Rehabilitation Activities 2012

The NJV has an on-going Rehabilitation Action Plan where all disturbed surface areas are rehabilitated after exploration activity is completed. This is a staged process and generally involves returning the disturbed surface area to a stable re-vegetated site. The Rehabilitation Action Plan has been hailed as a success by the Tikina Namosi Landowners Committee (TNLC), the NJV and Government. Landowners are actively involved in the development and implementation of the Rehabilitation Action Plan and monitor progress.

Some highlights of rehabilitation activities in 2012 undertaken in partnership with Government and the Tikina Namosi Landowners Committee (TNLC):

1. NVD 39 at Wainikatama

Issue: Blue liquid was emanating from drill hole on NVD 39. This blue liquid is a combination iron precipitate (dark in colour) derived from interaction of groundwater with mineralised rock and biodegrading drilling additives. The drill hole had been plugged but a slow, low volume seepage developed around the collar of the capped drill hole. Access issues had previously hindered rehabilitation.

BEFORE DURING AFTER

R**esponse:** A 1m deep, 3m x 2m hole was dug to inspect cement cap of drill hole which was verified by the TNLC. A wooden filter box was built and installed with gravel packing. Ferns and plants replanted on site. This is monitored weekly and ground water flow has significantly decreased. It is anticipated that the hole will self-seal. Water quality monitoring has been routinely undertaken by the Mineral Resources Department and NJV and no impacts on the surrounding water quality has been detected.

2. Water discolouration at Wainiveidrausa creek (Waisoi)

Issue: Landowners expressed concern about the discolouration of water at this Wainiveidrausa creek which they allege started from a proposed drill pad that was abandoned. They pointed to orange staining of the creek bed as in the picture provided.

Picture provided

Studies undertaken at site

Response: The Fiji Mineral Resources Department (MRD) undertook independent field mapping and water sampling of the creek as well as areas upstream and downstream. The independent MRD study found that the "**reason behind the discolouration / (staining) is due to the presence of iron oxide (ferric) that precipitate in water to settle and stain the creek bed."** The whole process is natural when iron bearing rocks comes in contact with water. According to the study **"these are typical of areas with high mineralisation such as Wainikatama and Waisoi."** The study further notes: **"It is also safe to assume that the characteristic nature of mineralisation at Waisoi east is a contributing factor to the acidic nature of Wainiveidrausa creek."** NJV has also undertaken its own water quality studies with similar results. Both NJV and the independent MRD studies will continue to monitor the quality of water in these areas for a full season cycle (dry and wet season) with the results to be made available to TNLC.

3. NVD 40 at Wainikatama

Issue: Catch sumps for NVD 40 filled up with surface water during heavy rainfall at the time of excavation. Clear groundwater was separated from drilling water (which contains rock cuttings, drilling additives) which were directed to two emergency sumps, dug to contain the drilling water immediately. The actions were successful with the sumps then pumped out (waters to landfill), sump liners buried, and sump backfilled. Materials at the bottom of the sump and the discoloured water consist of drill cuttings (containing dark rock), naturally occurring iron precipitate, and biodegrading drilling additives from the drilling process (which mix with naturally occurring bacteria and will create an odour while breaking down). Landowners expressed concern about the materials at the bottom of the sump, and the overflow of drilling water entering nearby river, as well as emergency sumps being dug without their permission.

BEFORE DURING AFTER

Response: Liquid from all sumps were removed, and the two emergency sumps were backfilled and stabilised. Remaining sumps were covered with tarpaulin to minimise refilling by rain. Compensation was paid to landowners for emergency action without notification. Drilling at NVD 40 recommenced in October 2012.

4. Landslides and rehabilitation of unused access tracks

Issue: Landowners raised issues of landslides and soil erosion as well as rehabilitation of unused access tracks. Landslides have occurred both naturally and as a result of destabilisation of slopes following surface disturbance.

ACCESS TRACK AND LANDLSIP BEFORE

ACCESS TRACK AND LANDSLIP DURING AND AFTER REHAB

Response: Working in partnership with TNLC and with the support of landscape designers, plant operators and hydroseeder operators, NJV implemented a comprehensive landslide rehabilitation program. Replanting native plant species is the focus of the program with more than 100,000 trees and ferns planted to date. Two community nurseries are being established and rehabilitation work is being contracted out to local community members. Wire gabions have been used to prevent further landslides and install proper drainage control measures. Environmental management plans have been developed to identify and outline controls to prevent potential environmental impacts during the construction of access roads and drill sites, and during the operation of the drill rigs.

5. Rehabilitation of drill pad area

REHABILITATION OF FORMER DRILL PAD SITE



PROGRESS AFTER 4 MONTHS