

## AMENDMENT

### TO MINING AGREEMENT №PV-245 ON SUBSURFACE USE FOR THE PURPOSE OF MINING OF MINERALS REWORDED IN September 26, 2012

Yerevan

“\_26” 11\_ 2014

Based on Order of RA Minister of Energy and Natural Resources №286-A dated November 24, 2014, in Paragraph 2.1 of the Section “Subject of the Agreement” of Agreement №PV-245 dated September 26<sup>th</sup> 2012 signed with Geoteam CJSC

1. to replace wording “**2600 thsd. tons**” with the words “**10 million tons**”; to replace wording “**from April 3<sup>rd</sup> 2009 to April 3<sup>rd</sup> 2040**” with the words “**from April 3<sup>rd</sup> 2009 to January 1<sup>st</sup> 2034, including construction period – 2 years, mining of minerals 9 years, mine closure 7 years**”; to add words “**Erato Site with 32941.8 thsd. t (Au-21069 kg /0,64 g/t/, Ag-83.86 t /2.55g/t/)**” to the wording “RA Vayots Dzor, Amulsar gold-bearing quartzite deposit (Tigranes and Artavazdes Sites) 56434.5 thsd. t (Au-52664kg /0.93 g/t/, Ag-210.51 g/t /3.73g/t/)", with words “**providing in total 89376.3 thsd tons of exhaustible resources (Au-73733 kg /0.825 g/t/, Ag-294.367 t /3.29 g/t/)**”.

2. In the line ‘**which on the layout and at the depth are limited to the following coordinates:**’ to extend the site with ARM-WGS-84 coordinates

1.X=4400442 Y=8561482 H=2850,0 (-150,0); 2.X=4400462 Y=8561721 H=2817,0 (-117,0);  
3.X=4400415 Y=8561845 H=2810,0 (-110,0); 4.X=4400103 Y=8561912 H=2814,0 (-114,0);  
5.X=4399789 Y=8561766 H=2886,0 (-186,0); 6.X=4399346 Y=8562042 H=2919,0 (-219,0);  
7.X=4398990 Y=8561890 H=2956,0 (-256,0); 8.X=4398990 Y=8561801 H=2916,0 (-216,0);  
9.X=4399136 Y=8561776 H=2927,0 (-227,0); 10.X=4399416 Y=8561439 H=2936,0 (-236,0);  
11.X=4399309 Y=8561309 H=2882,0 (-182,0); 12.X=4399662 Y=8561036 H=2788,0 (-88,0)”

with Erato Site characterized with the coordinates of ARM WGS 84 coordinate system:

1.X=4400872 Y=8560356 H=2807 (h-147); 2.X=4400929 Y=85660407 H=2824 (h-164);  
3.X=4401002 Y=8560413 H=2827 (h-167); 4.X=4401073 Y=8560413 H=2848 (h-188);  
5.X=4401422 Y=8560411 H=2785 (h-125); 6.X=4401585 Y=8560508 H=2816 (h-156);  
7.X=4401646 Y=8560733 H=2860 (h-200); 8.X=4401465 Y=8560930 H=2846 (h-186);  
9.X=4401170 Y=8561010 H=2838 (h-178); 10.X=4401047 Y=8560750 H=2896 (h-236);  
11.X=4400889 Y=8560632 H=2824 (h-164); 12.X=4400839 Y=8560471 H=2800 (h-140)  
13.X=440832 Y=8560379 H=2796 (h-136)”.

1. This amendment to the Agreement shall constitute the integral part of Agreement №PV-245 on subsurface use for the purpose of mining of minerals.

RA MINISTER OF ENERGY AND  
NATURAL RESOURCES

SUBSURFACE USER  
GEOTEAM CJSC

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(Company name)

YERVAND ZAKHARYAN  
(full name)

HAYK ALOYAN  
(full name)

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(signature)

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## FINANCIAL PROPOSALS AND PAYMENTS FOR SUBSURFACE USE

### 1. Financial proposals for extraction of minerals by the subsurface users

№	Description of Costs	Period for execution, investments	Amount, million AMD
1	Mine operations, including: <ul style="list-style-type: none"> <li>• Road construction and stripping works</li> <li>• Construction of heap leach pad and barren rock storage facility</li> </ul>	2015-2017	11,768.01
2	Capital expenses, including: <ul style="list-style-type: none"> <li>• Construction of heap leach facility and gold recovery plant</li> <li>• Equipment and machinery</li> <li>• Buildings, structures</li> </ul>	2015-2017	96,211.8
3	Operating expenses during the mine development	2015-2017	517.0
	Total capital investments		<b>108,496.81</b>

The above amounts include additional 10% for price fluctuations and contingency, therefore real costs can be 10% less.

When calculating the above amounts AMD/US currency rate was taken 410 AMD/\$1.

### 2. State duty and payments for subsurface use

2.1 In accordance with the procedure and in the amount set by RA Law on Nature Protection and Natural Resources Management, subsurface users shall make compulsory payments to the Republic of Armenia state budget (nature protection,

natural resources management or royalty) for the subsurface use in accordance with the order and in the amount set.

2.2 In accordance with the procedure and in the amount set by RA Law on State Duty, subsurface users shall pay annual state duty to the Republic of Armenia state budget for the permit for subsurface use.

3. Payments to the Environmental Protection Fund and for carrying out monitorings over mined deposits of minerals, location of waste dumps formed during mining and adjacent communities for the purpose of ensuring safety and health of the population.

3.1. At the rate set by RA legislation and in accordance with the procedure of payment the subsurface users shall make payments to the Environmental Protection Fund;

3.2. At the rate set by RA legislation and in accordance with the procedure of payment to make payments for carrying out monitorings over mined deposits of minerals, location of waste dumps formed during mining and adjacent communities for the purpose of ensuring safety and health of the population

3.3. The amount to be provided to the subsurface user from the Environmental Protection Fund for performing nature protection activities cannot exceed the amount of allocations made by the subsurface user.

3.4. The remainder of the amount paid to the Environmental Protection Fund by the subsurface user shall be returned to the subsurface user upon completion of the activities envisaged by mineral mining project.

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### **Commitments envisaged by Mine Closure Plan**

1. Commitments envisaged by Mine Closure Plan:
  - 1.1. Workforce social mitigation measures (organizing retraining courses, other professional training, creating stimuli and opportunities to employ these employees in other branches) after mine closure envisaged by Mine Closure Plan for the purpose of mining by the subsurface user;
  - 1.2. Social-economic mitigation measures (community's engagement in social-economic programs, support to organizing small and medium-sized business, etc.) for the communities located in the immediate impact zone of the mine being closed;
  - 1.3. To develop ultimate mine close plan and submit to the authorized body two years before completion of the mine operation.

**List of measures aimed at mitigation of potential social-economic issues after the mine closure**

№	Description of Measures	Term of performance	Amount of investments, million AMD
1	Organizing retraining, other professional training, creating stimuli and opportunities to employ these employees in other branches, etc. <ul style="list-style-type: none"> <li>• Development of human resources of adjacent communities during the life of the mine</li> </ul>	Annual	61.0
2	Communities' engagement in social-economic programs, support to organizing small and medium-sized business, etc. <ul style="list-style-type: none"> <li>• Entrepreneurship encouragement/support in agriculture</li> <li>• Establishment of storage and processing facilities of agricultural produce</li> <li>• Establishment of milk processing enterprises and support to herders in increasing the milk production volumes</li> <li>• Support for establishment of cooperatives in Saravan and Gndevaz communities, fruit drying facilities and selling</li> </ul>		

**Calculation of carrying out monitorings over mined deposits of minerals, location of waste dumps formed during mining and adjacent communities for the purpose of ensuring safety and health of the population**

№	Grounding	Description of works and costs	Measuring unit	Volume	Value, million AMD	
					Unit	Total
1	2	3	4	5	6	7
1		Reclamation of haul roads	km	18.26	9.684	176.837
2		Reclamation of barren rock storage facility	ha	140.69	4.842	681.249
3		Reclamation of heap leach pad and ponds	ha	135.75	4.842	657.329
4		Dismantling and reclamation of ADR Plant and administrative buildings	ha	19.35	4.842	93.697
5		Dismantling and reclamation of conveyor facility	ha	16.87	4.842	81.688
6		Reclamation of loadout facility of trucks	ha	5.11	4.842	24.744
7		Dismantling and reclamation of crushers	ha	18.93	4.842	91.663
8		Reclamation of drainages	ha	4.7	9.864	45.517
9		Dismantling and reclamation of explosives magazine	ha	1	4.842	4.842
10		Dismantling and reclamation				

		of water supply plant	ha ha	0.52	4.842	2.518
11		Reclamation of process plant	ha	1	4.842	
						1,864.926

**Total**

**Prepayment**

**Annual**

**279.738**

**158.519**

Payments to the Environmental Protection Fund and for carrying out monitorings over mined deposits of minerals, location of waste dumps formed during mining and adjacent communities for the purpose of ensuring safety and health of the population.

<b>Nº</b>	<b>Monitoring</b>	<b>Value, million AMD</b>
<b>1</b>	Monitoring and protection of reclamation works	150.0
<b>2</b>	Subsurface and groundwater monitoring	82.0
<b>3</b>	Revegetation monitoring	22.0
	<b>Total</b>	<b>254.0</b>

**Prepayment**

**Annual**

**38.1**

**23.98**



<b>Payment terms</b>											
<b>Prepayment</b>		<b>Annual fees paid to the fund – Mine Closure</b>									
<b>Period</b>	<b>2014</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
Million AMD	279.738	158.519	158.519	158.519	158.519	158.519	158.519	158.519	158.519	158.519	158.519
Within 1 month as from the signing of the agreement		<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>
<b>Annual fees paid for monitorings</b>											
<b>Period</b>	<b>2014</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>205</b>	
Million AMD											
Within 1 month as from the signing of the agreement		<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	<b>Dec 30</b>	

When calculating the above amounts AMD/US currency rate was taken 410 AMD/\$1.

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## COMMUNITIES' SOCIAL-ECONOMIC DEVELOPMENT

### COMMITMENTS

1. The amount of investments and timing for the adjacent communities' social-economic development commitments:

NN	Commitments	Fulfillment period	Investments, million AMD
1	Community infrastructure development, aimed at improvement of the rural infrastructures and satisfaction of the population's social needs, such as <ul style="list-style-type: none"> <li>• Schools</li> <li>• Kindergartens</li> <li>• Roads</li> <li>• First aid posts – improvement of conditions, staff training</li> <li>• And etc.</li> </ul>	Annual	19.0
2	Agricultural development, aimed at economic development of the communities, such as <ul style="list-style-type: none"> <li>• Cattle breeding, to promote genetic improvement and milk production of livestock</li> <li>• Gardening, to establish income-generating and economic-growth-promoting models by effective use of the best practice and human resources.</li> </ul>		25.0
3	<ul style="list-style-type: none"> <li>• Education for the children, youth and other groups of population, such as               <ul style="list-style-type: none"> <li>- Development of sports and arts</li> <li>- Awareness on the environmental issues, and</li> </ul> </li> </ul>		17.5

	etc.		
4	<ul style="list-style-type: none"> <li>Healthcare, to improve the healthcare services in the communities (raising of the population's awareness, healthy lifestyle, basic facilities)</li> </ul>		
	Total		61.5

When calculating the above-mentioned amounts, USD 1 = AMD 410 rate has been taken as a basis.

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/signed, sealed/

November 26, 2014

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## ENVIRONMENTAL MANAGEMENT PLAN (EMP)

**The measures planned to reduce the environmental damage and to prevent the irrecoverable losses caused by mining operations.**

The Environmental Management Plan (EMP) is an important tool for organization and implementation of the planned activities, the EMP sets forth the observations, control and mitigation measures required to be taken during the project to avoid adverse environmental impacts and to reduce, mitigate and offset thereof. The plan outlines potential impacts and the most probable locations thereof, as well as the proposed mitigation measures, the parties responsible for implementation of the measures and the monitoring program.

The EMP describes the methods of implementation and monitoring of the mitigation and other measures. It provides information on the parties responsible for the implementation of the proposed measures and the timing, place and persons in charge of the implementation and monitoring thereof. The EMP covers the below-mentioned:

- (i) Locations and sections of the proposed activities,
- (ii) Potential environmental impacts (including the impacts on social, cultural and archeological resources),
- (iii) Mitigation measures planned for preparation, capital mining construction, mining and mine-closure stages,
- (iv) Monitoring activities for all the above-mentioned stages,
- (v) Duties and obligations of all the competent parties over the period of implementation and monitoring of the mitigation measures.

A correct and comprehensive monitoring is a prerequisite for successful EMP.

*Monitoring is a self-control mechanism*, this is a process of evaluation by an organization of its manufacturing process, which includes evaluation of the used materials and the quality and quantity of hazardous substances originated from the process, as well as the quality and quantity of the consumed natural resources and the compliance of environmental condition with environmental laws, by using measurement and/or calculation- based observations methods.

- Mitigation Measures:

1. Baseline Monitoring Studies (air quality, water quality, noise and vibration):
  - 1.1. Air quality study at the deposit and adjacent settlements
  - 1.2. Study of surface and underground water resources' composition at the site

1.3. Study of background radiation at the site

1.4 Study of flora and fauna of the region

2. Capital Mining Operations:

2.1. Flora and fauna protection and land clearance operations

2.2. Soil cutting, haulage and storage

2.3. Overburden rock haulage and storage

2.4. Installation of bridges on diversion channels

2.5. Strengthening of the areas susceptible to erosion risks

2.6. Elimination of archeological sites' land use for construction purposes

2.7. When discovering an archeological find or an unknown item during the operations, the Contractor shall follow relevant procedure.

3. Earthworks, namely ore crushing and screening, waste dumping and barren rock storage activities, rock haulage, using of construction machines and vehicles:

3.1. Application of water sprinkling trucks and machines

3.2. Supervision over a smooth operation of diversion channels

3.3. Installation of noise-dumper devices on all the equipment units

3.4. Setting of traffic speed limits

3.5. Preparation of solutions in ventilated areas

- Monitoring (sampling and laboratory measurements):

4. Annual:

4.1. Chemical composition of air

4.2. Chemical composition of waters

4.3. Chemical composition and features of land

4.4. Background radiation

4.5. Flora and fauna species

5. Quarterly:

5.1. Solutions leakage

6. Monthly:

6.1. Engine performance

6.2. Leak of diesel fuel, lubricants, chemicals and other hazardous substances

7. Weekly:

- 7.1. Quality of removed topsoil
- 7.2. Disturbed soils
- 7.3. Erosion phenomena

8. Daily:

- 8.1. Dust pollution of the site

9. One-time:

- 9.1. Quality of insulation layers

The annual funding of approximately AMD 40.0 million is stipulated for implementation of the Environmental Management Plan.

The Environmental Management Plan and Monitoring Plan are subject to periodic update.

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