



Government of **Western Australia**
Department of **Mines and Petroleum**



Western Australia's Mining Rehabilitation Fund and Abandoned Mines Program

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Department of Mines and Petroleum

Mining Rehabilitation Fund (MRF)

A world map is visible in the background of the top red banner, with Australia highlighted in white.A close-up photograph of a green, bushy plant with small flowers is on the right side of the slide. The background is a blurred natural landscape.

Mining REHABILITATION Fund

Mechanics of the MRF

- Covers 20,000 Mining Tenements
- Tenement holders must annually report disturbances on their tenement
- Rehabilitation Liability Estimate
 - RLE \$50,000 threshold per tenement
- The Fund Contribution Rate – 1%
- Disturbance categories
 - \$18k-\$50k/ha
 - \$2k/ha for land under rehabilitation

The Mining Rehabilitation Fund

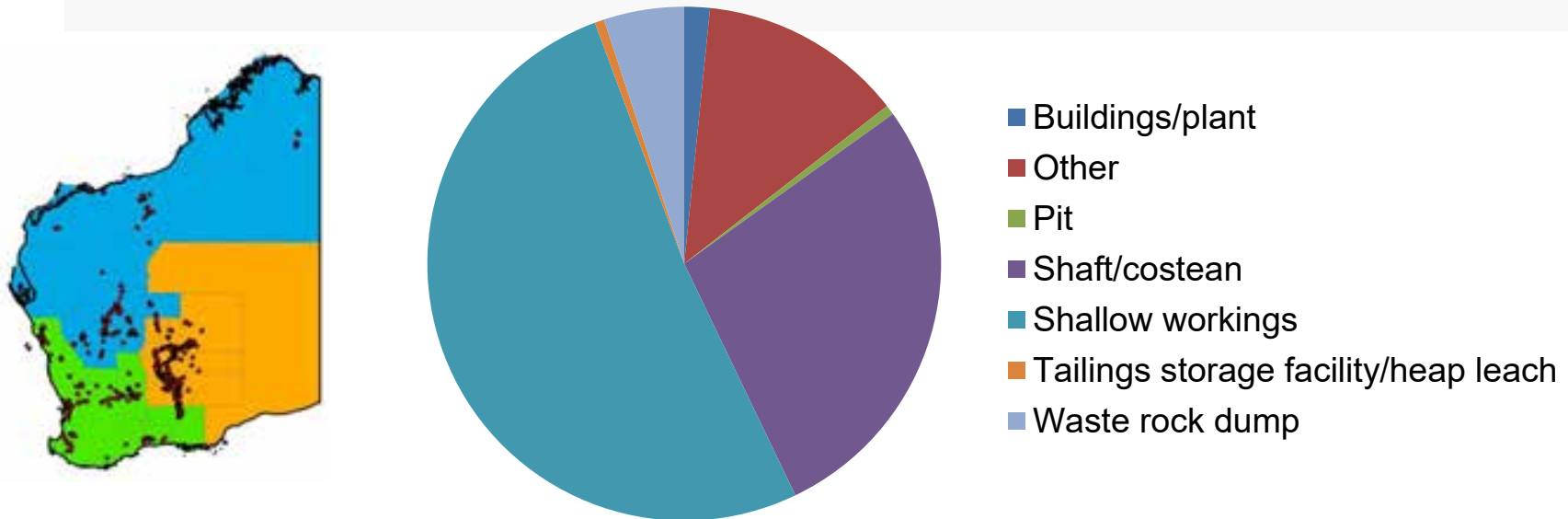
- Dedicated resource for abandoned mine sites
- Principal (for any site that is abandoned after 1 July 2014)
- Interest (for sites abandoned before the introduction of the MRF)
- The MRF complements a suite of compliance tools to regulate the industry including Mine Closure Plans
- \$90 million in the MRF + \$3 million interest (\$26 million annually)



Number of Abandoned Mines

11,411 abandoned mines in MINEDEX of which 4956 have been surveyed as part of the Inventory of Abandoned Mine Sites Progress 1999 - 2002 with 192,523 identified abandoned mine features.

A **'feature'** is one recorded item such an open pit, a shaft or a costean. Many features may be recorded at one mine site.



Abandoned Mines Program

Pilot sites and Ellendale

- **Ellendale Diamond Mine**
(Shire of Derby/West Kimberley)
- **Black Diamond Pit Lake**
(Shire of Collie)
- **Pro-Force Plant Site**
(Shire of Coolgardie)
- **Bulong Tailing Storage Facility**
(City of Kalgoorlie Boulder)
- **Elverdton Tailing Storage Facility**
(Shire of Ravensthorpe)



Abandoned Mines Program

Pilot sites and Ellendale

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Online Systems



Abandoned mines program

Projects managed under the Abandoned Mines Program

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Ellendale Diamond Mine

Ellendale Diamond Mine

Unauthorised access to the Ellendale site is prohibited and trespassers will be prosecuted. The site is locked and access is monitored.

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Black Diamond Pit Lake

Black Diamond Pit Lake

Unstable cliffs, underwater obstacles and poor water quality represent significant safety risks.

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Pro-Force Plant Site

Pro-Force Plant Site

Derelict infrastructure, scrap material and unsafe surfaces represent significant safety risks.

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Case Study 1: Ellendale Diamond Mine



Ellendale - Hydrocarbon Removal

Removal of approximately:

- 20,000L of waste oil
- 3,500L of oily water and
- 1,500L of coolant
- 1,000L of cooking oil

**~\$5000 to remove
(removal costs of \$0.15/L)**



Ellendale - before



Ellendale - after



Ellendale - Industrial Tip Clean-up (before)



Ellendale - Industrial Tip Clean-up (after)



~\$50,000 for all civil works

Tailing Storage Facility Works



Figure 1 Aerial view of Ellendale TSF 1D

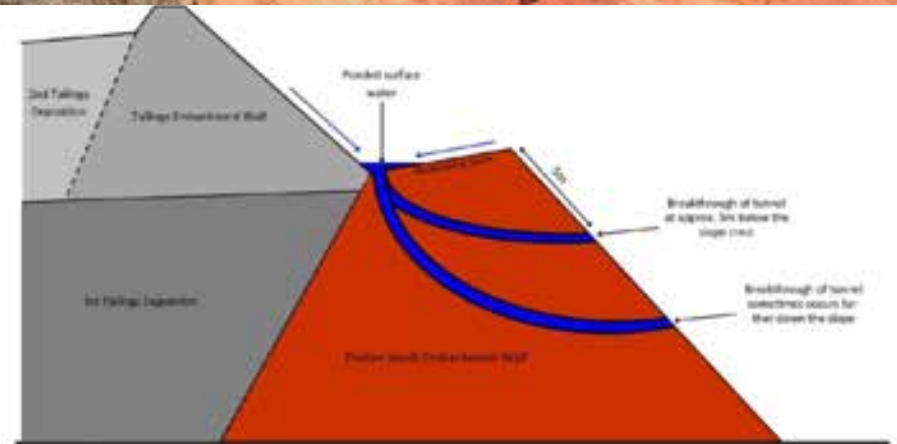
- Total Area = 222ha
- Active tailings surface = 202ha
- 2 lifts:
 - 1st lift – 5-10m, Pindan Sands
 - 2nd lift – 1-3m, Tailings



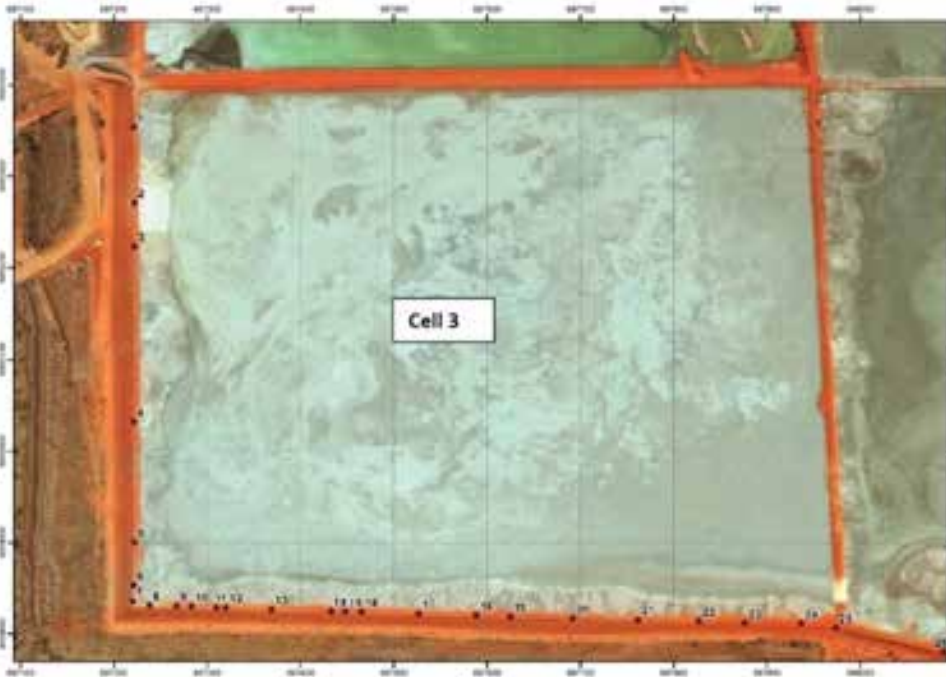
Tailing Storage Facility Works



Good lessons learnt for construction of TSFs in the Kimberley



TSF Works – Rock Beds



Rock beds installed in problematic areas to reduce ponding

Controlled, slow infiltration limits tunnelling

B. Incorporation of rock beds into existing berm surface

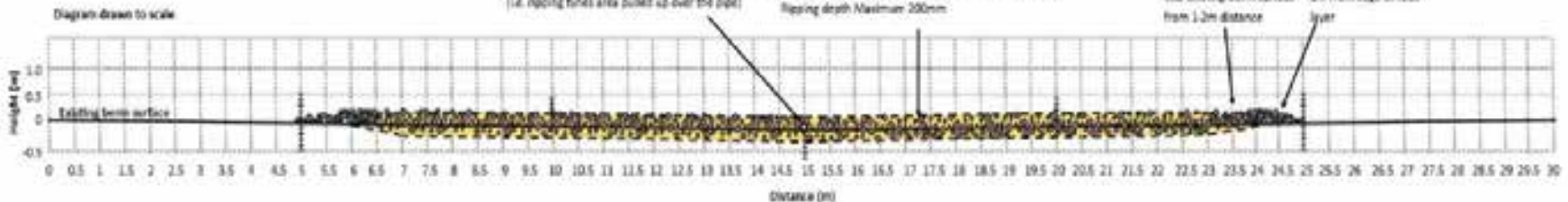
Existing PVC pipe

If there is a risk of interaction or contact with the pipe then no ripping is to occur over the pipe (i.e. ripping takes area pulled up over the pipe)

Competent waste rock ripped into existing berm surface
ripping depth Maximum 200mm

Only rip to 100mm depth into existing berm surface from 1.2m distance

Commence ripping 3m from edge of rock layer



Tailing Storage Facility Works



~\$60,000 for TSF civil works

Ellendale...and then it rained and rained

Cyclone Yvonne - 250mm in 48hrs
2 weeks after works were completed

Wettest wet season on record

Assess how TSF stood up in Q3 2017



Case Study 2: Black Diamond



Black Diamond Consultation

Black Diamond Pit Lake

Working Group representatives:

- Shire of Collie
- Department of Lands
- Department of Parks and Wildlife
- Collie Visitor Centre
- Black Diamond Action Group
- adjoining landowners
- DMP

Address:

- safety risks associated with steep southern pit wall



History

The historical abandoned mine site Black Diamond is located within the Abasco Iron site boundary in the Shire of Collie, approximately 5 kms west of Collie in Western Australia (WA).

Black Diamond is adjacent to a number of private land lots to the north east, as well as the crown reserves to the west.

One public road provides access to Black Diamond, Ferguson Road.

Black Diamond was mined for coal between the late 1940s and early 1950s by Amalgamated Collieries Pty Ltd. Since mining ceased, the pit has filled with water creating a pit lake.

Black Diamond has been selected as a pilot site for the Abandoned Mines Program, using funds from the WA Government's Mining Rehabilitation Fund (MRF). More information on the Abandoned Mines Program can be found via the following link: <http://www.dmp.wa.gov.au/Environment/Abandoned-Mines-Project-15118.aspx>.

A map illustrating the site layout and proposed works for Black Diamond is provided on page 4 of this fact sheet.

Community Concerns at Black Diamond

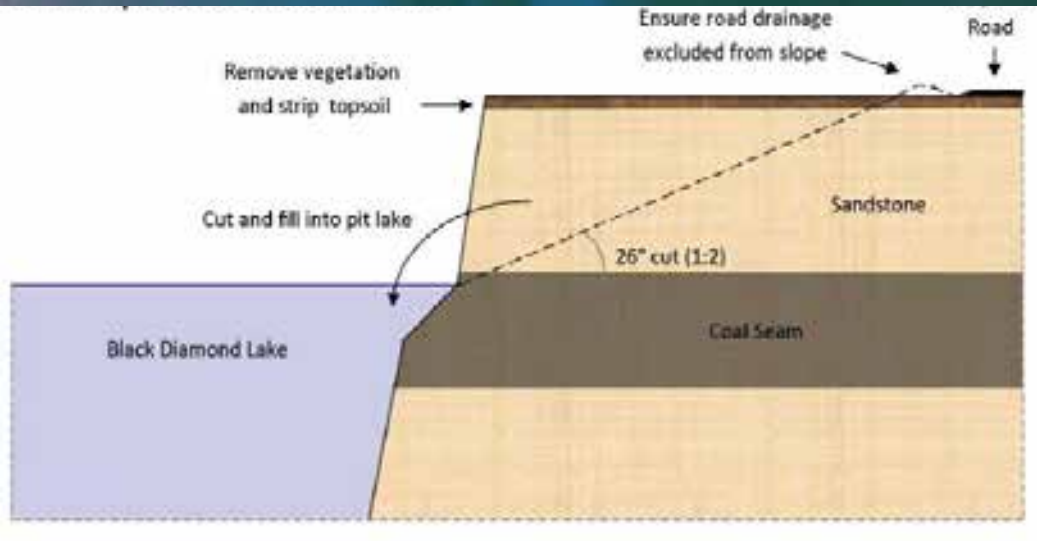
The community has raised a number of safety concerns in relation to Black Diamond which has become an unmanaged recreation area.

A number of environmental issues have also been highlighted by the community, including illegal dumping and poor water quality in the pit lake.

Signage warning of the dangers associated with recreating on the site has previously been installed. A cyclone fence was also installed along the edge of Ferguson Road to restrict public access to the lake. Landrats have destroyed the fence and it does not currently prevent public access to the site.

Recent water tests undertaken by the Shire of Collie also indicated evidence of potential dangerous amounts in the pit lake.

Black Diamond Civil Works



Black Diamond Civil Works



Black Diamond Civil Works



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Black Diamond Civil Works



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Black Diamond Reshaping



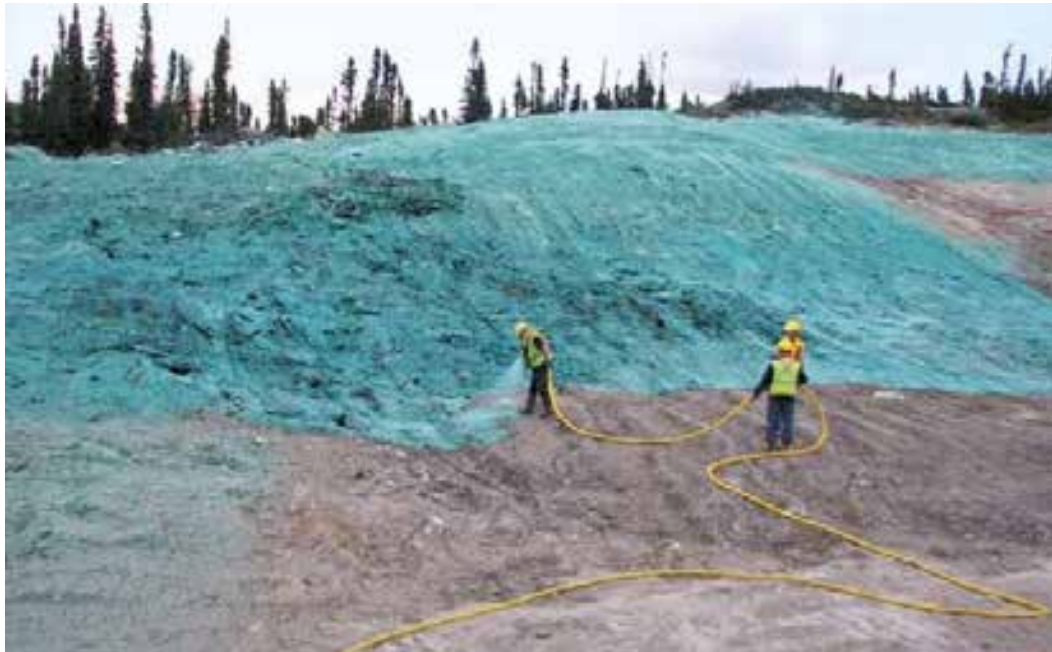
Black Diamond Reshaping



Black Diamond Next Steps

Winter 2017 Revegetation Strategy

- Spray on growth medium to be applied at the end of the month – Dura Veg and WA Hydromulch
- Seed mix (4kg/ha) added to growth medium – Griffin Coal



Black Diamond Next Steps

Winter 2017 Revegetation Strategy

- Seedlings to be planted along shoreline and in western area – OES and Allanson Primary School
- On ground works - completed by 30 June 2017
- Working Group to focus on end land use.



Questions

MRF enquiries

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Abandoned Mines Team

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