



MINJAR GOLD

Rehabilitation Review of Waste Landforms at Southern Cross Operations

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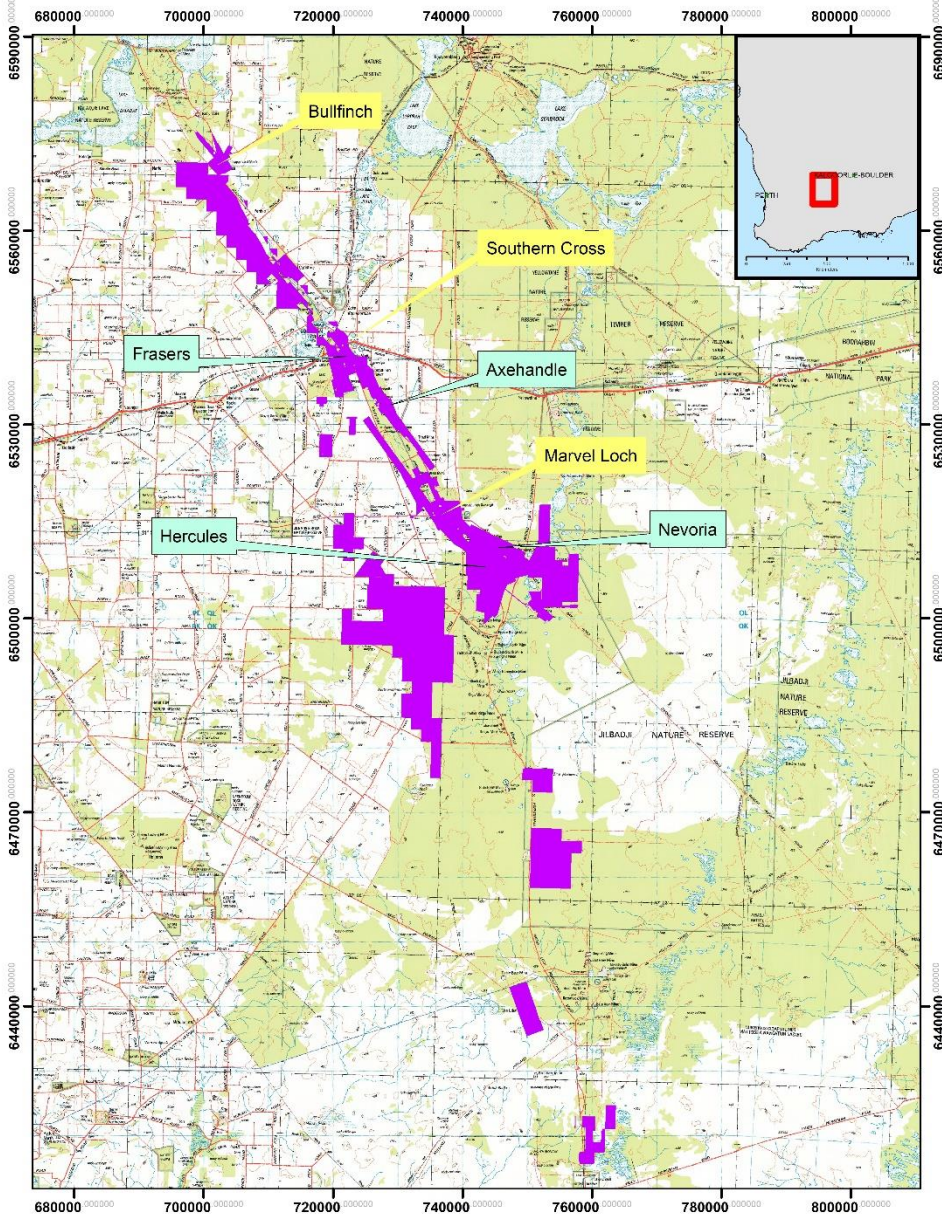
Presentation Overview



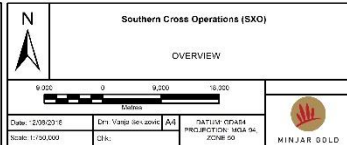
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- SXO Overview
- Mining History
- Rehabilitation examples:
 - Frasers South Waste Rock Dump
 - Nevoria South Waste Rock Dump
 - Hercules Waste Rock Landform
 - Progressive rehabilitation
- Conclusions





Note:
Aerial photography sourced from St Barbara 2012.
Minjar Gold do not warrant this map is free from errors or omissions, and shall not be held liable.
According to the best available information, the map is accurate and current at the time of the publication, however, information is subject to change.



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SXO Overview



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- Tianye SXO Gold Mining Pty Ltd (Tianye) owner, Minjar Gold Pty Ltd (Minjar) manages operations
- Current tenement package:
 - 222 tenements
 - 82,059ha
 - 178km length
- Currently operating:
 - Nevoria underground
 - Marvel Loch processing plant
 - Low grade stockpiles
 - Associated infrastructure

Mining History



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- Yilgarn – Aboriginal for white stone or quartz
- Gold discovered at Frasers in ~1886 and Bullfinch ~1887
- Legacy:
 - ~56 pits
 - ~103 waste landforms
 - Exploration
 - Infrastructure
- Rehabilitation and revegetation ongoing for decades with various success



Rehabilitation & Revegetation



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- **Rehabilitated:**
 - Areas are safe, have demonstrated stability under representative climatic conditions, non-polluting and support a functioning, self-sustaining ecosystem comprising local native species
- **Revegetated:**
 - Establishment of self-sustaining vegetation cover after earthworks have been completed
- **Relinquished:**
 - Agreed closure criteria met, government "sign-off" achieved, all obligations under the *Mining Act 1978* removed and bonds retired

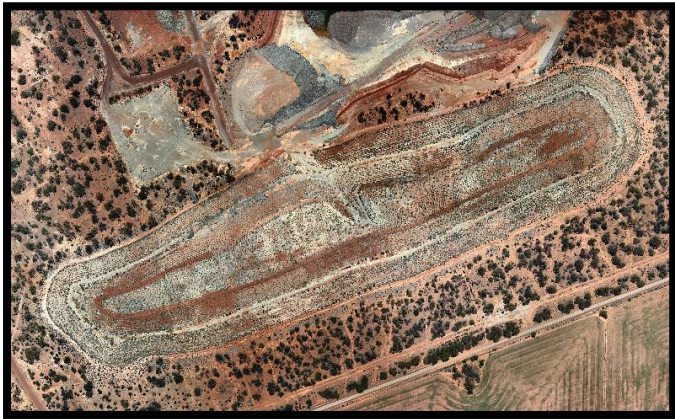
DMIRS – AER definitions

- “(DMIRS)’s position is that any landforms not yet signed off by (DMIRS) will need to meet the Departments requirements at the time of sign off”

Rehabilitation & Revegetation



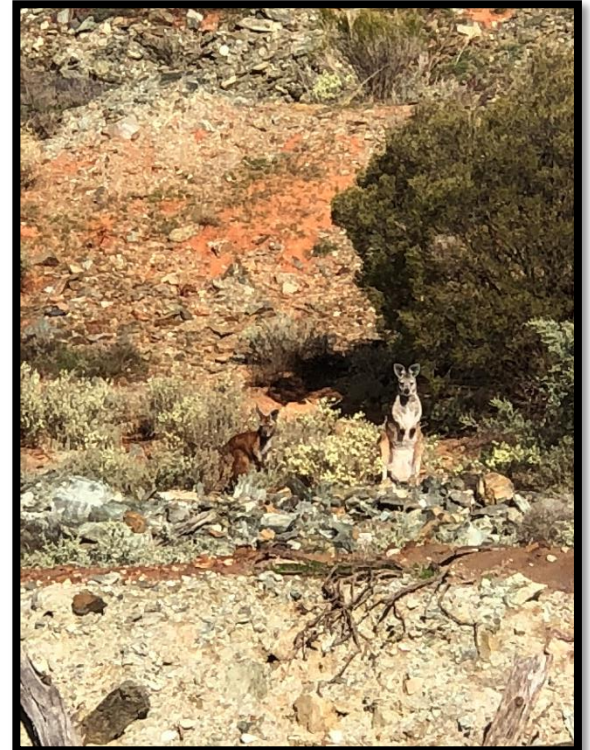
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Rehabilitation & Revegetation



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Frasers Mine



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- First significant mine developed in 1888
- Operated during various times (1890s – 1920s, 1936-1940; 1954-1963; 1979 – 1985; 1988-1992)
- Underground commenced in 1993, abandoned in 1999 due to significant rainfall events
- Frasers South Waste Rock Dump (WRD):
 - Constructed 1990s
 - 25m height, 5m berms
 - 2,159,178m³ volume; ~20ha
 - 30° batter slopes
 - Flat design criteria for water management
 - Waste rock mineralogy: Mafic and ultramafic amphibolites

Frasers South WRD



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Frasers South WRD



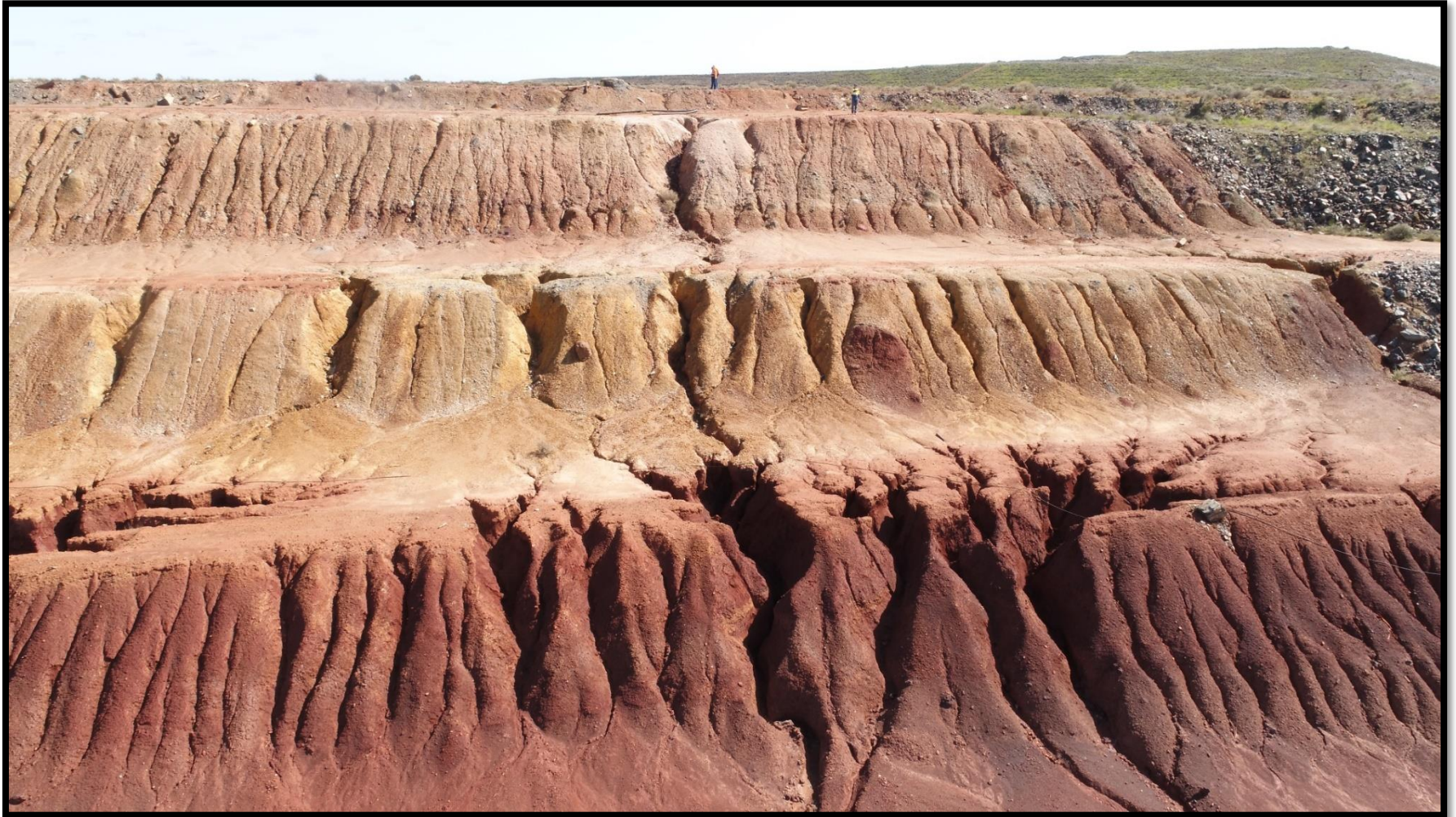
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Fraser's South WRD



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Fraser's South WRD



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Frasers South WRD



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- Berm and bench slope, steep
 - No ripping
 - No topsoil
 - No seeding
 - Not armored with competent rock
-
- Accepted by Department of Minerals and Energy (DME now DMIRS) in 1998 (relinquished)

Fraser	• Characterised by old style rehabilitation requirements. Accept as is. However, any future mining will be required to follow current DME standards.
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