CASE HISTORY
Ref: INT/ RUS/ CH / SR018, November 2013

Retaining Wall Construction near the Crushing Plant
Mikheevsky ore-dressing and processing enterprise, Chelyabinsk, Russia

SOIL REINFORCEMENT
Product: Terramesh® System, ParaGrid 200, ParaLink 500

Description
The Mikheevskoye copper-porphyry ore deposit situated in the Chelyabinsk region, Russian Federation, is one of the largest copper deposits in Russia. The International Independent Analytical Consulting group CRU has included it in its list of the 50 largest copper deposits in the world. The Copper-porphyry ores of the Mikheevskoye deposit contain copper, gold and silver. Useful ore resources will reach 400 million tons.

Problem
The Mikheevsky ore dressing and processing activities required a 30 meter high retaining wall that would support crushing operations and an approach road on which heavy load trucks would regularly operate.

The traditional solution of reinforced concrete was deemed cost prohibitive given the number of manhours required and the high transport and operations costs associated with the erection of such a structure.

Solution
«MACCAFERRI GABIONS CIS» Ltd offered a cost effective alternative solution in the form of a reinforced retaining wall made from Terramesh strengthened with ParaGrid 200 and ParaLink 500 geogrids.

The preliminary design stage optimized the wall placement, which ensured overall dimension integrity of the area at the upper level whilst allowing for flexibility in the facing angle from the use of the Terramesh system.

The retaining was constructed as 3 sections with each section 10 meters high. Two meter wide berms separate the sections and reinforced concrete blocks were used to complete junctions.

Client:
Russian Copper Company
Project operator:
CJSC Mikheevsky GOK
Designer and supplier:
Maccaferri Gabions CIS LTD
Subcontractor:
Geokam LTD
Products used:
ParaGrid 200: 34070 sq.m
ParaLink 500: 9155 sq.m
Terramesh® System 6x2x1: 977 pcs.
Terramesh® System 6x2x0.5: 354 pcs.
Date of construction
June - November 2013
The application of a soil reinforcement system made it possible to use local building materials (rock) and to minimize the expense of cast-in-situ reinforced concrete.