Christmas Creek Water Management Scheme

Stakeholder Consultation Reinjection Management Plan

8/11/2011
CC-PL-EN-0006
## Christmas Creek Water Management Scheme – Stakeholder Consultation Reinjection Management Plan

### CC-PL-EN-0006

<table>
<thead>
<tr>
<th>Revision Number</th>
<th>Status</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>IFU - ISSUED FOR USE</td>
<td>8/11/2011</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Author</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ian Brandes de Roos</td>
<td>4/11/2011</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Checked</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul Ridout</td>
<td>7/11/2011</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approved</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doug Brown</td>
<td>8/11/2011</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Confidentiality</th>
<th>Publish on Extranet</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORTESCUE STAFF &amp; CONTRACTORS</td>
<td>Publish on Extranet</td>
<td>No</td>
</tr>
</tbody>
</table>

### Revision History (to be completed for each version retained by Document Control)

<table>
<thead>
<tr>
<th>Author</th>
<th>Checker</th>
<th>Approver</th>
<th>Rev No</th>
<th>Status</th>
<th>Issued Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ian Brandes de Roos</td>
<td>Paul Ridout</td>
<td>Doug Brown</td>
<td>0</td>
<td>IFU</td>
<td>8/11/2011</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

1. **INTRODUCTION** ............................................................................................................... 4

2. **STAKEHOLDER CONSULTATION REINJECTION MANAGEMENT PLAN** ............... 6
   
   2.1 Compliance with Condition 10 ........................................................................... 6
   
   2.2 Stakeholder Consultation ................................................................................... 7
   
   2.3 Anticipated Reinjection Regime and Impacts ................................................... 7
   
   2.4 Agreed Monitoring, Trigger Levels and Management Actions ..................... 8
   
   2.5 Public Availability of the SCRMP ..................................................................... 9
   
   2.6 Conclusion ........................................................................................................... 9
List of Tables

Table 1: How Fortescue has addressed Condition 10 ........................................6
Table 2: Fortescue Monitoring Bores .................................................................9

LIST OF APPENDICES

Appendix 1: Meeting minutes
Appendix 2: Review of SCRMP by RHIO
1. INTRODUCTION

Fortescue Metals Group Limited (ACN 002594872) (Fortescue) is developing the Pilbara Iron Ore and Infrastructure Project, which involves a series of iron ore mines in the Chichester Range area of the Pilbara region of Western Australia, and associated rail and port infrastructure for export of iron ore through Port Hedland.

The Christmas Creek mine site was approved by the Minister for the Environment on 16 December 2005 with the release of Ministerial Statement 707. Mining of iron ore at Christmas Creek commenced in 2008 and is ongoing. To date, the majority of mining at Christmas Creek has been undertaken above the water table.

The Christmas Creek Water Management Scheme (the project) involves increasing the amount of mine dewatering and injection of abstracted groundwater within the Christmas Creek project area to allow mining of iron ore to continue below the water table.

Fortescue submitted an application to the Environmental Protection Authority (EPA) under Section 38 of the Environmental Protection Act 1986 for the project. An Assessment on Proponent Information (API) level of assessment was set and the EPA assessed the API Environmental Review document in May 2011. Ministerial Statement 871 was issued for the project on 1 August 2011. Condition 10 of Ministerial Statement 871 requires that:

10-1 The proponent shall manage the reinjection of surplus water to ensure that it does not cause a significant increase in dewatering requirement at other non-proponent approved mining operations.

10-2 To verify that the requirements of condition 10-1 are being met the proponent shall prepare a Stakeholder Consultation Reinjection Management Plan, to the satisfaction of the Chief Executive Officer of the Office of the Environmental Protection Authority prior to groundwater injection into the eastern brackish injection zone, as delineated by Australian Map Grid co-ordinates provided in Table 2 of Schedule 4, that includes the following:

1. potential issues resulting from the reinjection of the surplus water on other non-proponent mining operations, in consultation with the proponent of those affected mines, and proposed outcomes to ensure compliance with condition 10-1;

2. strategies, including trigger values, to address the potential issues and achieve the outcomes identified in condition 10-2(1) in consultation with the proponent of any potentially affected mines;

3. detailed monitoring program to demonstrate that condition 10-2(2) is being met; and

4. specific management and contingency actions.
10-3 The monitoring as required by condition 10-2(3) is to be carried out until such time as the Chief Executive Officer of the Office of the Environmental Protection Authority determines that monitoring may cease.

10-4 In the event that monitoring required by condition 10-2(3) indicates an exceedance of trigger levels defined by condition 10-2(2):

1. the proponent shall report such findings to Chief Executive Officer of the Office of the Environmental Protection Authority within 7 days of the exceedance being identified;

2. the proponent shall provide evidence which allows determination of the cause of the exceedance within 21 days of the exceedances being identified;

3. if determined by the Chief Executive Officer of the Office of the Environmental Protection Authority to be the result of activities undertaken in implementing the proposal, the proponent shall submit actions to be taken to address the exceedance within 21 days of the determination being made to the Chief Executive Officer of the Office of the Environmental Protection Authority; and

4. the proponent shall implement actions to address the exceedance upon approval of the Chief Executive Officer of the Office of the Environmental Protection Authority and shall continue until such time the Chief Executive Officer of the Office of the Environmental Protection Authority determines that the remedial actions may cease.

10-5 The proponent shall implement the Stakeholder Consultation Reinjection Management Plan required by condition 10-2.

10-6 The proponent shall make the Stakeholder Consultation Reinjection Management Plan required by condition 10-2 publically available in a manner approved by the Chief Executive Officer of the Office of the Environmental Protection Authority.

This Stakeholder Consultation Reinjection Management Plan (SCRMP) has been prepared to meet the above requirements of Condition 10.
2. STAKEHOLDER CONSULTATION REINJECTION MANAGEMENT PLAN

2.1 Compliance with Condition 10

Table 1 summarises how the SCRMP addresses the various components of Condition 10.

<table>
<thead>
<tr>
<th>Condition</th>
<th>How Plan Addresses Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-1</td>
<td>The SCRMP has been prepared via extensive consultation with the proponent of the only current non-Fortescue mining operation that may be impacted by the reinjection of surplus water in the project’s eastern brackish reinjection zone – i.e. Roy Hill Iron Ore Pty Ltd (RHIO). In implementing the SCRMP, Fortescue shall manage the reinjection of surplus water to ensure that it does not cause a significant increase in dewatering requirement at RHIO’s Roy Hill Iron Ore Project, which is immediately east of the project area.</td>
</tr>
<tr>
<td>10-2(1)</td>
<td>Potential issues resulting from the reinjection of the surplus water have been discussed with RHIO. Reinjection of groundwater within the eastern brackish reinjection zone, given anticipated volumes and timing, will not cause a significant increase in RHIO’s dewatering requirements (refer to Section 2.3).</td>
</tr>
<tr>
<td>10-2(2)</td>
<td>Monitoring strategies, trigger levels and management and contingency actions have been agreed with RHIO (refer to Section 2.4).</td>
</tr>
<tr>
<td>10-2(3)</td>
<td>A detailed monitoring program has been agreed with RHIO (refer to Section 2.4).</td>
</tr>
<tr>
<td>10-2(4)</td>
<td>Management and contingency actions have been agreed with RHIO (refer to Section 2.4).</td>
</tr>
<tr>
<td>10-3</td>
<td>Fortescue will carry out the monitoring as required by condition 10-2(3) until such time as the Chief Executive Officer of the Office of the EPA determines that monitoring may cease.</td>
</tr>
<tr>
<td>10-4(1)</td>
<td>In the event that monitoring required by condition 10-2(3) indicates an exceedance of trigger levels defined by condition 10-2(2), Fortescue shall report such findings to Chief Executive Officer of the Office of the EPA within 7 days of the exceedance being identified. Fortescue shall also provide evidence which allows determination of the cause of the exceedance within 21 days of the exceedances being identified. If determined by the Chief Executive Officer of the Office of the EPA to be the result of activities undertaken in implementing the proposal, Fortescue shall submit actions to be taken to address the exceedance within 21 days of the determination being made to the Chief Executive Officer of the Office of the EPA. Fortescue shall implement actions to address the exceedance upon approval of the Chief Executive Officer of the Office of the EPA and shall continue until such time the Chief Executive Officer of the Office of the EPA determines that the remedial actions may cease.</td>
</tr>
<tr>
<td>10-5</td>
<td>Fortescue shall implement the SCRMP required by condition 10-2.</td>
</tr>
<tr>
<td>10-6</td>
<td>Fortescue shall make this SCRMP publically available via the Fortescue website (refer to Section 2.5).</td>
</tr>
</tbody>
</table>
2.2 Stakeholder Consultation

The only current non-Fortescue mining operation that may be impacted by the reinjection of surplus water in the eastern brackish injection zone is the proposed Roy Hill Iron Ore Project, currently being developed by Roy Hill Iron Ore Pty Ltd (RHIO).

Fortescue has held meetings with relevant senior RHIO staff (Bill Lamb – Manager, Mining; and Ron Colman – Principal Hydrogeologist) to discuss potential issues resulting from reinjection of surplus water in the eastern brackish injection zone and to agree monitoring strategies, trigger levels and management and contingency actions.

Four meetings have been held between Fortescue and RHIO on the following dates:

- 6 September 2011
- 27 September 2011
- 11 October 2011
- 2 November 2011.

The items discussed and agreed at each meeting were recorded in meeting minutes (see Appendix 1). After each meeting, a draft set of minutes was circulated by Fortescue to RHIO attendees for review. Once the minutes were agreed to by the RHIO attendees, they were then finalised.

The following items were agreed to at these meetings:

- That reinjection of groundwater within the project’s eastern brackish reinjection zone, given anticipated volumes and timing, will not cause a significant increase in RHIO’s dewatering requirements.
- Monitoring strategies, trigger levels and management and contingency actions.
- That regular Fortescue-RHIO Water Management Working Group meetings will continue, in order to review monitoring data, agree required management actions and assess on-going synergies.

RHIO attendees have also reviewed the SCRMP, and have confirmed that RHIO is supportive of the document being provided to the Office of the EPA in fulfilment of Condition 10 (see Appendix 2).

2.3 Anticipated Reinjection Regime and Impacts

During the 6 September 2011 meeting with RHIO, Fortescue reported that reinjection of groundwater within the eastern brackish reinjection zone will be for fresh/brackish water, and is likely to occur at a rate of 3 to 4 gigalitres per annum (Glpa) for a duration of 18 to 24 months. Fortescue also reported that groundwater modelling undertaken for the project indicated that, during this period, groundwater flows within the north western area of RHIO tenements may
increase (above seasonally dynamic levels) by approximately 7 litres/second. A map, showing potential groundwater mounding (based on modelling undertaken for assessment of the project) within RHIO tenements, was tabled at the meeting.

At the same meeting, RHIO reported they have sought a license for abstraction of 3.7 Glpa for a two year period to provide construction water in the north western area of its tenements. The timing and volumes of planned RHIO abstraction aligns almost exactly with reinjection of groundwater within the eastern brackish reinjection zone. As such, RHIO advised it is supportive of Fortescue undertaking reinjection of groundwater within the eastern brackish reinjection zone at the volumes and durations proposed [Ref. Item 3 in 6 September minutes].

As dewatering within the north western area of the RHIO tenements is expected to start in 2014, RHIO has requested that Fortescue report target start and finish dates for reinjection of groundwater within the eastern brackish reinjection zone at each Fortescue-RHIO Water Management Working Group meeting. This has been agreed [Ref. Item 3 in 11 October minutes].

### 2.4 Agreed Monitoring, Trigger Levels and Management Actions

The following monitoring and management regime has been agreed by Fortescue and RHIO:

- Data will be collected on a monthly basis from four (new) monitoring bores within Fortescue tenements (Table 2) and three (existing) bores within RHIO tenements [Ref. Item 6 in 6 September minutes; Item 4 in 27 September minutes].

- This data will be tabled at each Fortescue-RHIO Water Management Working Group meeting [Ref. Item 4 in 27 September minutes].

- If the data were to show: (i) a trend indicating the 1.5 m increase from seasonally dynamic levels trigger will be exceeded; or (ii) a specific increase of 1.25 m from seasonally dynamic levels, then a revised hydrogeological assessment of reinjection and flows will be undertaken by Fortescue for further discussion with RHIO [Ref. Item 4 in 27 September minutes].

- RHIO will provide existing bore data to help assess baseline groundwater conditions in order to account for seasonal variation [Ref. Item 4 in 27 September minutes].

- Fortescue’s monitoring bores shall be installed, with monitoring underway, within two months of the start of reinjection of groundwater within the eastern brackish reinjection zone [Ref. Item 3 in 11 October minutes].

- If necessary, RHIO will facilitate access through RHIO tenements for Fortescue staff and contractors for construction and monitoring of bores SPM07, 8, 9 and 10 [Ref. Item 3 in 11 October minutes].
Table 2: Fortescue Monitoring Bores

<table>
<thead>
<tr>
<th>Bore number</th>
<th>Location</th>
<th>Easting (GDA94, Zone 50)</th>
<th>Northing (GDA94, Zone 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPM07</td>
<td>Immediately west of the RHIO tenement boundary</td>
<td>794,829</td>
<td>7,514,733</td>
</tr>
<tr>
<td>SPM08</td>
<td>Immediately north of the RHIO tenement boundary</td>
<td>795,886</td>
<td>7,516,420</td>
</tr>
<tr>
<td>SPM09</td>
<td>Immediately north of the RHIO tenement boundary</td>
<td>798,547</td>
<td>7,516,424</td>
</tr>
<tr>
<td>SPM10</td>
<td>Immediately west of the RHIO tenement boundary</td>
<td>794,780</td>
<td>7,512,137</td>
</tr>
</tbody>
</table>

2.5 Public Availability of the SCRMP

A copy of the SCRMP will be made available to the public on the Fortescue website.

2.6 Conclusion

The SCRMP has been prepared via extensive consultation with RHIO, which is the proponent of the only current non-Fortescue mining operation that may be impacted by the project’s reinjection of surplus water in the eastern brackish reinjection zone.

In implementing the SCRMP, Fortescue will manage the reinjection of surplus water to ensure that it does not cause a significant increase in dewatering requirement at RHIO’s mining operations.

Appropriate monitoring strategies, trigger levels and management and contingency actions have been agreed with RHIO, and will be implemented in compliance against Condition 10 over the life of the project.
Appendix 1

Meeting minutes
Page intentionally left blank.
Minutes from 6 September 2011
Page intentionally left blank.
**FMG-RHIO WATER MANAGEMENT WORKING GROUP MEETING**

**DATE:** 6 September 2011  
**TIME:** 10:30am  
**LOCATION:** HPPL House, 28-42 Ventnor Avenue, West Perth  
**ATTENDEES:** RHIO: Bill Lamb (BL), Ron Colman (RC), FMG: Doug Brown (DB), Ian Brandes de Rooe (IB), Paul Ridout (PR).  
**DISTRIBUTION:** Attendees plus: FMG: Hoss Ulver, Uelde Wilt, Vr Roberts, Mark Skelton.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>TOPIC / DISCUSSION</th>
<th>RESULT / ACTION</th>
<th>ACTION BY</th>
<th>DATE RAISED</th>
<th>DATE ACTIONED</th>
<th>DUE DATE</th>
<th>Comments or Reasons if unable to Action</th>
</tr>
</thead>
</table>
| 1    | • It was agreed that FMG-RHIO Water Management Working Group meetings be held initially every two weeks with the venue to alternate between the RHIO and FMG offices.  
      • DB proposed reinjection within the eastern reinjection area at Christmas Creek as the first item to be covered. | Items agreed. | - | - | - | - | |
| 2    | • PR reported that FMG has recently received Part M approvals (under the EP Act) for the Christmas Creek Water Management Scheme and that, operationally, FMG will be ready to start reinjection of groundwater within the eastern reinjection area (rings in the RHIO tenements) in the next 4 to 6 weeks.  
      • PR also reported that FMG wish to consult with RHIO before starting this reinjection and that EPA have asked for this as part of their approval conditions. PR advised that FMG would like consultation to include proposed monitoring locations, trigger levels and management if trigger levels are exceeded.  
      • Potential synergy highlighted – given location, volume and timing of FMG reinjection matching RHIO construction water requirements. | Note. | - | - | - | - | |
| 3    | • B reported that reinjection of groundwater within the eastern reinjection area will be for fresh/break-in water and is likely to occur at a rate of 3 to 4Ghut for a duration of 18 to 24 months. IB also reported that groundwater modeling undertaken for the Christmas Creek Water Management Scheme API indicated that during this period groundwater flows within the NW area of RHIO tenements may increase (above seasonally dynamic levels) by approximately 7 litres/second. IB tabled a map showing potential groundwater mounding (based on the API modeling) within RHIO tenements. | Potential synergy highlighted – given location, volume and timing of FMG reinjection matching RHIO construction water requirements. | - | - | - | - | |
**FMG-RHIO WATER MANAGEMENT WORKING GROUP MEETING**

- **RC** sought clarity as to whether FMG intends to use this water in the longer term and stated that RHIO would prefer recharging or the aquifer in the NW area of their tenements as RHIO have sought a license for abstraction of 3.7 Gpa for a two year period to provide construction water. RC also stated that RHIO have abstraction licenses already in place in the area and will be building a construction water supply dam in proximity to the RHIO processing plant.

- BL reported that mining within the NW area of the RHIO tenements is planned to occur in late-2013/early-2014. RC reported that potentially there may be no RHIO mine dewatering occurring within the next two years and an alternative supply may be required for the RHIO processing plant.

- DB sought clarity as to whether RHIO would be interested in additional water supply for this period. RC stated that this could be of interest and proposed that arrangements could include a future return of water in the event of RHIO surplus and FMG shortfall. DB reported that options for water supply to the RHIO processing plant for a 2-year period, will be reviewed.

| 4 | BL reported that mining within the NW area of the RHIO tenements is planned to occur in late-2013/early-2014. RC reported that potentially there may be no RHIO mine dewatering occurring within the next two years and an alternative supply may be required for the RHIO processing plant. | Review options for water supply to RHIO processing plant for a 2-year period. | DB | 6.9.11 | - | 20.9.11 |

- A three stage approach for FMG/RHIO water management was discussed as follows:
  - Stage 1 – FMG injection within the eastern re-injection area with monitoring and trigger points.
  - Stage 2 – Potential for FMG supply to RHIO for construction and/or processing.
  - Stage 3 – Explore options for long-term water transfer.

- This approach was agreed, in principle, by all attendees.

| 5 | A three stage approach for FMG/RHIO water management was discussed as follows: | In principle agreement of three stage approach for FMG/RHIO water management. | - | - | - | - |

- For Stage 1 activities, DB and LB proposed four monitoring points with a trigger level of a 1.6 metre increase from seasonally dynamic levels. LB tabled a map showing the proposed monitoring points and their proximity to the RHIO tenement boundary. LB reported that data from the monitoring bores can be shared with RHIO to improve the overall understanding of the aquifer monitoring.

| 6 | For Stage 1 activities, DB and LB proposed four monitoring points with a trigger level of a 1.6 metre increase from seasonally dynamic levels. LB tabled a map showing the proposed monitoring points and their proximity to the RHIO tenement boundary. LB reported that data from the monitoring bores can be shared with RHIO to improve the overall understanding of the aquifer monitoring. | Circulate data/info for: (i) monitor injection area and injection bores; (ii) monitoring bores; (iii) proposed trigger levels. | LB | 6.9.11 | - | 12.9.11 |

<table>
<thead>
<tr>
<th>Rev</th>
<th>Description</th>
<th>Prepared by</th>
<th>Reviewed By</th>
<th>Approved By</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Issued For Use</td>
<td>Paul Ridley</td>
<td>Ron Colman (RHIO)</td>
<td>Ron Colman</td>
<td>01/11/11</td>
</tr>
</tbody>
</table>
**FMG-RHIO WATER MANAGEMENT WORKING GROUP MEETING**

Frequencies were discussed, and DB suggested that dataloggers may be employed to collect these data. IB proposed a monthly monitoring as a minimum frequency, with data sent to RHIO also on a monthly basis.

- RC reported that the items proposed did not appear to present any show-stoppers. RC also reported that HHIU has monitoring bores within the RHIO tenements and that data from these can also be shared. DB highlighted that the data-sharing process should be formalised.

- IB agreed to send to RC the location of the monitoring sites and the location of the proposed injection sites (both in Shapefile format).

- BL sought clarity on the requirement for a salinity trigger level. DB reported that FMG can only inject fresh/brackish water in the eastern injection area in order to not contaminate the aquifer.

- There was discussion on required actions in the event of a trigger level being exceeded. It was agreed that, in the event of a trigger level being exceeded, a meeting between HHIU and FMG would be required to reassess impacts and to agree an action plan.

| 7 | For Stage 2 activity, RC reported that doubling the size of the proposed construction water dam will be reviewed with a view to FMG water supply. BR sought clarity on the timing for construction of the dam and RC reported that the dam is due to be in place early 2012 and that a more detailed timeline will be confirmed. | Review increase in dam size and confirm construction timelines. | RC | 6.9.11 | - | 20.9.11 | - |

| 0 | Other agenda items were discussed for the next meeting. These were agreed as:
- Hydrology (eg upstream detention dams).
- Rail water supply.
- Fort Holland Water Supply.
- RC requested that DB review FMG rail construction water supply bores that are not being used and the scope for RHIO to utilise these for their rail construction. DB reported this will be followed up for discussion at the next meeting. | Review FMG rail bores not being used and scope for RHIO to utilise. | DB | 6.9.11 | - | 20.9.11 | - |
FMG-RHQ WATER MANAGEMENT WORKING GROUP MEETING

NEXT MEETING: 20.9.11 – 10:30; FORTESCUE CENTRE
Minutes from 27 September 2011
# FMG-RHIO Water Management Working Group Meeting Minutes

**DATE:** 27 September 2011

**TIME:** 11:00am

**LOCATION:** Fortescue Centre, East Perth.

**ATTENDEES:** RHIO: Ron Colman (RC), FMG: Doug Brown (DB), Ian Brandes de Roos (IB), Jacqui Hickey (JH), Paul Ridout (PR).

**APOLOGIES:** RHIO: Bill Lamb (BL).

**DISTRIBUTION:** Attendees, plus: FMG: Ross Oliver, Deidre Willnett, Vic Roberts, Mark Skelton.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>TOPIC/Discussion</th>
<th>RESULT/ACTION</th>
<th>ACTION BY</th>
<th>DATE RAISED</th>
<th>DATE ACTIONED</th>
<th>DUE DATE</th>
<th>Comments or Reasons If Unable to Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minutes for the previous meeting, held on 6.9.11, were agreed. Progress on outstanding actions was reviewed.</td>
<td>Note.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Further to Item 2 in the 6.9.11 minutes, PR reported that FMG will be ready to start reinjection of groundwater within the eastern reinjection area (close to the RHIO tenements) in the next 3 to 4 weeks.</td>
<td>Note.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
| 3    | Further to Item 4 in the 6.9.11 minutes, re potential FMG water supply for the RHIO processing plant. RC clarified RHIO project timelines as follows:  
- OPF construction from Q1:2012.  
- OPF commissioning from Q3:2013.  
- On basis of current mine plan, 12 months of dry mining with dowetting to start in 2014.  
- Full dowetting to start in 2015.  
- RC also reported that a paper has been submitted to the RHIO project implementation team to describe the potential benefits of FMG water supply and RHIO infrastructure that would be required to facilitate this.  
- DB reported that the water balance for FMG’s Chichester mines is being assessed in order to confirm the viability of water supply to the RHIO OPF. However, DB highlighted that timing is likely to be problematic. | Note. | - | - | - | - | |
| 4    | Further to Item 6 in the 6.9.11 minutes, RC reported that injection and monitoring bore data has been received from IB and passed onto RHIO GIS. | Assess best access option(s), for proposed FMG | IB | 27.9.11 | 30.9.11 | - | - |
**FMG-RHIO WATER MANAGEMENT WORKING GROUP MEETING**

- There was discussion on FMG access to the monitoring bore locations – which will prioritise FMG tenements where possible but may benefit from use of existing tracks within RHIO tenements. It was agreed that RC and IB will meet onsite on 0.10.11 to agree the best access options.

- The monitoring plan for Stage 1 activities (proposed monitoring bores and a trigger level of a 1.5 metre increase from seasonally dynamic levels) was discussed. RC reported that the plan has been resubmitted – and pragmatically agreed – by both FM and BL based on the understanding that an increase of this level would represent a minimal impact to RHIO operations.

- It was agreed that monthly monitoring data from FMG and RHIO will be reviewed at each FMG-RHIO Water Management Working Group Meeting. It was also agreed that if the rate were in excess: (i) a trigger indicating the 1.5 metre increase from seasonally dynamic levels trigger will be exceeded; or (ii) a specific increase of 1.25m from seasonally dynamic levels, then revised hydrological assessment of reinjection and flow will be undertaken by FMG for further discussion with RHIC.

- DB highlighted that a baseline is required in order to account for seasonal variation. This was agreed and RC offered to provide existing RHIO bore data for this purpose.

- There was discussion on formalising the data sharing process. It was agreed as understood that hydro information is covered under the Mutual Use of Confidentiality between Hancock Prospecting Pty Ltd and Fortescue Metals Group Limited. It was also agreed that a schedule will be tabled to document FMG and RHIO bore data to be shared for data sharing.

---

### Table: Meeting Minutes

<table>
<thead>
<tr>
<th>Action</th>
<th>Date</th>
<th>Action</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.9.11</td>
<td>RC</td>
<td>6.9.11</td>
<td>RC</td>
</tr>
<tr>
<td>6.9.11</td>
<td>DB</td>
<td>20.9.11</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Action carried over.
- Action carried over.
## FMG-RHIO Water Management Working Group Meeting

- **Next Meeting:** – 11 October 2011; HPPL House

### Action Items

<table>
<thead>
<tr>
<th>Action Item</th>
<th>Responsible</th>
<th>Date</th>
<th>Date Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circulate background information on proposed RHIO retention dam.</td>
<td>RC</td>
<td>27.9.11</td>
<td>11.10.11</td>
</tr>
<tr>
<td>Provide details of RHIO rail arcs/areas that require water supply.</td>
<td>RC</td>
<td>27.9.11</td>
<td>11.10.11</td>
</tr>
<tr>
<td>Highlighted a preference for implementing smaller dams upstream (within FMG terrains) to control surface water flows. DB reported that FMG should review this and proposed that RHIO table more detailed information at the next Water Management Working Group meeting. It was agreed this will be an agenda item at the next meeting and that RC will circulate background information prior to the meeting.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- There was discussion on options for RHIO rail water supply. DB reported that RC’s request at the 8.9.11 meeting (for DB to review FMG rail construction water supply bores that are not being used and the scope for RHIO to utilise those for their rail construction) has been escalated within FMG but no feedback has been provided to date. RC raised the possibility of RHIO accessing FMG dewatering pipelines for rail construction water supply. DB reported that this too will be reviewed within FMG and requested that RC provide details of the arcs/zones that require water supply.
Page intentionally left blank.
Minutes from 11 October 2011
**FMG-RHIO WATER MANAGEMENT WORKING GROUP MEETING**

**DATE:** 11 October 2011  
**TIME:** 10.30am  
**LOCATION:** HPPL House, West Perth.  
**ATTENDEES:** RHIO: Ron Colman (RC), Bill Lamb (BL). FMG: Ross Oliver (RC), Ian Brandes da Roos (IB), Jacqui Hickey (JH), Paul Ridout (PR).  
**APOLOGIES:** FMG: Doug Brown (DB).  
**DISTRIBUTION:** Attendees, plus: FMG: Deidre Wilmott, Viv Roberts, Mark Skelton.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>TOPIC / DISCUSSION</th>
<th>RESULT / ACTION</th>
<th>ACTION BY</th>
<th>DATE RAISED</th>
<th>DATE ACTIONED</th>
<th>DUE DATE</th>
<th>Comments or Reasons If unable to Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minutes for the previous meeting, held on 27.9.11, were agreed. Progress on outstanding actions was reviewed.</td>
<td>Note.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Further to Item 2 in the 27.9.11 minutes, PR reported that 1.1.11 is the target date for eastern re-injection infrastructure being ready to operate.</td>
<td>Note.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
| 3    | Further to Item 4 in the 27.9.11 minutes, RC and IB reported that a meeting had taken place at site on 8 October 2011 to review access options for construction and management of the proposed FMG monitoring bores.  
Further to this, TB reported that an existing track within RHIO tenements will be required for access to the two western monitoring bores. RC and BL reported that this can be accomplished via the following protocol:  
- Approximately two days prior to access being required: FMG shall notify Darren Henry, Adrian Dollar or Martin Hoydari.  
- RC will circulate an email to notify Darren, Adrian and Martin of this arrangement.  
- Timing for implementation of the FMG monitoring bores was discussed. It was agreed that the bores shall be installed, with monitoring underway, within two months of the start of reinjection within the FMG eastern injection area. It was also agreed that if the condition is not met, reinjection within the FMG eastern injection area will cease until the bores are installed and monitoring has commenced. | RC to forward existing RHIO bore data to IB for development of baseline, Develop individual schedules to document FMG and RHIO bores proposed for data sharing, Circulate start/finish date estimates for reinjection in the eastern injection area | RC | 27.9.11 | 11.10.11 | Action carried over.  
|     | | | IB | 11.10.11 | 25.10.11 |  | Action carried over.  

---

**Rev:**  
**Date:** 01/11/2011  
**Prepared by:** Paul Ridout  
**Reviewed By:** Ron Colman  
**Approved By:** Ron Colman
## FMG-RHIO Water Management Working Group Meeting

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- There was discussion on the anticipated duration of FMG reinjection in the eastern injection area. It is currently anticipated to be in the order of 16-24 months but is ultimately contingent on FMG mine plans. It was agreed that it will circulate start/finish date estimates for reinjection in the eastern injection area and that these will be tabled for each Water Management Working Group meeting.

- Further to item 5 in the 27.9.11 minutes, RC reported that increasing the dam size should no longer be considered as RHIO project timelines now have implementation targeted for Q1 2013. It was agreed that the item be closed.

- Further to item 6 in the 27.9.11 minutes, there was further discussion on locating detention dams within FMG tenements to control surface water flows for No-name Creek. It was agreed that RC will provide location and RL data for the proposed dams and that JH will undertake an initial assessment of potential impacts.

- There was also discussion on a proposed detention dam for West KuBe Creek and the implications from this on the design of the P2 and P5 roads. It was agreed that JH will discuss this with Chris Janson (FMG).

### Action Items

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Review FMG rail lines not being used and scope for RHIO to utilise.
  - DE: 6.9.11 - 20.9.11
  - Action carried over.

- Provide details of RHIO rail areas/zones that require water supply.
  - RC: 27.9.11 - 11.10.11
  - Action carried over.

- Undertake initial assessment for No-name Creek dams.
  - JH: 11.10.11 - 25.10.11
  - Discuss P2/P5 impacts with Chris Janson.

---

### Issue

- Rev: 0
- Issue for Use: Issued
- Prepared by: Paul Pedlau
- Reviewed by: Ron Colman
- Approved by: Mark Colman
- Date: 01/11/2011

100-AD-0036 Meeting Minutes Document
### FMG-RHIO Water Management Working Group Meeting

**NEXT MEETING:** 25 October 2011; Fortescue Centre

---

<table>
<thead>
<tr>
<th>Rev</th>
<th>Description</th>
<th>Prepared by</th>
<th>Reviewed By</th>
<th>Approved By</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Issued For Use</td>
<td>Paul Ridsdale</td>
<td>Moro Coleman</td>
<td>Paul Quinlan</td>
<td>31/11/2011</td>
</tr>
</tbody>
</table>
### FMG-RHIO WATER MANAGEMENT WORKING GROUP MEETING

**DATE:** 2 November 2011

**TIME:** 2:00pm

**LOCATION:** Fortescue Centre, East Perth.


**APOLOGIES:**

**DISTRIBUTION:** Attendees, plus: FMG: Daelin Wilmott, Vic Roberts, Mark Skelton, Ross Oliver (RO).

<table>
<thead>
<tr>
<th>ITEM</th>
<th>TOPIC / DISCUSSION</th>
<th>RESULT / ACTION</th>
<th>ACTION BY</th>
<th>DATE RAISED</th>
<th>DATE ACTIONED</th>
<th>DUE DATE</th>
<th>Comments or Reasons it unable to Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minutes for the previous meeting held on 11.10.11 were agreed. Progress on outstanding actions was reviewed.</td>
<td>Note.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Further to Item 2 in the 11.10.11 minutes, PR reported that commissioning of the eastern reinjection infrastructure has been delayed by wet weather and that, operationally, FMG will be ready to start reinjection within the eastern reinjection zone within the next two weeks.</td>
<td>Note.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Further to Item 3 in the 11.10.11 minutes, RC reported that existing RHIO bore data (water levels and quality) and location data for the three N110 monitoring bore will be forwarded to IB by 4.11.11. IB reported that the anticipated start date for reinjection within the eastern reinjection zone is mid-November 2011. He also reported that reinjection within the eastern reinjection zone is proposed to cease by November 2013. IB highlighted that the track within RHIO tenements will still be required for access to the two western FMG monitoring bores in order to collect data. RC and BL reported that this can continue to be accommodated via the protocol agreed at the 11.10.11 FMG-RHIO Water Management Working Group meeting. IB reported that the proposed FMG monitoring bores have been implemented and that initial data will be reported at the next FMG-RHIO Water Management Working Group meeting.</td>
<td>RC to forward existing RHIO bore data to IB for development of baseline. Develop individual schedules to document FMG and RHIO bores proposed for data sharing. Calculate start/finish date estimates for reinjection in the eastern injection</td>
<td>RC</td>
<td>27.9.11</td>
<td>-</td>
<td>4.11.11</td>
<td>Action carried over.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RC/IB</td>
<td>IR</td>
<td>11.10.11</td>
<td>-</td>
<td>-</td>
<td>Action ongoing</td>
</tr>
</tbody>
</table>

**Rev:** 0  **Description:** Issued for Use  **Prepared by:** Paul Ridout  **Performed by:**  **Approved By:** Ron Colman  **Date:** 04/11/11

*FMG-RHIO Meeting Minutes Template*
<table>
<thead>
<tr>
<th>Meeting</th>
<th>Area</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DB</td>
<td>6.9.11</td>
</tr>
<tr>
<td></td>
<td>RC</td>
<td>27.9.11</td>
</tr>
<tr>
<td></td>
<td>RC</td>
<td>11.0.11</td>
</tr>
<tr>
<td></td>
<td>JH</td>
<td>11.10.11</td>
</tr>
<tr>
<td></td>
<td>JH</td>
<td>11.10.11</td>
</tr>
<tr>
<td></td>
<td>JH</td>
<td>8.11.11</td>
</tr>
</tbody>
</table>

- Further to Item 5 in the 11.10.11 minutes, RC reported that the RHIO Mining Proposal (intended to cover the initial five years of RHIO operations) no longer includes detention dams as another surface water management solution is proposed. DB raised the risk this may pose to the P2 and P5 FMG site access roads. It was agreed that JH will discuss this issue with Chris Jansen (CMG) and that the P9 and P5 road design will be reviewed by RHIO’s surface water consultants to assess suitability to the management solution proposed in the RHIO Mining Proposal.

- Provide details of RHIO rail areas/zones that require water supply.
- Provide location & RL data for No-name Creek dams.
- Undertake initial assessment to No-name Creek dams.
- Discuss P2/P5 impacts with Chris Jansen, Forward P2/P5 design to RHIO for assessment by surface water consultants.

**NEXT MEETING:** – 16 NOVEMBER 2011: HPPL HOUSE
Appendix 2

Review of SCRMP by RHIO
Page intentionally left blank.
From: Ron Colman [mailto:Ron.Colman@royhill.com.au]
Sent: Monday, November 07, 2011 10:50 AM
To: Paul Ridout
Cc: Bill Lamb <bill.lamb@royhill.com.au>
Subject: RE: FMG-RHIO Water Management Working Group - draft meeting minutes

Paul,

I have reviewed the draft Management Plan and can confirm that RHIO is supportive of the document being provide to the OEPA in fulfilment of Ministerial Statement 871 Condition 10.

Regards

Ron Colman

Ron Colman
Principal Hydrogeologist | Roy Hill
Level 4, 28-42 Ventnor Ave West Perth WA 6005
P O Box Locked Bag No. 2 West Perth WA 6872
Office: +61 (0)8 6143 1500  Direct: +61 (0)8 6143 1556
Fax: +61 (0)8 6143 1600  Email: ron.colman@royhill.com.au

This email (including all attachments) may contain personal information that is intended solely for the named addressee. It is confidential and may be subject to legal or other professional privilege. Any confidentiality or privilege is not waived or lost because this email has been sent to you by mistake. Any personal information in this email must be handled in accordance with the Privacy Act 1988 (Cth). Any unauthorised use of the contents is expressly prohibited. If you have received this email in error, please let us know by reply email, delete it from your system and destroy any copies. Before opening or using attachments, check them for viruses and defects. It is the responsibility of the recipient to ensure that it is virus free and no responsibility is accepted by us for any loss or damage arising in any way from its use. Our liability is limited to re-supplying the email. This email and any attachments are also subject to copyright. No part of them may be reproduced, adapted or transmitted without the written permission of the copyright owner.