		1								ı	ŀ	i		0	100
250		<u> </u>					Į			ı	!	i l		0	100
1		251.50		!					l	ı	į		ı	0	100
		1	Brown sitstone parallel lamination at the lower part by					l		ı	i			0	100
1		1	the interlayers of light brown fine grained sandstone 260 50-260 75m.6peccle of anhydrite	П				L		Т	ŀ			٥	100
1		1	- 263 90-264 65: White crystatine entrystille.	H				l	Н	ı	į			Ö	100
1	=	1	• • • •	Z	1						į			0	100
ļ											!			0	100
1	==	1									į			•	100
260		1	-					ı			;	l l		o	100
	$\equiv$	1		l l			1				!			0	100
		1	•					l !		1	į			0	100
}	===	264.65	•							1.	ļ			0	100
		[	Massive-weakly parallel laminated dark brown sillstone							Τ	1		9:		100
Ì	=	[ ]	• 265 00-287,50ৰ Grey'sh white sollydifts up to ইলে.								1		25	1	100
1					!					1	Ť	ł l	<b> </b>	0	100
			• .					П	П		!			0	100
270			·					IJ	П		f		į	0	100
1	ļ	<b>‡</b>				-	1			ı	[		ļ	Ò	100
		]					1			Т	į į			0	100
ł		1										-	l	0	100
		<b>{</b>								ł	i		Ì	. 0	100
Ì		]												0	100
		∄ İ									!			0	100
		279 00	Courses Irland					Į			į		ł	0	001
280	300	1	Brown sandstone	Li	لــــا	L <del></del>	1_	ш	L.L						

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Appendix 23-5 Geological Logging of the Drill Hole "MJK-2" (6/10), Zhaman-Aibat Ore Deposit

MJK-2 INCUNATION: -90° AREA: ZHAMAN-AIBAT BEARING: ELEVATION: FINAL DEPTH: 700.00 m SCALE(II) COLUMN REMARKS DEPTH Ang's No of Core of Fax Rx (%) DESCRIPTION (m) MINERALIZATION 280 20 0 100 Brown sittstone interbedded with brown fine grained sandstone. Parsing of anhydrite, 289 90-290 00 in and 290 60-291 30m. Tectoric braccia 298 80-299 00m,299 70-299 80m,300 15ō 300.45m and 300 60-300 90m. - 297.70-297 85m *Carbonate concretion(1 5 K 1 (cm) with the ė haces of chicking 300 90 Brown siltstone distinct parallel bedding by interlayers of 0 100 fine grained sandstone * Farings of anhyditte (up to 20cm thickness)in 3.11.30-• 317.60-318 DOm Grey'sh brown sandstone layers ō ō 321.60 Light brown fine grained sandstone * 322 10-333 10m Gypsign up to 0 4cm - 330 20-331 60m Brown satelone with green spots • Breccias 327 00-327 20m, 328 00-328 40m and 332 99-:00 Ught brown fine grained sandstone 334.70 Brown siltstone-silty sandstone with a few carbonate concretions up to 0.5 X 1.0cm. · Interlayers of line grained sandstone in 345 20-348 40m and 350.10-350 35m 1346 43m. Concration of chorite carbonals Tectoric brecds consisting of sharp tractures of sittstens cernarded by some fine mashed material in one to-336 20m,338 60-338 65m,341 20-341,60m,345 00 345 16m and ō 353.10-353 16m, 

### Appendix 23-6 Geological Logging of the Drill Hole "MJK -2"(6/10), Zhaman - Aibat Ore Deposit

M	H	<b>X-2</b>	INCLINATION: -90°	•••		Tout Oil Doposit	•			_		
			AREA: ZHAMAN-AIBAT BEARING:			ELEVATION:	FINAL DEP	(H:	700.00n			
<u>ş</u>	Ž	DE WOOL			3		[WN ]	<u> </u>			No. of	Cost
SCALE(m)	COLUMN	DEFUI (m)	DESCRIPTION		REMARKS	MINERALIZATION	SULFIDE OUARTZ CLAY	SUCATE	SAMPLENO	Ang's of Fax	Fra.	Roc (%)
350	8				3		1 7 5 5 A	7		t)	( m)	
350			•	Ì			11111	П			0	100
1		353.2				Ì		П	-		0	100
1	* * .		Light brown sittstone interbedded with fine grained	1				П			0	100
L		•	sandsfore.		l			П			0	100
			- 353 20-353 60m Fectionic brends consisting of small sharp Ractured shistone camented by day	45			+111	П			0	95
}		353,0			}			П	•		0	\$5
360		. !	Light brown fine grained sandstone	40	1			П		Z 43°	5	100
		361,10		<b>∠</b> 5	1		] ] [ ] }	П			2	75
ŀ			Light brown sitistone with interlayers of fine grained sandstone	Ì			1111	П			2	160
			- Sandstone: 368 90-367 00m, 368 40-368 70m and 375 30-				]	H			2	160
			375 50m. :				11111	П			2	100
			<ul> <li>Fissures or mixer fault 368 80-370 00m, 372 70-372 90m, 373 60- 373 80m and 375 50-375 70m.</li> </ul>	1				П			5	100
1			973 80% and 375 50-375 70m. - 369 50-369 50m . Festionic braceia	1		1					0	100
370	11.			1				П			0	100
["							1111	П			0	100
ŀ	===							П			ō	100
ļ			Teclonic breccia consisting of strongly crushed and	1	1			IJ		1	0	100
1		375 70	mashed sillistone. Fractures are cemented by day and carbonate materials.					П			5	75
Ì		376.70						П		<b>∠5</b> 3*	3	80
1	::::	37790	Light brown fine grained sandstone	-			11111			∠75°	3 4	98
			Brown sitstone					Н			•	100
380											4	100
ł							11111	Ш			-	100
		384.40	·	1				Ш			4	100
		304.43	Light brown fine to medium grained sandstone. Fining	١.,	Į			Ш			4	90
Ì		307.20	upwards séquende	1				Ш			4	100
1			Reddish brown sillstone with the interlayers of reddish	1				Ш			4	97
۔ ا			grey fine grained sandstone.	1				П			4	100
390	}=	390 60		, 5.			11111				4	100
1			Brown line to medium grained sandstone interbedded with sitistone.	4	-		1111			Z 3 *	2	100
		394 10		Į			11111			<u>/</u> \$*-IC*	Ó	100
			Eight brown to purplish brown sittstone interbedded with	6	1			П			0	95
1			thin sandstones	l			$\ \cdot\ _{L^{2}}$				0	93
ŀ			• 397 60 424 20: 3-50 seint of gypsomi meter, sa, hivelinis 1 2กกา	Z٥	1						0	85
منه			width.  - 395 00:398 23 Chlorite films on fracture plains			ì					0	100
400			402 50-403 20 Grey'sh brown very line grained sandstone			1					0	100
ł			• 404 40 405 20 Greyish browns to red 5sh brown fine grained	1	1						0	1 CO
ļ.			sandstone with minor situatone partings 408 50 409 30 Sandstone Itagments patch within situatione matrix			i					0 0	100
1	7.2.4		<ul> <li>408 SO 408 SO SENCERORE REGISTERS RECORD WITH SUSSIONE MEETS</li> <li>413 50-414.45 Standded and Inagular chiorite afteration.</li> </ul>	1							0	001
1			•	ı						i	0	100
				Į		•					٥٥	100
<b></b>									-		0	100
410											٥	100
ŀ				1							0	100
ļ			:					П			0	100
			·								0	100
ŀ				l							0	100
ļ		417.30 418.30	Massive fine to medium grained sandstone	1							0	100
420			Dark brown silistone	1	ŀ						0	100
						<del></del>		_				

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#### Appendix 23-7 Geological Logging of the Drill Hole "MJK-2"(7/10), Zhaman-Aibat Ore Deposit MJK-2 inclination: -90° ABFA: 7HAMAN-AIBAT BEARING:

			AREA: ZHAMAN-AIBAT BEARING:			FLEVATION:	Fil	NAI	. DE	PIH:	700.00r	n		
Ê	Z	Γ			3									FERIT
SCALE(m)	COLUMN	DEPTH (m)	DESCRIPTION		REWARKS	MINERALIZATION	ğ	1	٠ أ	Ā	CM 3 JSMA2	Angle	Fas	Ctva Rec
[ 5	នៃ	(0.1)			l À	THE TOTAL PROPERTY.	GILLES	S.A.F.	CLAY Compa	SULFATE		Fiss (°)	( m)	(4)
420		<del>]</del> —		Т-	- <u>"</u> -		H	+	H			• ,	0	98
		}		123	Į		li	ı	1 !			٠.	Ť	99
Ì	<b>-</b> -	i	i : :		1		П	1	Hi			7.50°		98
l		424 5	*	ı			ÌΙ		1 :				0	98
	33	1	Purplish grey fine grained sandstone	1,,	į		H	1	11				0	100
1		4259		ľ			Н		H	. [			•	93
1		1		ł			Н	1	H				<u> </u>	. 89
ł			Red Ssh brown sittstone with the interlayers of grey line	L	!	İ	H	1	1				-	99
i		1	grained sandslone	L			Н	П	Hi				0	93
430		1	Sandstone in 426 80-427 D0m,428 60-429 80m, 433 49-			ļ	Н	П	Ιį				Ť	99
1			433 70m and 435 00-435 30m.				П	1	1 :		Î		•	99
		i	Sraccia [muditali] in 428 00-428 13m, 433 90-433 95m, 434 76-				Н		Į į	l l		i	0	99
1	==	l	434 80m and 435 43-435 50m.	1			Н	ı	1!	11			0	99
		1	Elims of calcitis and choose in the Sesures of at horizon.				Н	Т	i	Н			0	- 53
ł		1				-	Н	1	1!	11			0	99
1		l						1	Ιi	-11		1	.0	99
Ì		439 3 439 0	Greyish brown medium grained sandstone.	١,,			П	Т	Ιŧ	· 1 1			0	88
440	_		<u></u>				П	1	IJ	ш	i		0	100
1330			Reddish brown sitisfone with rare spots of limy sitisfone	П			Н	ı	П				0	100
1		441,7	Chlorite in the fissures				П	1	11	11			0	100
			Greenish grey sittstone with reddish brown sittstone in.	1			Н	1	11	11			0	100
ł		444,0	442 50-442 90m,448 70-448 80m.			-	Н	ı	li	11	[		0	100
1		445.2	Chlorite and calcite films in the fissures		ĺ		П	ı	Н	11	ŀ		ŏ	100
ì	ΞΞ.	445.2 445.7					П	ı	ΙI	ΙÌ			0	100
l			Reddish brown sitistone with rare spots of green	ł I			П	ı	Н	11			0	68
	=	4483 4488	malenais	ĮΙ	li		Н	ı	11	ΙI		- 1	0	80
450		450 0	Medium-trick bedded alternation of reddish brown				Н	l	П				0	63
		451.2	sitstone and greenish grey sitstone.				Н	ı	lì	11	ŀ	ر 5٠	0	100
f			<ul> <li>448 70-448 30: Pladdish brown shistons with spots of gray</li> </ul>				Н	ı	ΙĪ	11		ŀ	0	100
1			maferials	П			H	ı	Ш	11		ı	0	100
Ī			- 448 30 448 8টা Grawvish gray siltstona.				П	ı	H	11	- 1	ı	ō	100
1	===	4563	- 448 60-450 00. Red-Seh brown aftstone	Н			H	ı	11	11	ĺ	ı	0	100
1		457.1 457.6	^ 450 60-451 20. Grey চনাডালৰ with calcile value (up to 0 dom.	H			Н	ı	11	11	ŀ		٥	100
1		437.6	width)	П			Н	ı	П	11	I	- 1	0	100
			<ul> <li>451 20-456 30 Reddish brown sitistone with the interlayers of</li> </ul>	L3.	1		Н	ı	H	11		∠ 8°	-2	100
460		460 3	greennish darb grey tuff? in 453 20-454 00m.	H	1		Н	1	H			ر ي.	Ť	100
	-	4513	Grey sitistone with the interlayers of grey to black fine	1 1		461 30 464 40m Weak symediss	ł		H	11	1	Ì	0	100
ſ			grained sandstone.	<b>Z</b> s:			<b>!</b>	-	П	11	ŀ	∠16°	2	100
ļ	===	463 8 464 4	457,10-457 60: Brown situtons.	[]		464.50 464.70m. Plysite in fissoes	į.	1	H	11	į	•	٥	100
	11		<ul> <li>460 30-461 30: Massive Split brown sitistone</li> </ul>	۷۶			Ħ	1	1	11		(15° (50°	2	100
ł		466.0	+ 463 80-464 40" Grey fine grained sandstone	<b>Z</b> 5			Н	1	i	11	· [	۱ ۳	_ <del>2</del> .	100
1		467.7	<ul> <li>454 50-464 70m; Strongly sheared zone with files of calcile and</li> </ul>	<b>Z</b> 2		457.79 409.50m; Pyrite diss.	H	1	1			25,6	2	100
	==	455.4	py-to	<b>Z</b> 3-				ı	l			4 50°	4	ico
470		469.5 470.0	<ul> <li>456 80 457 70. Massive brown sittstone</li> </ul>	Z-9		458 ide.Pyrkefilms/spots.	ŀ	ı		$\  \ $		c 12 of	5	100
[		4	- 467 70-469 50 Gray sitistone দায়ৈ gray fine grained sandstone	l		466 59 470 90m. Pyrita'in fissules.		ı				£ 50°	5	100
<b> </b>		4718	partings. Pyrite time and pyrite spots areal 463 10m.	£3°			ţ		!		- 1	∠50°	_	100
		472 6 473 7	- 469 50-478 00: Dark gray to black line grained sandstone with the	ر.	l	471 40 472 50ms	İ		Ιţ			C10.	6. 2	100
1	35	475.1	small of oil	<b>45</b> -		Tectoric breccis with pyrite							3	100
[ ]		476.1	Fissures filed with calcite and pyrite  471 90 472 80.1 schools traced with calcite and pyrite	۷5-				1		1		۱۶۰ ا	Ť	001
ſ			A A A BO A S BOLLBO OR O BOOK WILL (SEE B M D TA LA				1	1	1			ر ‱ [	2	100
	• • • •	4780	Purplish brown silistone with grey silistone at lower part	۷51	- 1	671-00-463 (Gm.Py:Rediss Ailms.	į		] [			C 10,	1	001
1 1		4789	<u> </u>	Z3.			- !		i	11	- 1.	ć 43°	2	100
480		4798	Light brown sittstone with red fine grained sandstone	ı		e2.50m.Spots of marcasha/pyrite	į		!	11		C 50*		100
ll		451,4	• 477.30-477.50m.Tectonic breccia	ı			ï	L	ļ į	11		20.	3	100
l l		492 8	Brown silistone with brown fine grained sandstore	CIE	l		į	H	Į į	11	F	5~ X4	2	100
		493.3	Greyish brown to blackish grey fine grained sandstone		- 1		ł	П		П	ľ	<b>3</b> -5	٥	100
	=:1	ſ	with common pyrite dissimination and films				1			П	i	1		100
	$\equiv$	i	L	٤3.	1		1		L		Į	1	0	100
	==		Brown sitstone with minor partings of brown line grained						I		ľ	1	0	100
}	-3	ł	sandstone	ı	ļ		-			1	]	- 1		100
490		459.3	<del></del>	Ì	]	į			ļ		İ	- 1		100
.,,,,,					1			i		-				

Appendix 23-8 Geological Logging of the Drill Hole "MJK-2"(8/10), Zhaman-Albat Ore Deposit

INCLINATION: -90°

			INCLINATION; -90°											
			AREA: ZHAMAN-AIBAT BEARING:			ELEVATION:	FIN	AL D	EPI	H	700.001			
SCALE(m)	COLUMN	DEPTH (m)	DESCRIPTION		REMARKS	MINERALIZATION	30(2)08	7	Z, was a series	1	SAMPLE NO	Ayk of f.s (*)	Free   Rec (±) (ac)	
490		493.40 494.00 494.50 497.00	Greenish grey siltstone with grey fine grained sandstone  430 40-434 to Black fine grained oil carrying sandstone with pythe shallow Massive gray siltstone with pythe shallow in figures at 494-90 494-90 Massive gray siltstone with pythe shallow in figures 494-90 497-90 Call gray to back fine grained sandstone with	26° 28° 28° 25°		बढ़ इड क़द stim. Py rite in metric. बद stimes stimes by the in his sures बद stimes stime. Spots of pyrite.			†			7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100 7 100	0 100 0 100 0 100 3 100	: )
500		499 10 499 50 500 60 501 60 503 20	west small of oil. Filme of calcille and apots of pyrite is a common.  497-00-499-50. Duck graying grean sitiations with grayish brown fine grained sandstone with grayish brown fine grained sandstone.  Brown sitistione with grayish brown fine grained sandstone.  Greenish gray sitistone.  Greenish gray sitistone.	∠s• ∠o• ∠s•		303 30 308 30m. Plyrite in me'rlu.			+			Z 5* Z 5* Z 10* Z 10* Z 5* Z 5* Z 5* Z 5** Z 5**	1 100 3 100 2 100 5 100 0 100	
510		506.50 509.10 509.80 510.80 511.50	see oom.  Grey fine to medium grained sandstone with the intertayers of grey to black sandstone.  Dark-grey sitistone with grey fine grained sandstone.	. Ls . Ls . Ls . Ls		SON 10-614 SOM: Pyrited Sea In Testures.						230° 230° 230° 230° 230° 230° 230°	1 100 0 100 0 100 2 100 2 100 2 100	
520		5:4 55	S09 80-510 80 Carl brown massive sitistone S11 50-512 30: Brown sitistone Brown sitistone with brown fine grained sandstone S20 30-520 80m Tectonic fleaures consisting of day S21 30-522 80m Gray sitistone S23 30-524 10m Dark gray sandstone with dark gray sitistone	LS					+			69,30 630° 630°	001 0 001 0 001 0 001 0 001 0 001 0	
		523 30 524.10 528.10 528.50	- 528 10-528 SOm Black fire grained sandstone থকা গাৰ small of ok.	ζe		523 30 524 Kinn: Pyrite in metrix.			1			25° 213° 250° 250°	0 100 0 100 2 100 0 100 0 100 0 100	()
530		533 50 535 50	Dark grey sitistone with the interlayers of red sitistone in. 534 90-535 20m.	<b>13</b> -		53250538 sSm: Pyrike in metrtx						712. 712.	0 100 0 100 0 100 1 100 1 100 0 100	
540		\$39.40 \$39.70 \$43.20	S34 20-534.40m: Back fine grained sandstone with sinel of oil  Brown sitistone with a few interlayers of brown fine grained sandstone     S39 20-539 80m Orey fine grained eardstone	Or.								∠ <b>0",</b> '5"	100 0 100 0 100 0 100 0 100 0 100	
550		546.40 547.50 548.00 549.20	Dark grey sitistone with the interlayers of dark-grey to black fine grained sandstone with smell of oil.  Brown massive sitisfone with minor fine grained sandstone. 547.50-548 00: Grey sitistone.  Dark grey sitistone with grey fine grained sandstone.	Lo.	:	544.20m: Pyrite in metric.  549.20-551.75m: Pyrite in metric.  500.80m-502.75m:						£ 8° £ 8° £ 20° £ 10° £ 10°	0 100 2 100 0 100 3 100 1 100 0 100 0 100	: <u>)</u>
		951 70 952 35 953 33 554 35 955 30	Films of pyrite and marcesite at 550 90m.  Dark grey fine grained sandstone with smell of oil.  - 552 35-553 35 Derk grey to black massive sitistone.  - 554 35-554 80 Grey sitistone.  Dark grey sitistone with grey fine grained sandstone.	Ta.		Films of pyrite/merc as its 904 30-564 90m, Pyrite Stims 904 90-568 90m Pyrite in metria.		:				∠ 10° ∠ 10° ∠ 5° ∠ 5° ∠ 5° ∠ 3° ∠ 3°	4 98 1 89 1 100 0 100 2 100 1 100 1 100 0 100	
550		559.80		LĹ		l	Lŧ.	LL.	1	L	L		0 103	

Appendix 23-9 Geological Logging of the Drill Hole "MJK -2"(9/10), Zhaman - Aibat Ore Deposit

MJK-2 INCLINATION: - 90° AREA: ZHAMAN-AIBAT BEARING: FLEVATION: 336.5m FINAL DEPTH: 700,00m 207700 DESCRIPTION MINERALIZATION (m) Fax. ( 6) Grey fine grained sandstone with intercalations of black (4st 561.20 509-90-584 tOm. Consmon pyrite diss 5 100 sandslone and dark grey sittslone 1 100 Fyrite is common in all horizon and its nests at 559 85m 1 100 564 20 505 50m. Pyrite in lissues. /19and 560 20m. 100 • 564 20-565 90. Gray line grained sandslone with fissures stained 100 ۰ by pyrite - 565 90-565 40. Grey'shi green massive sitistone 5 160 568.60 - 567.10-568 00 Dark gray salatone 0 003 100 Grey(weakly greenish) sittstone with partings of grey line 594.80-593.90m.Rare pyrite spors 3 100 grained sandstone ō. 100 0 100 0 100 574 90 0 \$1430m:Thick nesty pyrite. Grey fine grained sandstone with smell of oil. 575.40 • 574 90m .Thick nesty interlaying of pyrite. 100 Greyish-green siltsione with grey fine grained 7 100 0 100 sandstone ۷. 5 160 580 Gray line grained sandstone with dark gray line grained 100 sandstona 592 00 ٥ 100 Thin bedded alternation of dark grey sittstone sitty-0 100 sandstone and grey line grained sandstone. 0 100 2 100 100 ō 100 100 0 100 590 0 100 100 ٥ 100 593.60 • 100 65.80.599.60m.Commongy/ite/Illm Grey fine grained sandstone with minor dark grey to 1 tco greenish grey fine grained sandstone. 0 100 160 2 100 001 559 60 0 100 Thinnly bedded alternation of grey line grained 599 80 303,00m, Raze ovide souts. 100 sandstone(40%) and laminated dark grey sittsone 1 1 C-0 (60%). 603 00 100 eosogads eom: Rare pyritein fissums. 001 Greenish grey sittstone with thin sandstone layers. 3 Medium bedded alternation of grey sandstone grey 0 100 100 conglomerate and gray sitistone. Chalcocke in fissures. 607.00 100 BE ONE YOU 44 609 00 ico Weak galera bornite disp Grey fine to coarse grained sandstone interbedded with ō SERVICE COM granule-peòble conglomerate in 614 6-615 6m,617 5-0 100 Abundant galena/chaicocte dis-617 65m,618.4-619 5m and 619 45-619 85m. 100 410 40-E: 1.40-m 0 100 Massively chalcocite/comité 0 100 \$11.40 \$13.80m; ō Frequent disal of chelcocke/borni 4 100 \$1500 \$16 On: Chalcocke diss ī 100 2 100 620 6:4 45616 90m 0 100 Spotatiss, of chalcooke 619.90 0 Greenish grey fine grained sandstona with 0 100 intraformational conglomerate in 623,30-523,70m. 2 100 0 100 0 100 2 001 Brown massive sittstone. 625 90 ٠. -100 Brown to greenish grey line grained massive sandstone 626 80 100 1 100 628.40

Brown massive silistone

\$28.00 630.00m

Weak chalcooks diss

Appendix 23 - 10 Geological Logging of the Drill Hole "MJK - 2" (10/10), Zhaman - Albat Ore Deposit

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M	JE	ζ-2	INCLINATION: -90°										٠.	-	
			ARFA: ZHAMAN-AIBAT BEARING:			ELEVATION:	FU	۸'n	LD	EPT	H:	700.00r		KPROF	ERTY
Ê	3	DEPTH			REMARKS		ΓX	ŀ	1	Ę	,		Angit	No. of	503
SCALE(m)	COLUMN	(n)	DESCRIPTION		\ <u>\$</u>	MINERALIZATION	מולומ	AMA	¥	CARBONATION OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE		SAMPLE NO	of Fiss.	Fast.	(%)
S	8			- 4	22		1 8	_1	-Ÿ-	1-1	Н	t=	$\Box$	(m)	100
630			629 00 639 10			\$30,00-\$30,30m; Densely day of chalcocke.	П		1		H	45		ö	100
			Greyish green medium to coarse grained sandstone with intraformational conglomerate in 633 20-			600.75-621.80mc	Ш			П		F===	۷.۰	•	Ιοο
	00.00		633 50m,638 20-638.30m, 638 60-638 70m and 639 00-	23		Vieak chakooka 5 sa	Ш	ı		П			-		100
_	***		639.10m.				Ш	1		П		50		<u>.</u>	100
ŀ			-				11	1		П				0	100
							П	-		П		55		0	00
	====	639.10 633.70				134.76641.15m	H	Ì	1				ζ.,. Υ.,.	2	100
640		633 fu	Greyish green massive sitstane with brown sitstone in			Weak chalcocke diss	}	-		П				0	100
			Upper 20cm.			642 80m. Bomhe/chalcocte diss.	Hi					66	∠s. ∠s.	2	100
į į		·	Greenish grey fine grained sandstone with scattered	Lo	ĺ		H	ı						٥	100
1		544.00	pebbles (up to 40%) of grey sitistone					-				<del> </del>		- 0	100
			Greyish brown fine grained sandstone with brown	60	İ				ŀ	П	ı	65		ŏ	160
ł I		646 90	sitstorie in 644,00-644,15m and 644,90-645,00m and intraformational conglomerate (30cm, thick) at 646,00m.						ı	П			/ 50*	0	100
[		647 60	\							Ш			718.	3	100
	2512		Brown massive siltstone.	<u> 2</u> 00				Į				70	7 3.	0	160
650	0110		Grey line grained sandstone with dark grey to greyish brown fine grained sandstone. Interlayers of greyish											0	100
	ALLE.	65190	brown rine grained sandsione intensyers of greyrish brown peoples are common.			1	H					l		0	100
			Brown sitistone to fine grained sandstone with	20-			11				ŀ	75	۷5٠	_ <del>0</del>	100
}			greenish brown fine grained sandstone(652.50-	3			11						l	0	100
		655.00	(653 60m).		1		Н	-						0	100
<u> </u>			Greenish gray fine grained sandstone with silt-fragment in all horizon.	<u>7</u> 2	l		П				l	BO		0	100
	7.5	657,40	Greyish brown fine to coarse grained sandstone with	ره.			П			1	l		78.	-	100
1	:		brown siltsione.	۷,			Н	1						0	100
660			Intraformational conglomerate is common and sitt-				П					65		-0	100
ļ.		]	fragment paiches in places	40	1		11		1			l	۲.,	-	100
]				ĺ			П						1	0	100
ŀ			÷	) 200		•	Ш		ı		ı	9:	۷.۰	1	100
		665 90	Brown massive sillstone				11			İ	ı	l	4.5	2	100
1	==	i		l				1			ı		7 20°	1	100
ŀ		1	<u>;</u>					1					1	0	100
670			*						ı			"	Zer.	1	100
			-					ļ			ĺ		١,,.	٥	100
}		672.0Q	Greyish brown fine grained sandstone			ļ				1		<u> </u>	Z:3-	[2	100
Į.		67320		[~	1	\$73.20-\$78.50m	11	П				100	Į	0	100
1			Greenish grey fine grained sandstone Intraformational conglomerate at 676 10m and 678 45m.		l	Scatter dise of pyrita						<b> </b>	ł	0	100
}			-	∠51	ĺ		ij		1	ı		├──	Z »*	.0	100
1					1		Į,						]	- 3	100
1		679 50	·		1			L		1	ĺ	^{cos}	\ \ \	-3	100
680			Brown massive sittstone			l '				ı	1		۷.5۰	2	100
l		68220		۸.	l					ı	1	<b> </b>	₹2°.	2	100
	19800		Brown massive sitistone with greyish brown fine grained	Ĭ	l					ı	ŀ	119	1	0	100
ŀ		644 60	sandstone.	ري.									Z 3:	3	100
		68510	Greyish green siltstone	25	1	806.20-692.30m.		Ļ					1	0	100
			Greenish grey fine grained sandstone with grey sittstone	1		Weak chalcocke borra e d's s.	H						1	i o	100
1			In 686 9 687 5m.	1			1						25.		100
690				دء	1		11					×	Z#?	10	100
1020		]				-			Н				ļ	-	100
}		692 30	<u> </u>		l		11	Ì		1	t		ł	0	100
			Brown sitstone with brown fine grained sandstone.	<b>I</b>	J						į	125	710		100
Ì		695 50	Greyish brown fine grained sandsione with brown fine	[ ²³	1					1.	i		Z 85*	. 2	100
1	137	1	y Greyish brown tine grained sandsione with brown tine grained sandslohe	ر ا	Į						ĺ		14.	Ť	100
		697.00	Brown massive sillstone	<u>ا '</u> '								33	Z 5°	2	100
Ì		699.20			1					1	1		250	2	100
700			Grey fine grained sandstone	143	1	L	1.	L	LL	_!_	_	1_1	₹21 <b>5</b> 1	<u> </u>	

A = 56

Appendix 24-1 Assay Results of Core Samples from the Drill Hole "MJK-2"

2	Length	₹	Ą	ರೆ	£	Zu	۲ د	Se Se	vs	s.	S.
qdd	<u>م</u>	ٳ	1/30	%	22	%	to1 %	mdd	sulfide %	sulfate %	%
8 8	2 6	₩ (	0 V V V V V V V V V V V V V V V V V V V	0.03	0.02	10.0	1.96	\ \ !	0.11	•	•
<u> </u>	V	2 77	4, 4	9 6	9 0	9	28.6	7 7	0.11	1	
0.70		7	ह. १० १	0.07	0.05	9.0 9.0	2.55	۸	0.29		
·	·	<u>,,,,,</u>	< 0.34	9. 9.	0.01	0.02	3.92	< 1	0.04	0.01	4.28
5.7 A	V	15.	Q.	0.08	0.19	0,02	3,96	< 1	0.0	•	•
<u>8</u>	<b>V</b>		45.0	800	0.09	0.03	3,8	Ÿ	1.22	•	•
<u>₹</u>	<u>~</u>		4 0.34	0.52	0,13	0.23	2.35	C4	0.82	•	•
8	<u>~</u>		0.68	0.13	0.28	0.43	1.98	t.	0.78	•	•
\$	δ.		8	0.13	0.1	0.0	4,20	٧.	0.29	•	_
<u>8</u>	<u>ه</u>		3,0	0.11	8	0.01	2.59	1	0.70	•	•
<u>§</u>	<u>o</u>		;; 8	20.1	1.42	0.01	1.78	7	0.92	•	•
.95	ς Υ		14.36	6.20	15.30	0.05	1.89	21	4.55	_	•
.45	S.		28.73	10.90	16.00	0.01	1.86	63	5.86	•	•
.00 دک	٥		14.71	5.62	0.02	< 0.01	1.29	10	1,82	•	•
.60	o •		0.34	90.0	0.01	10.0	4.41	V	0.02	•	•
SS SS	<u>۵</u>		42.41	19.90	0.03	0.01	2.05	82	6.29	•	•
8	V		4.45	1.67	0.14	× 0.01	1.06	6.7	0.59	•	•
35	\$		8.21	3.47	0.01	A 0.01	13	(*)	1.64	_	•
88.	5		3.42	1.48	< 0.01	< 0.01	0.88	<1	1.30	•	•
57.	S		6.50	2.69	< 0.01	< 0.01	0.93	6	1,67	•	•
₹. \$	\$		1.37	0.53	<b>v</b> 0.01	0.01	1.26	v	1.14		•
& \ \	<u>ئ</u>		0.34	0.23	<b>v</b> 0.01	0.02	3.11	· ·	0.14		•
.70	Ŷ		4.10	2.45	<b>v</b> 0.01	0.01	1.70	E.	1.23		1
8. ∆	δ.		239	1,56	0.01	0.01	1.49	4	0,49	0.0	2.97
<u>8</u>	<b>⊽</b>	_	9.92	3.0	0.0	0.0	2.35		1.20	•	-
<u>5</u> .	∨ ~	·~	88.0	0.55	v 0.01	0.02	1.71	۷,	0.13	•	-
V   	V -	~	0.68	45.0	10.0	10.0	2.19	V	0.16		•
<u>.</u>	<u>v</u>	'n	8	6.31	0.0 20	0.02	23	<u>w</u>	1.86		•
\$.	v O	ᆏ	890	0.58	0.0	0.02	3.05	<1	0,18		•
25.	ν.	v.	< 0.34	90.0	0.01	0.03	5.76	1 ×	0,05	•	•
.10	٧ <u>۵</u>		< 0.34	0.08	< 0.01	0.02	2.53	7	9. 2.	•	٠
201.	2	_	0.34	0.05	0.02	0.02	3.07	7	0.03	•	•
.10	₹		0.34	0.09	< 0.01	0.02	25.4	< 1 ×	0.0	1	
01:	v	~~	0,34	0.10	0.01	10.0	2.00	¥	0.05	:	•
8	0	9	40 X	0.01	1000>	000	5.32	٧	0.02		-
08:	0	V	4 0 X	0.02	10.0	0.02	5.75	· ·	10.0	•	•
8	_	V	4 0 3	10.0	10.0 >	0.02	4.80	v	0.01		
5.	·	¥	< 0.34	0.01	0.0	10.0	2.93	,	0.03		•
- V		-									

Appendix 24-2 Assay Results of Core Samples from the Drill Hole "MJK-2"

	$\neg$	•	•	•	•	13	•	7	•	•	•	•	ŀ	•	•	•	•	•		7	*	•	٠	•	•	•	١	•	•	•	•1	•	•	•	•	4	T	-,-			٦
S.	%					17.7																										:									
S	sulfate %	•	•	•		8	•	•	•	•	•	'	٠	٠	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	*	•	•		•	
Ś	sulfide %	\$0.0	8	1,45	o 4	0.12	89.0	6.6	0.02	800	0.02	0.30	0.30	•	•	•	•	•	-,-	;-	•	•	•	•	•	•	•	•		-,-	•	•	-	7	-Ţ·	•	•	<u>,</u>		•	٦
Re	mdd:	₹	٧	7	7	⊽		Ÿ	Ÿ	v	-	V	7	•	•	•	•	•	•	•	•	•	•	•	•	٠	•	•	•	•		•		•	•		•	-	:	•	7
Fe	tot %	5.90	2.56	1.93	1.67	2,2	2.73	339	2.26	2.32	3.67	2.2	1.75	•	•	•	-				•	•	1	•	•		٠	•	•	•	•	•	•	•	•	•	•	•			
ζu	%	0.03	0.02	0.01	0.01	0.02	0.01	0.03	0.01	0.01	0.02	× 0.01	0.01	0.02	0.01	0.01	0,01	9	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.01	0.02	0.03	.00	0.03	0.02	<u>ဗ</u>	0.0	0.02	0.02	0.02	0.02	0.0	60	0.02	0.02
26	8	4 0,01	0.01	10'0	0.01	< 0.01	100	0.02	0.0	0.01	0.02	0.0	0.01	<b>₹</b> 0.01	¥ 0.01	4 0.01	< 0.03	<b>v</b> 0.01	₹ 0.01	¥ 0.01	0.01	, 0.01	<b>&lt;</b> 0.01	<b>v</b> 0.01	<b>v</b> 0.01	< 0.01	< 0.01	0.01	000	< 0.01	0.01	0.0	<b>v</b> 0.01	0.01	× 0 0	< 0.01	0.17	<b>c</b> 0.01	, 0.0 10.0	× 0.01	0.01
õ	۶%	30.0	0.01	532	1.03	0.27	2.17	0.03	0.01	0.14	0.01	0.45	0.80	0.02	0.02	10,0 v	0.01	0.05	0.17	0.19	0.16	0.03	0.27	0.19	0.01	0.25	0.01	0.01	0.0	0.0	0.01	0.01	0.10	0.02	0.02	0.01	8	0.0	0.0	0.0	0.04
34	1/2	40,34	9.75 A.	12,65	139	0.68	7.52	40.34	A 0,74	4.0°V	A 0.34	4,7	4.10	A 0.34	A 0.34	0.68	A 0.74	A 0.74	0.34	8,0	40.4	۸ 0.34	0.68	A 0.72	24.	0.68	40,34	A 0,3k	A 0.74	× 0,2	۸ 2,	< 0.34	A 0.74	4 0.74	40.34 V	4 4,034	40.3 40.3	4 0 .34	40.34	A 0.34	0.68
٦¢	₹ A	V	Ŋ	Ŷ	V	Ŋ	V	Ÿ	V	V	Ÿ	Ŷ	Ÿ	•	•	•	,	•	•	•	-,-	•	•	•	•	-	•	•	•	•	•	•	•	•	•	•	•	•	1		1
Cengah	E	0,60	2.8	0,40	0,40	0.60	8	0.80	0.80	0.80	0.0	64.0	0. 64	0.80	0.80	0.80	8	9.0	0.80	0.80	0,4	0.30	8.	8	8	8.	0.00	0.70	0.80	08.0	8.0	06.0	8	0.60	0,0	990	0.70	0.70	08.0	08.0	880
ដ	£	929.00	630.00	630.40	630.80	631.40	631.60	632.40	633.20	634.00	634.90	635.30	635.70	636.50	637.30	638.10	639.10	639.70	640,50	641.30	641.70	\$42.00	643,00	84.00	645.00	646.00	646.90	647.60	648.40	649.20	650.00	650.90	651.90	652.50	653.00	653.60	654.30	655.00	655.80	656.60	657.40
From	E	628,40	629.00	630.00	630.40	630.80	631.40	631.60	632,40	633,20	8.4.8	634.90	635.30	635.70	636.50	637.30	638.10	639.10	639.70	640.50	641.30	641.70	642.00	83.8	<b>8</b> .	645.00	8.88	846.90	87.8	648.40	649.20	650,00	650,90	651.90	652.50	653.00	653,60	654.30	655.00	655,80	656.60
Sample	ģ	No. 41	No. 42	.v. 43	8. 4	No. 45	No. 45	No. 47	Zo. 48	No. 49	%. %	Zo. si	S S	No. 53	% \$	No. 55	No. 56	No. 57	% .58	So. 59	% %	No. 61	%. 62	No. 63	8 2	8 8 8	8	No. 67	89 92	No. 69	No. 70	No. 71	No. 72	8 5	% %	No. 75	No. 76	No. 71	No. 78	Zo. 79	% .80

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Appendix 24-3 Assay Results of Core Samples from the Drill Hole "MJK-2"

S.	%		•	•	•	2.47		•	•	•			•	•	•	•		•	•	•	•		•	•	-,	3,20		•	•	•	•		•	•			T•	•	٠	•	•
S	sulfate %		٠	,	٠	0.01	•	•	•	•	•		•	•	•	-,		•	٠	•	٠			•	•	0.01	•	•	•	•			•		•	•	•	•	•	•	
S	suifide %		٠	0.02	¥0.0	0.03	6.0	900	0.13	0,19	0.02	0.00	0.01	9.0	0.01	0.0	0.03	1,89	0.03	9,0	0.86	0.00	0.25	0.11	0.03	0.02	<b>10</b> 2	0.02	0.02	10.0	0.03	0.02	00	0.15	0.22	0.27	110	8	0.19	0.31	0.13
2	wdd		•	1	٧	< 1 ×	ī	<b>~</b>	<b>~</b>	· ·	7	v	~	Ÿ	v	<b>V</b>	~	14	~	~	Ÿ	v	٧	٧	Ÿ	V	v	٧	Ţ	V	¥	V	4	7	43	96	7	7	ν.	11	2
댨	% 101	•	•	4.51	3,83	2.85	2.66	3.20	2.22	2.26	3,30	1.75	4,41	4.08	4.95	4,65	4.70	1.14	3.90	4.84	1.62	1.78	ठ	3.8	2,40	9.9	4.49	5	3.40	4.40	3,19	4.93	3,95	1.74	2.13	7.00	2,93	2.28	2.05	2,30	2,00
Zn	%	0.02	0.02	0.0	0.02	0,02	0.02	0.02	0.01	0.01	0,02	100	0.0	0.01	0.01	0.01	0.01	¥ 0.0	0.0	0.02	€ 0.01	0.0	000	0.02	0.01	0.0	0.01	10.0	0.01	0.0	0.0	10.0	0.00	< 0.01	0.01	0.01	0.02	0.01	0.01	0'01	10.0
£	28	× 0.01	<b>v</b> 0.01	0.01	0.01	< 0.01	[00 	0.01	0.0	0.01	0.01	0.0	0.01	0.02	0.03	0.01	0.02	90.0	0.02	0.01	0.02	0,02	0,03	90.0	0.02	× 0.01	0.02	0.01	0.01	10.0	0,0	د 0.9	0,02	0.06	8	880	0.19	90.0	0.20	0.18	800
ថី	%	0.02	0.01	0.0	10'0	0.01	0.01	0.01	0.01	0.01	0.03	070	10'0	0,05	<b>v</b> 0.01	0,01	0,01	5.66	0.03	0.01	0.38	0.03	0,03	0.03	0.01	0.01	0.01	0.01	0.0	0.02	0.01	0.0	0.08	0.01	0.0	0.0	0.05	0.02	0.0	0.48	0.02
2,5	ង	< 0.34	< 0.34	9,3	0.34 45.03	A 0.34	4.0 A	A 0.34	A 0,34	A 0.34	<b>₹</b> 0.34	1,03	40.34	0.34	A 0.34	40.34	40.34	14.36	0.34	40.34	1.03	A 0.34	40.34	0.34	0.34	< 0.34	× 0 34	A 0.34	× 0.34	4 0 X	A 0 34	× 0.34	9 4	< 0.34	¥ 0.34	9,35	2,0	¥0.34	χ ν ν	2.05	< 0.34
ηγ	ę ę	ľ	•	V	Ą	Ŋ	Ŋ	٧	V	V	٧	V	٧	Ą	70	V	Ý	Ą	٧	Ą	\$	Ŷ	٨	7	٧	V	Ŷ	٧	٧	٧	٧	Ø	Ŋ	٧	Ŷ	Ø	V	ያ	٧	٧	₹
Length	£	06'0	0.70	0.70	0.80	0.70	0.70	0.80	8.1	0.70	0.70	080	8.	2.8	8:	1.8	8.	1.10	990	0.00	1.10	1.10	1,10	8:	8	8.	0.90	0.80	8	0.70	0.60	1.10	0.50	9.6	990	99.0	8.	<u>ठ</u>	0.85	0.45	8.0
ဋ	£	658.30	659.00	659.70	660.50	661.20	661,90	662,70	663,70	64,40	665.10	06'599	06.90	667.90	668.90	06.699	670.90	672.00	672.60	673.20	674.30	675.40	676.50	677.50	678.50	679.50	680.40	681.20	682.20	682.90	683.50	644,60	685.10	685.70	686.30	686.90	687.50	688.00	688.35	689.30	690.20
From		657.40				- 1					1	:			967.90	668.90	06.699	670.90	672.00	672.60	673.20	674.30	675.40	676.50	677.50	678.50	679.50	680.40	681.20	682.20	682 90	683.50	8,48	685.10	685.70	686.30	886.90	687.50	688.00	688,85	689.30
Sample	Š	No. 81	% %	8 8	S S	No. 85	No. 86	%. %	No. 88	% .%	% %	No. 91	No. 92	% %	\$ \$	No. 95	No. 96	No. 93	%. %	8 9	% 130	No. 101	No. 102	No. 103	S 10	No. 105	8	No. 107	No. 108		No. 110		No. 112	No. 113	No. 114	No. 115	No. 116	No. 117	Zo. 118	No. 120	No. 121

Appendix 24-4 Assay Results of Core Samples from the Drill Hole "MJK-2"

FcO	%	1	•	•	6.52	•	•	•	•	•	•	•	•	
S	sulfate %	•	i	•	40.01	•	•	•	-,	•	•	,	•	
s	sulfide %	61.0	0.18	0.33	990	0,01	0.00	0.01	80.0	0.05	0.02	0.0	90.0	0.01
Re	mdd	4	6	2	<u>~</u>	٧	× 1	7	~	<u>~</u>	< 1	1 >	~	×
Fe	% 101 %	2.00	2.30	1.84	4.28	4.59	4.52	4 28	2.88	2.60	4.58	4.45	2.16	4.37
Zn	%	0.01	0.01	0.01	0,03	0.01	0.01	0.01	0.01	0.0	0.0	0.01	0.0	0.01
£	%	0.28	0.20	<b>c</b> 0.01	10.0	0.01	0.01	0.01	0.01	0,02	0.01	0.01	0.0	0.01
S	%	0.07	0.03	69'0	1.48	0.01	<b>×</b> 0.01	10.0	0.01	0.0	0.01	10.0	0.03	0.02
Ag	5	1.03	\$. V	308	5.47	4 0.34	c 0.34	\$ 0.3	A 0.34	40.34	4 0 34	× 0.34	24	× 0.34
γγ	qd	V	V	V	Ŋ	Ÿ	Ş	V	V	V	٧	Ö	Ö	۷
Length	£	00:1	9,70	0.80	0.15	1.05	8:	8:1	0.70	0.80	1.10	1.10	0.60	0.20
សួ	E	691.20	691.50	692,30	692.45	693.50	694.50	695,50	696.20	697.00	698,10	699 20	699.80	200.00
From	8	690.20	691.20	691,50	692.30	692.45	693.50	694.50	695.50	696.20	697.00	698 10	699.20	699.80
Sample	ż	No. 122	No. 133	No. 124	No. 125	No. 126	No. 127	No. 128	No. 129	No. 130	No. 131	No. 132	Zo. 133	S3

Appendix 25 Whole Rock Analysis of Core Samples from the Drill Hole "MJK-2", Zhaman-Aibat Ore Deposits

Sample No.	-	96-W1	96-W2	96-W3	96-W4	96-W5
Depth from	m	417.72	560.13	591.20	676.71	681.00
Depth to	m	414.87	560.23	591.28	676.81	681.23
SiO2	(%)	59.88	56.55	58.55	66.74	63.69
Al2O3	(%)	14.42	8.98	15.18	11.90	14.06
TiO2	(%)	0.59	0.30	0.66	0.47	0.70
Fe2O3	(%)	3.26	1.83	1.60	0.68	3.20
FeO	(%)	1.52	0.50	3.61	1.75	1.65
CaO	(%)	3.73	13.74	3.50	4.22	2.42
MnO	(%)	0.10	0.45	0.13	0.13	0.12
Na2O	(%)	2.67	4.09	2.02	3.94	3.13
MgO	(%)	2.37	0.25	2.31	1.09	1.47
K2O	(%)	3.15	0.62	3.97	1.56	2.86
P2O5	(%)	0.15	0.07	0.17	0.09	0.15
I.OI	(%)	6.64	12.43	6.64	5.14	4.84
Total	(%)	98.48	99.81	98.34	97.71	98.29

Appendix 26-1 Microscopic Observation of Polished Sections from the Drill Hole "MJK-2", Zhaman-Aibat Ore Deposit

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Observation	This polished section consist of galona (40%), pyrite (30%), chalcopyrite (20%), goethite (10%), and gangue minerals. Aggregates of unhedral grains of chalcopyrite, and cuhedral to subhedral grains of chalcopyrite, and cuhedral to subhedral grains of pyrite (some of them are brocclated), up to 0.8mm in size, fill among sedimentary particles (sands). Goethite looks like a secondary product after pyrite or marcasite.	Central The constituent minerals are galena (40%), pyrite (30%), chalcopyrite (20%), bornite (5%), goethite Orebody (5%), and gangue minerals. Like 96-PS-01, these opaque minerals except goethite occure as aggregates up to 2mm in size, showing interstice-filling among sedimentary particles (sands)	Central The opaque constituents of this polished section are galena (50%), pyrite (30%), bornite (10%), goethite Orebody (10%) and gangue minerals. Chalcopyrite was not found. Aggregates of anhedral grains of galena, subhedral - euhedri grains of pyrite, and anhedral bornite, up to 1.2mm in size, occur interstitially among sedimentary particles. This sandstone has layering almost horizontally, but there is no regularity on arrangement of the opaque minerals.	This polished section is composed of bornite (30%), chalcocite-like minerals (30%, in this case, chalcocite is predominant, but a small amount of digmite is also found), chalcopyrite (10%), covellite (5%), pyrite (5%), stromeyerite (5%), galena (5%), organic matters (5%) and gangue minerals. These opaque minerals except goethite and organic matters occure as aggregates of irregulaar shape, up to 2.5mm in size, interstitially among sedimentary particles (sands). Also, bornite and chalcocite-like minerals sometimes show micrographic texture.	It consists of galena (50%), chalcocite-like minerals (20%, chalcocite is predominant), bornite (15%), covellite (5%), pyrite (5%), organic matters (5%) and gangue minerals. These opaque minerals except organic matters occure as aggregates, up to 2mm in size, interstitially among sedimentary particles (sands). Galena occures as relatively coarse grains as a member of the aggregates above mentioned, and and anhedral grains of galena with inclusions of fine grained gangue minerals. The latter aggregates do not include other sulfide minerals in general, or are contained in the former aggregates as breceias. It suggests that galena has at least two stages of formation.	This polished section is composed of chalcocite-like minerals (40%, chalcocite is more dominant than digenite), bornite (40%), galena (10%), organic matters (5%) and gangue minerals. Anhedral grains of chalcocite-like minerals, bornite and galena occure as aggregates of interstice-filling products, up to 3mm in size, among sedimentary particles (sands). One undetermined mineral is observed in such aggregates as subhedral columnar grains up to 0.15mm in size. It is gray in color, and clearly anisotropic.	The opaque minerals od this polished section, which is predominant in sulfide minerals, are chalcocite-like minerals (50%, digenite and chalcocite are nearly same amount), bornite (45%), and Ag-rich electrum (5%). Chalcocite-like minerals and bornite occur as aggregates, up to 3mm in size, interstitially among particles (sands), and occasionally show micrographic texture. Anhedral grains of Ag-rich electrum, up to 02mm x 0.1mm in size, occets in some of the sedimentary particles with probably clay minerals, not quarz sands.
Depth Location (m)	Central Orebody	Central   Orebody	Central Orebody	Central	Central Orebody	Central Orebody	Central Orebody
Depth (m)	608.10	608.35	608.88	609.32	09.60	610.20	610.70
Orill No.	MJK-2	MJK-2	MJK-2	MJK-2	MJK-2	MJK-2	MJK-2
Sample No.	96-PS-01	50-PS-02	96-PS-03	96-PS-04	50-54-96	90 <del>-</del> 24-96	96-PS-07

Cc: Chalcocite like minerals, Bn: Bornite, Cv: Covellite, St: Stromeyerite, Bl: Electrum, Py: Pyrite, Cp: Chalcopyrite, Gn: Galena, Sp: Sphalerite, Go: Goethite ©: more tan 50%. O: 30% - 50%. \times 10% - 30% + ; less, than 10%

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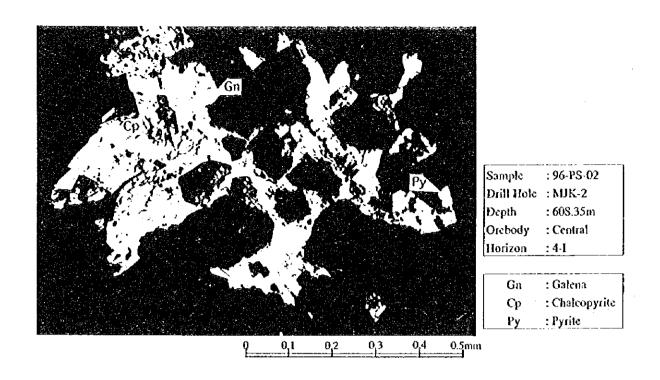
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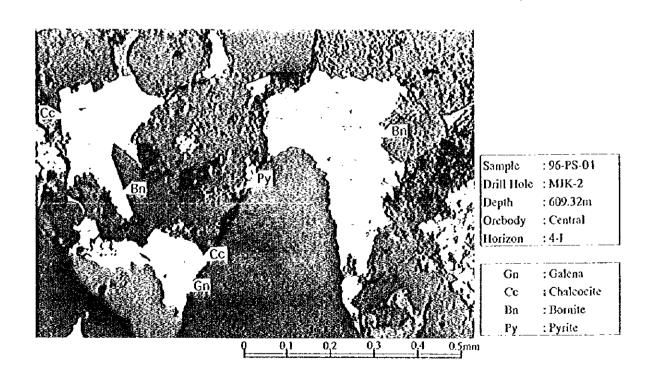
Appendix 26-2 Microscopic Observation of Polished Sections from the Drill Hole "MJK-2", Zhaman-Aibat Ore Deposit (continued)

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ပိ		0	0	0	0	0	0	<b>©</b>	
Observation		Central This polished section consists of chalcocite-like minerals (60%, chalcocite is more dominant than Orebody digenite), bornite (40%) and gangue minerals. These opaque minerals occur as aggregates, up to 1mm in size, interstitially among sedimentary particles (sands), and occasionally show micrographic texture.	Central This polished section is composed of chalcocite-like minerals (60%, chalcocite and digonite are nearly Orebody same amount), bornite (35%), organic matters (5%) and gangue minerals. These opaque minerals are sometimes concentrated in some layers or veinlets in the host sandstone, and occur as anhedral grains in interstitial aggregates among sedimentary particles (sands). At least two kinds of gangue minerals are coexisted with these opaque minerals at the stage of ore-formation.	It consitsts of chalcocite-like minerals (50%, digenite looks mote dominant than chalcocite), bornite (45%). goethite (5%) and gangue minerals. Anticoral grains of chalcocite-like minerals and bornite occur as aggregates, up to 1,5mm in size, interstitially among acdimentary particles, and sometimes show micrographic texture.	Central This polished section is composed of chalocotte-like minerals (60%, chalocotte and digenite are nearly Orebody hame amount), bornite (40%),and gangue minerals. Chalocotte-like minerals and bornite occur as aggregates, up to 2mm in size, interstitially among sedimentary particles, and sometimes show inicrographic texture.	Central This polished section consists of chalcocite-like minerals (60%, chalcocite and digenite are nearly same Orebody amount), bornite (40%), and gangue minerals. These opaque minerals are also interstice-filling products, up to 1mm in size, among sedimentary particles (sands).	Central This polished section is composed of chalcocite-like minerals (90%, chalcocite is more dominant than Orebody digenite), goethite (5%), organic matters (5%) and gangue minerals. Chalcocite-like minerals occur as irregular-shaped aggregates, up to 2mm in size, interstitially among sedimentary particles (sands). They occasionally arrange like veinlets.		Central This polished section consists of pyrite (30%), chalcopyrite (30%), galena (30%), sphalerite (10%) and Orebody gangue minerals. The amount of sulfide minerals is not much. Aggregates of anhedral grains of chalcopyrite, galena and sphalerite occur as interstice-filling products, up to 1 mm in size, among particles.
Depth Location				Central Orebody	Central Orebody	Central	Central Orebody	Central Orebody	Central Orebody
Depth	Œ)	611.80	612,30	613.50	615.50	617.70	630.05	635.65	688.10
Š E S		MJK-2	MJK-2	MJK-2	MJK-2	MJK-2	MJK-2	MJK-2	MJK-2
Sample No. Orill No.		96-PS-08	96-25-09	96-PS-10	96-PS-11	96-PS-12	96-PS-13	96-PS-14	96-PS-15

Cc: Chaloocite like minerals, Bn: Bornite, Cv: Covellite, St: Stromeyerite, Electrum, Py: Pyrite, Cp: Chaleopyrite, Gn: Galena, Sp: Sphalerite, Go: Goethite ©: more tan 50%, C: 30% - 50%, L: 10% - 30%, +: Less than 10%

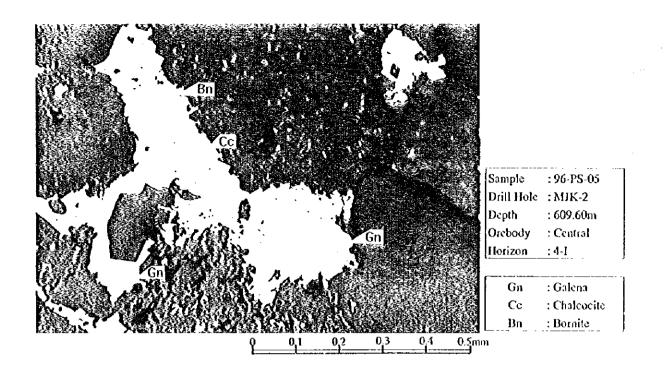


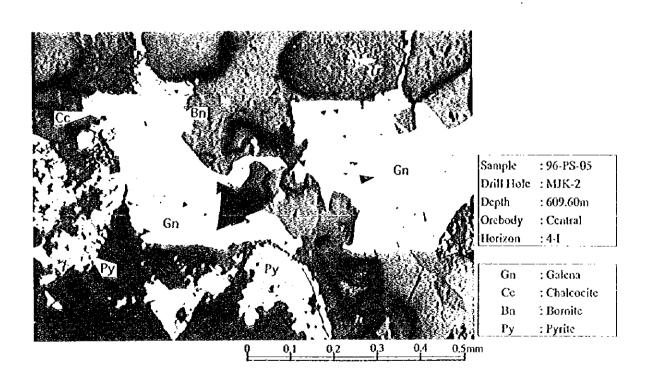




Appendix 27-1 Photomicrographs of Ore Minerals in Polished Sections from the Drill Hole *MJK-2*, Zhaman-Aibat Ore Deposit

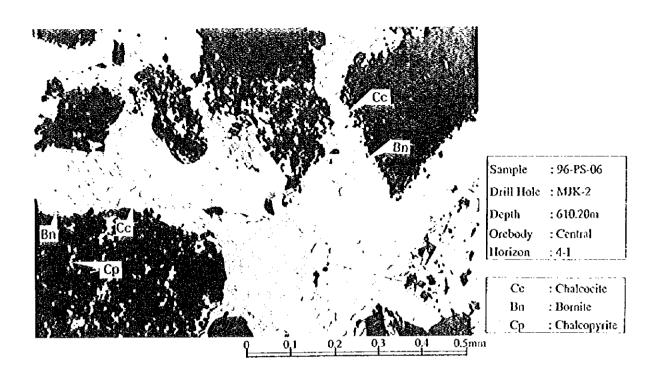
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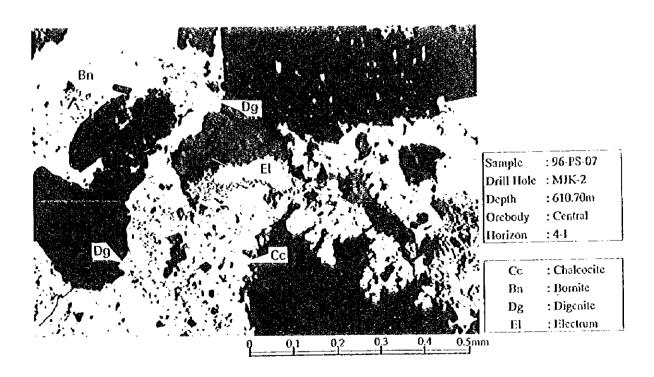




Appendix 27-2 Photomicrographs of Ore Minerals in Polished Sections from the Drill Hole *MJK-2*, Zhaman-Aibat Ore Deposit (continued)

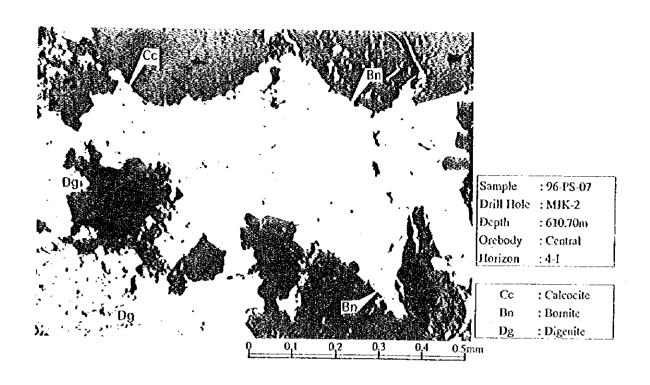
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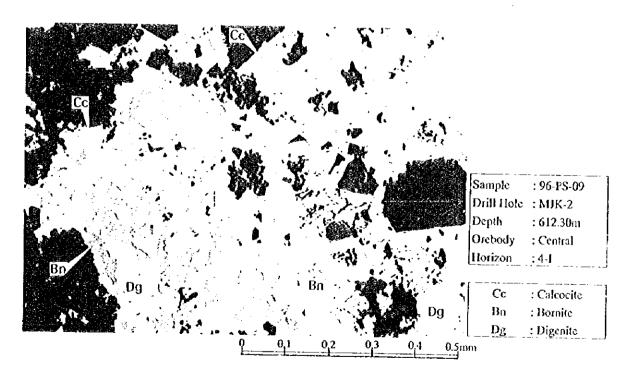




Appendix 27-3 Photomicrographs of Ore Minerals in Polished Sections from the Drill Hole *MJK-2", Zhaman-Aibat Ore Deposit (continued)

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Appendix 27-4 Photomicrographs of Ore Minerals in Polished Sections from the Drill Hole *MJK-2*, Zhaman-Aibat Ore Deposit (continued)

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Appendix 28-1 Microscopic Observation of Thin Sections from the Drill Hole "MJK-2", Zhaman-Aibat Ore Deposit

Sample No	H	(w) 4+000	400		
	200	Ceptin (m)	Formaton	Kock Name and Ore Grade	Description
10-ST-99	MJK-2	608.10	Zhezkazgan Formation Ore Horizon 4-1	Medium grained sandstone Cu:0.1%, Pb:2.0% Assay Interval: 607.80 - 608.40m	Sand grains grain size: \$\phi\$ 0.3mm\$\pm\$, angular quartz, plagioclase, chur fragments >>glauconite, biotite Matrix calcite, opaque minerals
96-TS-02	MJK-2	88.88	Zhezkazgan Formation Ore Honzon 4-1	Fine grained sandstone Cu:1.0%, Pb:1.4% Assay Interval: 608.40 - 609.00m	Sand grains grain size: \$\phi 0.2mm\pm\pm, max \$\phi 0.5mm\$, angular quartz, plagioclase, chart fragments >>glauconite, biotite Matrix sericite, calcite, opaque minerals
96-TS-03	MJK-2	609.32	Zhezkazgan Formation Ore Horizon 4-1	Coarse grained sandstone Cu:6.2%, Pb:15.3% Assay Interval: 609.00 - 609.95m	Sand grains stain size: \$\phi 0.2mm^2.0mm\$, sub-angular~rounded quartz, plagioclase, chart and welded tuff fragments Matrix sencite, calcite, opaque minerals>>chlorite, biotite
96-13-04	MJK-2	09'609	Zhezkazgan Formation Ore Horizon 4-1	Medium grained sandstone Cu:6.2%, Pb:15.3% Assay Interval: 609.00 - 609.95m	Sand grains grain size: \$0.2mm\$\pm\\$, max \$0.5mm\$, sub-angular quartz, plagioclase, chart fragments >>chlorite, biotite Matrix opaque minerals>>calcite
96-TS-05	MJK-2	610.20	Zhezkazgan Formation Ore Horizon 4-1	Medium grained sandstone Cu:10,9%, Pb:16.0% Assay Interval: 609,95 - 610,40m	Sand grains grain size: \$0.3mm\$\pm\$, max \$0.5mm\$, sub-angular quartz, plagioclase, volcanies frugments Matrix calcite, opaque minerals>>chlorite, biotite

Appendix 28-2 Microscopic Observation of Thin Sections from the Drill Hole "MJK-2", Zhaman-Aibat Ore Deposit (continued)

Description	Sand grains grain size: \$\phi 0.3\text{mm\$\pm\$}, \text{max} \$\phi 0.5\text{mm}\$, sub-angular quartz, plagioclase, volcanics fragments Matrix calcite, opaque minerals>>chlorite, biotite	Sand grains grain size: \$\phi 0.3mm^1.0mm, sub-angular quartz, chart fragments Matrix calcite, opaque minerals	Sand grains grain size: $\phi$ 0.5mm $\sim$ 1.0mm $\pm$ , sub-angular quartz, plagioclase, welded tuff>>biotite Matrix calcite, opaque minerals	Sand grains grain size: \$0.1~0.2mm\$\pi\$, angular quart, plagioclase>>volcanics fragments Matrix calcite, opaque minerals>>sericite	Sand grains grain size: \$0.1~0.2mm\$\pm\tau\$, angular quartz, plagioclase Matrix calcite>> opaque minerals
Rock Name	Medium grained sandstone Cu:0.1%, Pb:0.0% Assay Interval: 611.40 - 612.00m	Very coarse grained sandstone Cu:19,9%, Po:0.0% Assay Interval: 612.00 - 612.60m	Very coarse grained sandstone Cu:3.5%, Pb:0.0% Assay Interval: 613.40 - 613.75m	Fine grained sandstone Cur5.3%, Pb:0.0% Assay Interval: 630.00 - 630.40m	Fine grained sandstone Cu:0.0%, Pb:0.2% Assay Interval: 688.00 - 688.85m
Formaton	Zhezkazgan Formation Ore Horizon 4-1	Zhezkazgan Formation Ore Horizon 4-1	Zhezkazgan Formation Ore Horizon 4-I	Taskuduku Formation Ore Horizon 3-VI	Taskuduku Formation Ore Horizon 3-11
Depth (m) Form	611.80	612.30	613.50	630.05	688.10
DDH No.	MJK-2	MJK-2	MJK-2	MJK-2	MJK-2
Sample No.	90-21-96	96-75-07	96-75-08	96-TS-09	96-TS-10

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