

Sakhalin II

Russia, Sakhalin island

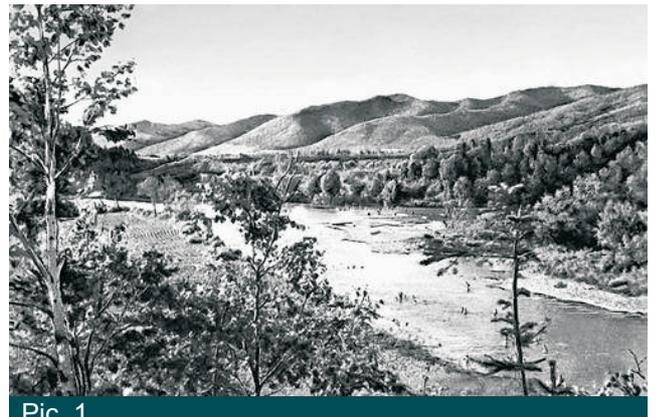
Solution: Gabions, Reno Mattresses, Green Terramesh, MacMat R, Coir Biomats

Description

Steep mountainsides, deep valleys, hundreds of rivers and rivulets are the typical relief on Sakhalin Island. Temperatures on the Island range from +27 C in the summer to -45 C in the winter. Landslides, windstorms, snow avalanches and earthquakes are daily reminders that this Island takes unkindly to man's presence. And, it is in such an environment that one of the largest and most complicated pipeline projects ever is going on Sakhalin 2.

The pipeline system is to support predicted reserves of oil and gas in excess of 45 billion barrels destined for Japan, Korea, North America and China. One pipeline route alone will transverse the Island from North to South across 950 km. and encompassing 1000 water crossings. The entire pipeline system is estimated at including over 1,600 km of pipelines.

As the pipeline routes are prone to land erosion after the denuding of the pipeline diversion areas, only the latest construction technologies were accepted by engineers under the watchful eyes of Russia's environmental agencies. The goal was to minimize any environmental impact that would in any way damage the Island's profitable "resource" economy. Forest and fishery businesses are critical, and of particular import was the protection of the spawning areas of salmon.



Pic. 1



Pic. 2



Pic. 3

Solution

“Maccaferri Gabions CIS” in collaboration with “Starstroy” offered a range of engineering and ecological solutions with applications of gabion structures and roll materials for erosion protection and rehabilitation. Box gabions and Reno Mattresses were used for retaining wall systems and bank protection where pipelines cross waterways. In the mountain areas it was necessary to stabilize tectonic fractures. In order to solve these problems soil reinforcement structures Green Terramesh system with biomat KGW 700 in the front face were utilized. Additionally, roll material Biomats and MacMat R were applied to trench protection on slopes along pipeline routes.

Client:

“Sakhalin Energy Investment Company” Ltd

Contractor:

Starstroy Company

Consultant:

“Maccaferri Gabions CIS” LLC

Applied materials:

1. Gabions (2X1X1, 1,5X1X1) 8 307 pcs.
2. Reno Mattresses (3X2X0,17; 5X2X0,3; 3X2X0,3) 29 946 pcs.
3. Green Terramesh (5X3X0,6; 4X3X0,6; 3X3X0,6) 1 440 pcs.
4. MacMat R (2,0x25,0 м) - 1 000 рулонов, 50 000 м²
5. Coir Biomats - 1 913 300 м²
6. MacDrain 2L

Timing:

| | |
|--------------------|-----------|
| Construction date: | 2005 |
| Completion date: | Until now |



Pic. 4



Pic. 5



Pic. 6



Pic. 7



Pic. 7



Pic. 8



Pic. 9

«Maccaferri Gabions CIS» LLC
7, Melnikova str., 109044, Russia, Moscow
Tel.: +7 (495)937-58-84; Fax: +7(495)674-67-40
E-mail: info@maccaferri.ru; Web site: www.maccaferri.ru