



Report and recommendations of the Environmental Protection Authority



**Cloudbreak Life of Mine Project
— inquiry under s46 of the
Environmental Protection Act 1986
to amend Ministerial Statement 899**

Fortescue Metals Group Limited

Report 1498

January 2014

ENVIRONMENTAL PROTECTION AUTHORITY
REPORT AND RECOMMENDATIONS TO THE MINISTER FOR
ENVIRONMENT

**CLOUDBREAK LIFE OF MINE PROJECT – INQUIRY UNDER S46 OF THE
ENVIRONMENTAL PROTECTION ACT 1986 – CHANGES TO
CONDITIONS 7-1 AND 7-2 OF MINISTERIAL STATEMENT 899
(ASSESSMENT NO. 1980)**

The Minister for Environment has requested (20 August 2013) that the Environmental Protection Authority (EPA) inquire into and report on the matter of amending condition 7-1 and condition 7-2 of Ministerial Statement 899 to remove specific monitoring bore names and locations and refer to the Fortescue Marsh.

The following is the EPA's Report and Recommendations (No. 1498) to the Minister pursuant to section 46(6) of the *Environmental Protection Act 1986*.

INTRODUCTION

Fortescue Metals Group Ltd (FMG) obtained approval for the Cloudbreak Life of Mine, Pilbara proposal in June 2012 following the EPA's assessment of the proposal at a Public Environmental Review (PER) level of assessment.

In assessing the Cloudbreak Life of Mine proposal, the EPA considered the following key environmental factors as relevant to the proposal and requiring detailed evaluation in its Report and Recommendations (Report 1429):

- Flora and vegetation;
- Conservation significant fauna;
- Surface water flows;
- Groundwater quantity and quality;
- Rehabilitation and closure; and
- Residual impacts.

The EPA concluded that it is likely that the EPA's objectives would be achieved provided there is satisfactory implementation by the proponent of the recommended conditions.

The Minister for Environment approved the proposal for implementation, subject to the conditions of Ministerial Statement 899, published on 5 June 2012.

The proponent has requested amendments to implementation conditions 7-1 and 7-2 under Ministerial Statement 899. A summary of the proposed changes and the EPA's assessment of the proposed changes are outlined below.

Assessment of the proposed change to conditions

FMG has requested amendments to implementation conditions 7-1 and 7-2 under Ministerial Statement 899, in relation to relocating five of the seven existing groundwater monitoring bores that monitor water levels along the northern fringe of the Fortescue Marsh. Specifically, FMG has requested that the condition wording be changed to relate the condition to “the fringe and within the Fortescue Marsh” and remove specific bore names and locations from condition 7-1 and 7-2. The names and locations of the monitoring bores are also identified in Figure 2 and Schedule 2 of Ministerial statement 899. Monitoring bores FMM02_S and FMM06_S will not be relocated but will be renamed to CBFMM02 and CBFMM06 respectively, to avoid confusion between Christmas Creek and Cloudbreak bores.

The proponent has proposed to change the locations of five of the seven monitoring bores covered by Ministerial Statement 899 for the following reasons:

- the bores were existing and not purpose built for the monitoring requirements of condition 7;
- the bores need refurbishment or replacement; and
- the current bores are not in optimal locations as they are in active re-injection areas and not at the fringe of the marsh.

To protect the Fortescue Marsh, condition 7 “Groundwater Levels – Fortescue Marsh” was recommended by the Environmental Protection Authority (EPA) in Report No. 1429 to restrict groundwater mounding and drawdown at the fringe and within the Marsh to one metre to prevent impacts to groundwater dependent vegetation. This condition was consistent with previous decisions of the EPA for the nearby Christmas Creek Water Management Scheme operation.

Conditions 7-1 and 7-2 require the proponent to manage the injection of surplus water to ensure that groundwater levels do not rise or fall by more than one metre from the baseline groundwater level at groundwater monitoring bore locations, having regard for climate trends and seasonal variation.

The key environmental factor that is affected by the proposed changes to condition 7 is Flora and Vegetation.

Flora and Vegetation

The EPA's objective for Flora and Vegetation is *to maintain representation, diversity, viability and ecological function at the species, population and community level.*

As part of its original assessment, the EPA noted that the vegetation communities occurring within the project area are considered to be of ecological importance. These include the Samphire vegetation associated with the Fortescue Marsh, the locally significant Mulga vegetation, and the groundwater dependant vegetation type associated with drainage and creek lines; the Coolibah/River Red Gum creek line vegetation.

Since the approval of the proposal through Ministerial Statement 899, the proponent has collected data from these groundwater monitoring bores, which has recently been published in its Triennial Groundwater Monitoring report for the Cloudbreak Mine (*Cloudbreak Triennial Groundwater Monitoring Review August 2010 – July 2013*). The triennial report states that water table levels have remained within historical ranges and no impacts to vegetation in the "Near Marsh Zone A" have been observed from vegetation monitoring stations in this area (as required by condition 6).

The monitoring data in the triennial report shows that the one metre trigger level has not been breached in any of the monitoring bores covered by condition 7 in Ministerial Statement 899 and is therefore compliant with this condition.

The proponent intends to continue monitoring the existing groundwater monitoring bores that will be replaced (CBX02_WT, CBX04_S, CBX07_S, CBX10a_WT and CBX13_WT) during construction and operation of the new bores until a suitable baseline trend can be determined and has indicated that this would likely be for at least six months. The EPA expects that the proponent would meet the Department of Water and the Department of Parks and Wildlife requirements with regards to a sufficient period of overlap of monitoring of the existing and new bores to establish a trend.

Drilling five new bores would involve some minor vegetation clearing. However, this clearing would be carried out under the existing clearing allocation of 13,633 hectares approved under Ministerial Statement 899. In addition, the new bore locations are proposed within the existing approved project boundary and, as such, no additional area outside of the previously approved project boundary would be required.

The EPA also notes that no changes are proposed to condition 6 which relates to the indirect impacts, including as a result of groundwater level changes, on conservation significant vegetation (Samphire, Mulga and Coolibah/River Red Gum creek line vegetation).

CONSULTATION

The EPA has consulted with the Department of Parks and Wildlife and the Department of Water in relation to proposed changes to the conditions.

CONCLUSION

The EPA considers that the environmental factors of the proposal have not changed significantly from those presented in the PER and as assessed by the EPA in Report 1429, and no new significant environmental factors have arisen since the EPA's assessment of the proposal.

Having particular regard to:

- the clearing required as part of relocating five groundwater monitoring bores being minimal and that there will be no additional clearing of native vegetation above the disturbance area approved in Schedule of Ministerial Statement 899;
- groundwater monitoring showing no breaches of the trigger level (including at the bores closer to the fringe of the marsh that will not be relocated) required by condition 7;
- no changes being proposed to condition 6 which relates to vegetation health;
- no impacts to vegetation being observed from vegetation monitoring required as part of condition 6;
- the proponent's commitment to continue monitoring the existing groundwater monitoring bores to be relocated during construction and operation of the new bores for an appropriate length of time until a suitable baseline trend can be determined; and
- the names and locations of the monitoring bores will be identified in Figure 2 and Schedule 2 of Ministerial Statement 899,

the EPA concludes that the EPA's objective for Flora and Vegetation can still be met by the proposed changes to condition 7-1 and condition 7-2 (including the associated changes to Figure 2 and Schedule 2).

EPA RECOMMENDATION

The EPA recommends that condition 7-1 and condition 7-2 be amended in the draft statement below.

RECOMMENDED ENVIRONMENTAL CONDITIONS

**STATEMENT TO AMEND CONDITIONS APPLYING TO A PROPOSAL
(PURSUANT TO THE PROVISIONS OF SECTION 46 OF THE
ENVIRONMENTAL PROTECTION ACT 1986)**

Cloudbreak Life of Mine Project

Proposal: The Cloudbreak iron ore mine project includes open pit strip mining, development of new pits and permanent waste landforms, backfilling of pits, progressive rehabilitation and ore processing, development of infrastructure, dewatering and water disposal activities.

Proponent: Fortescue Metals Group

Proponent Address: Level 2, 87 Adelaide Terrace,
East Perth WA 6892

Assessment Number: 1980

Previous Assessment Number: 1848

Previous Statement Number: Statement 899 (published on 5 June 2012)

Report of the Environmental Protection Authority: 1498

Previous Report of the Environmental Protection Authority: 1429

The implementation of the proposal to which the above report of the Environmental Protection Authority relates is subject to the conditions and procedures contained in Ministerial Statement No. 899, as amended by the following:

1. Change to Condition 7-1

Condition 7-1 of Ministerial Statement 899 is deleted and replaced with:

7-1 The proponent shall manage the injection of surplus water to ensure that groundwater levels do not rise or drop by more than one metre at the fringe and within the Fortescue Marsh, from the baseline

groundwater level, using a suitable network of bores at the fringe of the Fortescue Marsh as shown in Figure 2 and delineated by co-ordinates in schedule 2, having regard for climatic trends and seasonal variation, unless prior written authorisation of the CEO has been received.

2. Change to Condition 7-2

Condition 7-2 of Ministerial Statement 899 is deleted and replaced with:

7-2 To verify that the requirements of condition 7-1 are being met the proponent shall, to the requirements of the CEO:

- 1 undertake baseline monitoring at groundwater monitoring bores located on the fringe of Fortescue Marsh and a control bore outside impact areas within one month of the date of issue of this Statement for currently installed bores and as soon as is practicable for the new fringe bores and the control bore. The locations of the fringe bores are shown in Figure 2 and delineated by co-ordinates in schedule 2. The location of the control bore shall be determined in consultation with the Department of Water.
- 2 establish trigger groundwater levels at locations identified in condition 7-2(1) having regard for climatic trends and seasonal variation; and
- 3 monitor groundwater levels monthly at a minimum at locations identified in condition 7-2(1).

HON Albert Jacob MLA
MINISTER FOR ENVIRONMENT; HERITAGE

Table 1: Definitions of terms and phrases used in the implementation conditions and procedures

| Term or Phrase | Definition |
|-----------------------|--|
| CEO | The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or his delegate. |
| EPA | Environmental Protection Authority |
| EP Act | <i>Environmental Protection Act 1986</i> |

3. Change to Schedule 1

Replace Figure 2 with figure showing new monitoring bores below

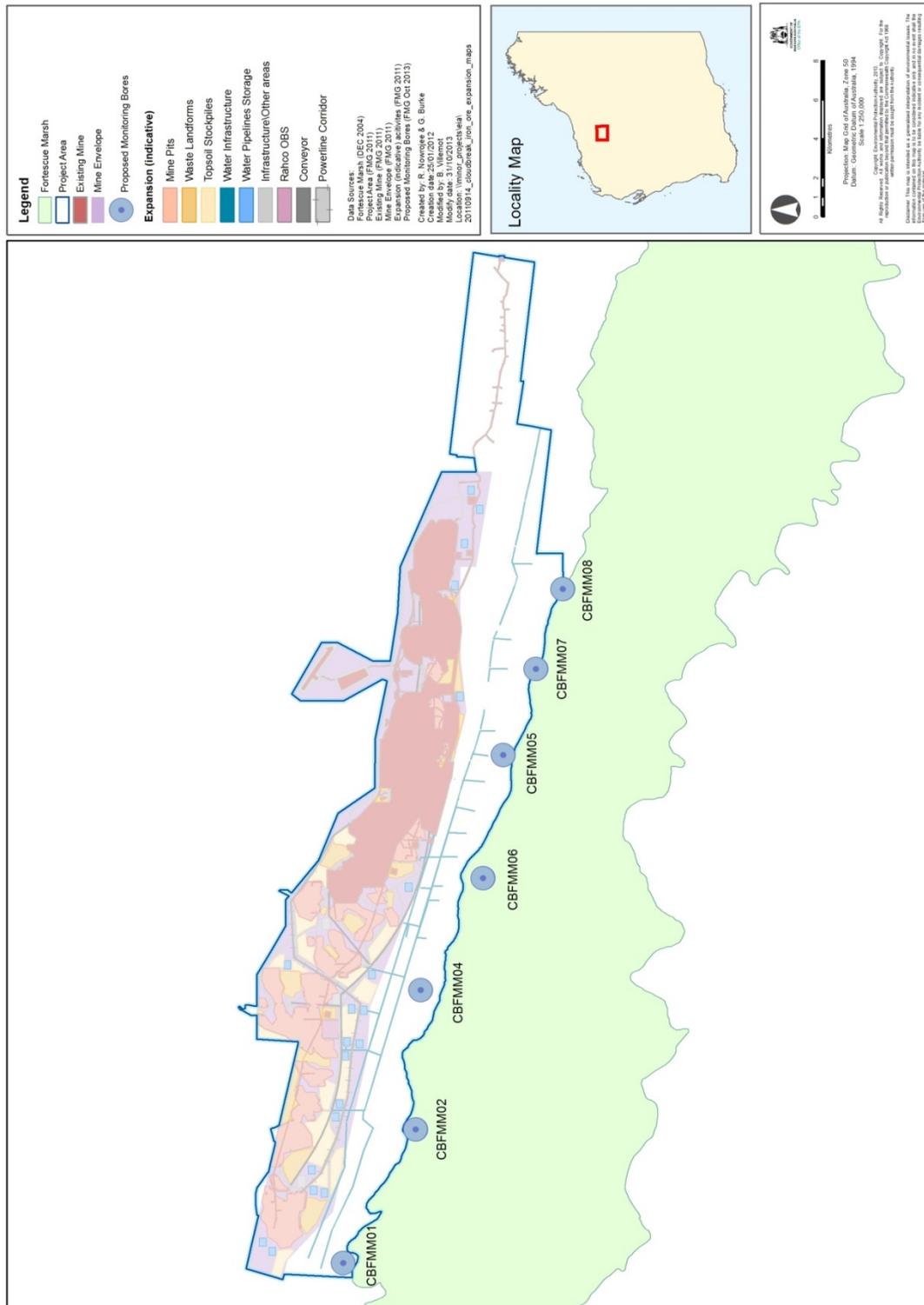


Figure 2 Locations of monitoring bores within the Project Area

4. Change to Schedule 2

Delete text and table in Schedule 2 and replace with:

Co-ordinates for monitoring bores

| Monitoring bore | East | North |
|------------------------|-------------|--------------|
| *CBFMM01 | 720703 | 7531612 |
| CBFMM02 | 727558.7 | 7527940 |
| *CBFMM04 | 734697 | 7527655 |
| *CBFMM05 | 746758 | 7523454 |
| CBFMM06 | 740435.9 | 7524558 |
| *CBFMM07 | 751176 | 7521806 |
| *CBFMM08 | 755273 | 7520434 |

*New bores will be installed within 20 m of the coordinates stated above.

All coordinates are in whole metres, listed in Map Grid of Australia Zone 50 (MGA Zone 50), datum of Geodetic Datum of Australia 1994 (GDA94).

Coordinates defining the Project Development Envelope as shown in Figures 1-3 are held by the Office of the Environmental Protection Authority, dated 30 October 2013.