

WORLD PLACER JOURNAL

[VOLUME 1](#) [VOLUME 2](#) [VOLUME 3](#) [VOLUME 4](#) [AUTHORS](#) [EDITORS](#)

World Placer Journal - 2003 - Volume 3.

Potential of satellite images for monitoring placer gold mining in Mongolia

Robin Grayson¹

(1) [General Director of Eco-Minex International Co. Ltd.](#)

"The images cannot be reconciled with the oft-repeated claims of some mine operators that initial "restoration" has been completed."



AN UN-MINED STRETCH OF THE TUUL VALLEY ...

A typical stretch of the Tuul River outside the mining area, showing undisturbed lush damp grasslands (red) and scattered ox-bow ponds. The river is flowing from the south (bottom of image).

MINING ON THE FLOODPLAIN AND TERRACES ...

The lush wet grasslands (red) of the floodplain are being lost by placer mining. The image shows a river diversion to allow mining of the original

ABSTRACT

A placer gold rush is the main growth element in the Mongolian economy, with over 100 companies in production and national gold output rising every year for more than a decade to more than 11 tons a year. The gold rush is driven by 3 factors: a) prolific and rich deposits of placer gold, b) a large open-access national geological database; and c) a simple and affordable mineral licensing system. Several thousand Exploration Licenses and hundreds of Mining Licenses have been issued, and the computerised Minerals Cadaster is often overstretched. Keeping abreast of changes is a daunting task for the mining companies, utilities, equipment suppliers, local administrations, Mines Inspectors and Environmental Inspectors.

Study is underway to test the effectiveness of remote sensing in assisting all parties to track the changes in each placer goldfield. Changes are often remarkably rapid within the mining season.

The study area is the Tuul Valley of the Zaamar Goldfield, a district that produces half of Mongolia's gold production. The satellite images allow, for the first time, a unified strategic vision for land use planning, environment, mineral resource depletion and rehabilitation.

The study commenced with Landsat-7 imagery in summer 2002 backed by extensive fieldwork. Initial inspection of enhanced images reveals river diversions, dredge paths, dry pits, wet pits, reduction of the good grazing land, and reveal no sign of any completed rehabilitation of mined out areas. The images cannot be reconciled with the oft-repeated claims of some mine operators that initial "restoration" has been completed.

Attention is drawn to the lack of relevance to regional and local administrative boundaries to the mining



channel. Nearby are flooded pits (dark blue) on the floodplain, with spoil mounds adjacent.

The higher Toson Terraces on the right (east) are being dry mined (lilac and whitish blue), with small flooded pits and flooded tailings ponds (dark blue).

boom in a 60km stretch of the Tuul Valley. Unfortunately the 'state boundary' between Tov Aimag and Bulgan Aimag is along the middle of the tortuous meanders of the Tuul River. The bulk of the placer gold occurs in the world-class Tuul Placer that is generally under the width of the Tuul floodplain, and therefore river diversions are routine in order to mine the placer. For instance, the [North Dredge](#) of Shijiir Alt switches production every few minutes from one region to another as it swings across its dredge pond.

A unified planning, regulatory and environmental agency is required for the whole goldfield, with an administrative centre by the Tuul River, to enable the valley to be sustainable and seize opportunities such as planning gain and wildlife gain by coordinating the rehabilitation plans of the 40+ gold mine operators in the valley to mutual benefit within a strategic plan for a sustainable post-mining local economy based on livestock rearing, eco-tourism and regional centre.

DOWNLOAD THIS ABSTRACT

[GO TO NEXT VOLUME](#)



GOLD DREDGE ...

The anticlockwise path of the [South Dredge](#) is visible (medium blue), its dredge pond being medium blue with dumped oversize visible as a faint hairline trace. Elongate spoil mounds are visible (lilac and pale blue) dumped by large draglines.



REHABILITATION ?

The floor of the narrow Hailaast Valley has being destroyed and strewn with dry pits, wet pits, conical and linear overburden mounds, tailings ponds and oversize mounds. No rehabilitation is visible.

www.mine.mn



editor@mine.mn



[CLICK TO VIEW OUR TERMS & CONDITIONS OF USING THE CONTENT OF THIS WEB-SITE](#)

Copyright © 2000-2007
Eco-Minex International Co Ltd, Ulaanbaatar
Last modified: April 09, 2007