



DEPARTMENT TESTING LABORATORY
EUROTEST CONTROL EAD

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Accredited laboratory for testing and calibration with
Certificate of BSA No. 3 – / valid to 31.10.2011

Sheet 1
All sheets 4

TESTING

REPORT

No 4364 / 08.06.2010

1 Waste materials (sulfide waste from rock masses).....
(name of the product -type, brand, kind etc.)

2 Contracting party „Balkan Mineral and Mining” EAD – the samples are presented by the client
(Name and address of the Contracting Party , number and date of the sampling report)

3 Testing method: BDS ISO 10390/02; BDS EN 13657/02; BDS EN 12879/03; BDS EN 13137/03;

ETC V3I1/7.1-3/85; BDS EN 12506/03; BDS EN 872/06; BDS EN ISO 10304-1/09; BDS EN 1484/01;

BDS EN ISO 6878/05; BDS EN ISO 11885/09; BDS EN 1483/07- indexes according to item 7.1 from the report

(name and number of standards or validated methods)

4 Date of specimens/samples receiving in the test laboratory with request incoming No 718/19.05.2010

5 Quantity of specimens tested: 2 numbers – samples taken from flotation waste from pilot installation
(factory number of specimens, sample quantity and their mass),

of Investment proposal „Extraction and Processing of gold bearing ores” from deposit „Khan Krum”, area „Ada tepe”, Krumovgrad town

(quantity of batches, Invoice number from import production date)

6 Date/period of testing performance: from 19.05.2010 till 08.06.2010

MANAGER
OF DEPARTMENT TESTING LABORATORY
J. Akrabova

7. TEST RESULTS

7.1. Measurements in the accreditation scope

No.	Index name	Unit	Standards / validated methods	No. sample - journal	Test results (value, uncertainty)	Value and limit of index	Conditions of test
1	2	3	4	5	6	7	8
						Limit values according to Table 4 of Ord . 8/2004 MEW	
I	Wastes						
-	Active reaction /pH/ of eluate (10 l/kg)	pH units	BDS EN 12506/03		7.74 ± 0.10	-	Standard
-	Active reaction /pH/ of solid wastes	pH units	BDS ISO 10390/02		8.80 ± 0.10	-	Standard
1	Eluate (10 l/kg)						Standard
1.1	Chemical composition						Standard
1.1.1	Vanadium /V/	mg/kg	BDS EN 12506/03		0.034 ± 0.003	-	Standard
1.1.2	Chromium /Cr/	mg/kg	BDS EN 12506/03		0.157 ± 0.016	10	Standard
1.1.3	Cobalt /Co/	mg/kg	BDS EN 12506/03		<0.010	-	Standard
1.1.4	Nickel /Ni/	mg/kg	BDS EN 12506/03		0.048 ± 0.005	10	Standard
1.1.5	Copper /Cu/	mg/kg	BDS EN 12506/03		0.105 ± 0.011	50	Standard
1.1.6	Zinc /Zn/	mg/kg	BDS EN 12506/03		0.168 ± 0.017	50	Standard
1.1.7	Arsenic /As/	mg/kg	BDS EN 12506/03		<0.10	2	Standard
1.1.8	Molybdenum /Mo/	mg/kg	BDS EN 12506/03		0.094 ± 0.009	10	Standard
1.1.9	Cadmium /Cd/	mg/kg	BDS EN 12506/03		0.012 ± 0.001	1	Standard
1.1.10	Antimony /Sb/	mg/kg	BDS EN ISO 11885/09		<0.050	0.7	Standard
1.1.11	Barium /Ba/	mg/kg	BDS EN 12506/03		1.098 ± 0.110	100	Standard
1.1.12	Lead /Pb/	mg/kg	BDS EN 12506/03		<0.10	10	Standard
1.1.13	Phosphorus /P/	mg/kg	BDS EN ISO 11885/09		2.903 ± 0.290	-	Standard
1.1.14	Mercury /Hg/	mg/kg	BDS EN ISO 11885/09		<0.10	0.2	Standard
1.1.15	Fluorides /F/	mg/kg	BDS EN 1483/07		3.91 ± 0.39	150	Standard
1.1.16	Sulfates /SO ₄ ²⁻ /	mg/kg	BDS EN ISO 10304-1/09		87.2 ± 8.7	20000	Standard
1.1.17	Chlorides /Cl ⁻ /	mg/kg	BDS EN ISO 10304-1/09	Sample No 1, lab No 2269	10.2 ± 1.0	15000	Standard
1.1.18	Phosphates /PO ₄ ³⁻ /	mg/kg	BDS EN ISO 6878/05		<1.00	-	
1.2	Total Dissolved Substances (TDS)	mg/kg	BDS EN ISO 10304-1/09	from	576 ± 17	60000	Standard
1.3	Dissolved Organic Carbon (DOC)_	mg/kg	BDS EN ISO 6878/05	flotation	82 ± 8	800	Standard
2	Wastes solid	mg/kg	BDS EN 872/06	waste from			Standard
2.1	Chemical composition	mg/kg	BDS EN 1484/01	pilot			Standard
2.1.1	Vanadium /V/			installation -	65 ± 7		Standard
2.1.2	Chromium /Cr/			upper zone	107 ± 9	-	Standard
2.1.3	Cobalt /Co/	mg/kg	BDS EN 13657/02		15 ± 2	-	Standard
2.1.4	Nickel /Ni/	mg/kg	BDS EN 13657/02		51 ± 5	-	Standard
2.1.5	Copper /Cu/	mg/kg	BDS EN 13657/02		35 ± 4	-	Standard
2.1.6	Zinc /Zn/	mg/kg	BDS EN 13657/02		46 ± 5	-	Standard
2.1.7	Arsenic /As/	mg/kg	BDS EN 13657/02		91 ± 9	-	Standard
2.1.8	Molybdenum /Mo/	mg/kg	BDS EN 13657/02		<3	-	Standard
2.1.9	Cadmium /Cd/	mg/kg	BDS EN 13657/02		1.0 ± 0.1	-	Standard
2.1.10	Antimony /Sb/	mg/kg	BDS EN 13657/02		22 ± 2	-	Standard
2.1.11	Barium /Ba/	mg/kg	BDS EN 13657/02		393 ± 31	-	Standard
2.1.12	Lead /Pb/	mg/kg	BDS EN 13657/02		7 ± 1	-	Standard
2.1.13	Carbon /as total organic C/ (TOC)_	mg/kg	BDS EN 13657/02		0.18 ± 0.02	-	Standard
2.1.14	Sulfur /as total S/	mg/kg	BDS EN 13657/02		<0.005	-	Standard
-	Sulfide sulfur /S ²⁻ /	%	BDS EN 13137/03		<0.10	-	Standard
-	Sulfate sulfur /SO ₄ ²⁻ /	%	ETC V3II/7.1-3/85		-	-	Standard
2.2	LOI	%	BDS EN 12879/03		2.55 ± 0.26	-	Standard

No.	Index name	Unit	Standards / validated methods	No. sample - journal	Test results (value, uncertainty)	Value and limit of index	Conditions of test
1	2	3	4	5	6	7	8
						Limit values according to Table 4 of Ord . 8/2004 MEW	
I	Wastes						
-	Active reaction /pH/ of eluate (10 l/kg)	pH units	BDS EN 12506/03		8.01 ± 0.10	-	Standard
-	Active reaction /pH/ of solid wastes	pH units	BDS ISO 10390/02		8.78 ± 0.10	-	Standard
1	Eluate (10 l/kg)						Standard
1.1	Chemical composition						Standard
1.1.1	Vanadium /V/	mg/kg	BDS EN 12506/03		0.020 ± 0.002	-	Standard
1.1.2	Chromium /Cr/	mg/kg	BDS EN 12506/03		0.104 ± 0.010	10	Standard
1.1.3	Cobalt /Co/	mg/kg	BDS EN 12506/03		<0.010	-	Standard
1.1.4	Nickel /Ni/	mg/kg	BDS EN 12506/03		0.022 ± 0.002	10	Standard
1.1.5	Copper /Cu/	mg/kg	BDS EN 12506/03		0.053 ± 0.005	50	Standard
1.1.6	Zinc /Zn/	mg/kg	BDS EN 12506/03		0.091 ± 0.009	50	Standard
1.1.7	Arsenic /As/	mg/kg	BDS EN 12506/03		<0.10	2	Standard
1.1.8	Molybdenum /Mo/	mg/kg	BDS EN 12506/03		0.103 ± 0.010	10	Standard
1.1.9	Cadmium /Cd/	mg/kg	BDS EN 12506/03		0.010 ± 0.001	1	Standard
1.1.10	Antimony /Sb/	mg/kg	BDS EN ISO 11885/09		<0.050	0.7	Standard
1.1.11	Barium /Ba/	mg/kg	BDS EN 12506/03		0.085 ± 0.009	100	Standard
1.1.12	Lead /Pb/	mg/kg	BDS EN 12506/03		<0.10	10	Standard
1.1.13	Phosphorus /P/	mg/kg	BDS EN ISO 11885/09		1.823 ± 0.182	-	Standard
1.1.14	Mercury /Hg/	mg/kg	BDS EN 1483/07		<0.10	0.2	Standard
1.1.15	Fluorides	mg/kg	BDS EN ISO 10304-1/09	Sample No 2,	3.82 ± 0.38	150	Standard
1.1.16	Sulfates	mg/kg	BDS EN ISO 10304-1/09	lab No № 2270,	85.2 ± 8.5	20000	Standard
1.1.17	Chlorides	mg/kg	BDS EN ISO 10304-1/09	from	11.4 ± 1.1	15000	Standard
1.1.18	Phosphates	mg/kg	BDS EN ISO 6878/05	flotation waste	<1.00	-	Standard
1.2	Total Dissolved Substances (TDS	mg/kg	BDS EN 872/06	from	558 ± 17	60000	Standard
1.3	Dissolved Organic Carbon (DOC)_	mg/kg	BDS EN 1484/01	pilot	77 ± 8	800	Standard
2	Wastes solid			installation -			Standard
2.1	Chemical composition			zone wall			Standard
2.1.1	Vanadium /V/	mg/kg	BDS EN 13657/02		44 ± 4	-	Standard
2.1.2	Chromium /Cr/	mg/kg	BDS EN 13657/02		111 ± 9	-	Standard
2.1.3	Cobalt /Co/	mg/kg	BDS EN 13657/02		8 ± 1	-	Standard
2.1.4	Nickel /Ni/	mg/kg	BDS EN 13657/02		38 ± 4	-	Standard
2.1.5	Copper /Cu/	mg/kg	BDS EN 13657/02		23 ± 2	-	Standard
2.1.6	Zinc /Zn/	mg/kg	BDS EN 13657/02		30 ± 3	-	Standard
2.1.7	Arsenic /As/	mg/kg	BDS EN 13657/02		68 ± 7	-	Standard
2.1.8	Molybdenum /Mo/	mg/kg	BDS EN 13657/02		<3	-	Standard
2.1.9	Cadmium /Cd/	mg/kg	BDS EN 13657/02		1.0 ± 0.1	-	Standard
2.1.10	Antimony /Sb/	mg/kg	BDS EN 13657/02		12 ± 1	-	Standard
2.1.11	Barium /Ba/	mg/kg	BDS EN 13657/02		125 ± 10	-	Standard
2.1.12	Lead /Pb/	mg/kg	BDS EN 13657/02		11 ± 1	-	Standard
2.1.13	Carbon /as total organic C/ (TOC)_	%	BDS EN 13137/03		0.42 ± 0.04	-	Standard
2.1.14	Sulfur /as total S/	%	ETC V31I/7.1-3/85		<0.005	-	Standard
-	Sulfide sulfur /S ²⁻ /	%	ETC V31I/7.1-3/85		<0.10	-	Standard
-	Sulfate sulfur /SO ₄ ²⁻ /	%	ETC V31I/7.1-3/85		-	-	Standard
2.2	LOI	%	BDS EN 12879/03		6.77 ± 0.34	-	Standard

7.3. Tests /Measurements out of the accreditation scope

No.	Index name	Unit	Standards / validated methods	No. sample - journal	Test results (value, uncertainty)	Value and limit of index	Conditions of test
1	2	3	4	5	6	7	8
				Sample No 1, lab No № 2269, from flotation waste from pilot installation - upper zone		Limit values according to Table 4 of Ord . 8/2004 MEW	
1	Selenium /Se/ in eluate (10 l/kg)	mg/kg	BDS EN ISO 11885/09		<0.10	0.5	Standard
1	2	3	4	5	6	7	8
				Sample No 2, lab No № 2270, or flotation waste from pilot installation zone wall		Limit values according to Table 4 of Ord . 8/2004 MEW	
1	Selenium /Se/ in eluate (10 l/kg)	mg/kg	BDS EN ISO 11885/09		<0.10	0.5	Standard

NOTE 1: If it is necessary the testing report could include opinions and interpretation for definite tests (conclusions are not allowed) only in accordance with the requirements of item .5.10.5 from BDS EN ISO/IEC 17025.

NOTE 2: Test results are related only to the testing samples. Extracts from the testing report are nor allowed to be printed without written agreement of the laboratory for testing.

PERFORMERS OF THE TESTING:..... MANAGER OF TESTING LABORATORY:.....

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Ju. Akrabova

.....
eng. S. Dimitrova

.....
eng. Iv. Vutova

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.....
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HEAD OF DEPARTMENT :.....

A. Raicheva