

Annexures

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- Annexure 1: Project Approval 94-4-2004**
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Annexure 1

Project Approval 94-4-2004

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Development Consent

Section 80 of the *Environmental Planning and Assessment Act 1979*

I, the Minister for Planning, approve the Development Application referred to in Schedule 1, subject to the conditions in Schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the on-going environmental management of the development.

SIGNED

Frank Sartor, MP
Minister for Planning

Sydney 28 October 2005 S03/00976

SCHEDULE 1

Development Application: DA 94-4-2004.

Applicant: Rocla Materials Pty Limited
(ABN: 30 083 169 091).

Consent Authority: Minister for Planning.

Land: Lot 2 in DP 229889,
Peats Ridge Road, Calga.

Proposed Development: Calga Sand Quarry Extension (Stage 3).

State Significant Development: The proposal is classified as State significant development under section 76A(7) of the *Environmental Planning and Assessment Act 1979*, as it meets the criteria specified in a declaration made by the Minister on 3 August 1999.



Integrated Development:

The proposal is classified as integrated development under section 91 of the *Environmental Planning and Assessment Act 1979*, as it requires additional approvals under the:

- *Water Act 1912*; and
- *Protection of the Environment Operations Act 1997*.

Designated Development:

The proposal is classified as designated development under section 77A of the *Environmental Planning and Assessment Act 1979*, as it is for an extractive industry that meets the criteria in schedule 3 of the *Environmental Planning and Assessment Regulation 2000*.

Note:

- *To find out when this development consent becomes effective, see section 83 of the Environmental Planning and Assessment Act 1979 (EP&A Act);*
 - *To find out when this development consent is liable to lapse, see section 95 of the EP&A Act; and*
 - *To find out about appeal rights, see section 97 of the EP&A Act.*
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DEFINITIONS

AEMR	Annual Environmental Management Report
Amendment Report	Report titled <i>Amendment to a Proposal Submitted as Development Application (DA 94-4-2004) for an Extension to the Calga Sand Quarry</i> , dated June 2005
Applicant	Rocla Materials Pty Limited, or its successors
BCA	Building Code of Australia
Bore	Any bore or well or excavation or other work connected or proposed to be connected with sources of sub-surface water, and used or proposed to be used or capable of being used to obtain supplies of such water whether the water flows naturally at all times or has to be raised whether wholly or at times by pumping or other artificial means
CCC	Community Consultative Committee
Council	Gosford City Council
DA	Development Application
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and public holidays
DEC	Department of Environment and Conservation
Department	Department of Planning
Director-General	Director-General of the Department of Planning, or delegate
DNR	Department of Natural Resources
DPI	Department of Primary Industries
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
Evening	The period from 6pm to 10pm
GTA	General Term of Approval
Land	Land means the whole of a lot in a current plan registered at the Land Titles Office at the date of this development consent
Minister	Minister for Infrastructure and Planning, or delegate
Night	The period from 10pm to 6am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
Privately-owned land/bore	Land/bore that is not owned by a public agency, a quarrying company or its subsidiary
RTA	Roads and Traffic Authority
Shoulder	Time interval from 6am to 7am, Monday to Saturday
Site	Land to which the DA applies
Stage 3	The quarry staging described in the Amendment Report, including the ongoing use of Stages 1 and 2



SCHEDULE 2 GENERAL ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

1. The Applicant shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.

Terms of Approval

2. The Applicant shall carry out the development in accordance with the:
 - a) DA 94-4-2004;
 - b) EIS titled *Environmental Impact Statement for the Proposed Calga Sand Quarry Extension*, dated May 2004;
 - c) Amendment Report titled *Amendment to a Proposal Submitted as Development Application (DA 94-4-2004) for an Extension to the Calga Sand Quarry*, dated June 2005; and
 - d) conditions of this development consent.
3. If there is any inconsistency between the above, the most recent document or the conditions of this consent shall prevail to the extent of the inconsistency.
4. The Applicant shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
 - a) any reports, plans or correspondence that are submitted in accordance with this development consent; and
 - b) the implementation of any actions or measures contained in these reports, plans or correspondence.

Limits on Approval

5. This consent shall lapse on 1 July 2030.

Note: Conditions of this consent may require activities to be carried out by the Applicant beyond the period of approval for extraction, processing and rehabilitation on the site.

6. This consent is granted for Stage 3 only, as described in the Amendment Report, and shown conceptually on the plan in Appendix 1.
7. The Applicant shall not transport more than 400,000 tonnes of product per year from the site.

Structural Adequacy

8. The Applicant shall ensure that any new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for any building works.
- Part 8 of the EP&A Regulation sets out the detailed requirements for the certification of development.

Demolition

9. The Applicant shall ensure that all demolition work is carried out in accordance with AS 2601-2001: *The Demolition of Structures*, or its latest version.



Protection of Public Infrastructure

10. The Applicant shall:
- a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - b) relocate, or pay the full costs associated with relocating any public infrastructure that needs to be relocated as a result of the development.

Operation of Plant and Equipment

11. The Applicant shall ensure that all plant and equipment at the site, or used in connection with the development, are:
- a) maintained in a proper and efficient condition; and
 - b) operated in a proper and efficient manner.



SCHEDULE 3

Specific environmental conditions

GENERAL EXTRACTION AND PROCESSING PROVISIONS

Identification of Boundaries

1. Prior to carrying out any development, the Applicant shall:
 - a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction;
 - b) submit a survey plan of these boundaries to the Director-General; and
 - c) ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits, to the satisfaction of the Director-General.

*Note: The limit of extraction includes the area described in the documents listed in condition **Error! Reference source not found.** of schedule 2, and shown conceptually on the plan in Appendix 1.*

NOISE

Impact Assessment Criteria

2. ¹The Applicant shall ensure that the noise generated by the development does not exceed the criteria specified in Table 1.

Table 1: Noise impact assessment criteria dB(A) L_{Aeq} (15 min)

Residential Location	Day	Evening	Night	Night ($L_{A1(1min)}$)
Gazzana (Residence 3)	41	35	35	45
King	40	35	35	45
Kashouli	39	35	35	45
Other residences	35	35	35	45

Notes:

- The noise criteria do not apply where the Applicant and the affected landowner have a valid agreement in regard to noise from the development, and a copy of the agreement has been forwarded to the Director-General and DEC. In this case the Applicant may exceed the noise limits in Table 1 in accordance with the noise agreement.
- Noise from the development is to be measured at the most affected point or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary, to determine compliance with the noise limits in the above table. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DEC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- Noise from the premises is to be measured at 1m from the dwelling façade to determine compliance with the $L_{A1(1 minute)}$ noise limit.
- The criteria above apply to noise emissions under the following weather conditions:
 - wind speed up to 3 m/s at 10m above ground level; or
 - temperature inversion conditions of up to 3°C/100m and wind speed up to 2m/s at 10m above ground level.

¹ Incorporates DEC GTA



Land Acquisition

3. If the noise generated by the development exceeds the criteria in Table 1 by more than 5 dB(A), then the Applicant shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions **Error! Reference source not found.** of schedule 4, unless there is a valid noise agreement between the Applicant and an affected landowner.

Noise Mitigation

4. Prior to carrying out any extraction, the Applicant shall construct an acoustic barrier in accordance with the quarry design in the Amendment Report (as reproduced in Appendix 1), to the satisfaction of the Director-General. The construction of the acoustic barrier must be completed within 5 working weeks.

Operating Hours

5. ²The Applicant shall comply with the operating hours in Table 2:

Table 2: Operating Hours

Activity	Day	Time
Extraction and processing	Monday – Friday	7:00am to 6:00pm
	Saturday	7:00am to 4:00pm
	Sunday and Public Holidays	Nil
Delivery and distribution	Monday – Friday	5:00am to 10:00pm
	Saturday	5:00am to 4:00pm
	Sunday and Public Holidays	Nil
Maintenance (if inaudible at neighbouring residences)	Any day	Anytime

Note: Construction activities, such as the construction of the acoustic barrier, shall only be carried out between 7:00am to 6:00pm Monday to Friday, and 8:00am to 1:00pm on Saturdays. No construction activities are to be undertaken on Sundays or Public Holidays.

6. ³The following activities may be carried out at the premises outside the hours specified in Table 2:
- a) the delivery of materials as requested by Police or other authorities for safety reasons; and
 - b) emergency work to avoid the loss of lives, property and/or to prevent environmental harm.
- In such circumstances the Applicant shall notify DEC and affected residents prior to undertaking the works, or within a reasonable period in the case of emergency.

² Incorporates DEC GTA



Noise Monitoring Program

7. Prior to carrying out any development, the Applicant shall prepare, and subsequently implement, a Noise Monitoring Program for the development, in consultation with DEC, and to the satisfaction of the Director-General. This program must include a combination of attended and unattended noise monitoring, and a noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this consent.

AIR QUALITY

Impact Assessment Criteria

8. The Applicant shall ensure that dust generated by the development does not cause additional exceedances of the criteria listed in Tables 3 to 5 at any residence on, or on more than 25 percent of, any privately-owned land.

Table 3: Long term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m ³

Table 4: Short term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³

Table 5: Long term impact assessment criteria for deposited dust

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.1-1991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

Air Quality Monitoring Program

9. ⁴Prior to carrying out any development, the Applicant shall prepare, and subsequently implement, an Air Quality Monitoring Program for the development, in consultation with DEC, and to the satisfaction of the Director-General. This program must include an air monitoring protocol for evaluating compliance with the air quality impact assessment criteria in this consent.

Note: Initially, this program should concentrate on monitoring the dust deposition impacts of the development. However, in time, it may be expanded to include other pollutants.

³ Incorporates DEC GTA

⁴ Incorporates DEC GTA



SURFACE AND GROUNDWATER

Note: The Applicant is required to obtain licences and permits for the development under the Protection of the Environment Operations Act 1997 and the Water Act 1912.

Groundwater Impact Assessment Criteria

10. The Applicant shall provide compensatory water supply, in accordance with the Groundwater Contingency Strategy and to the satisfaction of the Director-General, where the development results in a reduction of pumping yield in privately-owned groundwater bores of 10 percent or greater.

Notes:

- *If the Applicant has reached a negotiated agreement with an affected landowner in regard to groundwater, and a copy of the agreement has been forwarded to the Director-General, then the Applicant may exceed the groundwater impact assessment criteria in accordance with the negotiated agreement.*
- *The Applicant must establish the basis for determining development-related impact in the Groundwater Monitoring Program (see condition **Error! Reference source not found.**).*
- *The Applicant shall establish additional groundwater impact assessment criteria for its groundwater monitoring bores, in accordance with the Groundwater Monitoring Program, to provide advance warning of a potential exceedance of the groundwater impact assessment criteria.*

Monitoring and Management

11. Prior to carrying out any development, the Applicant shall prepare and subsequently implement a Water Management Plan for the development, in consultation with the DNR, and to the satisfaction of the Director-General. This plan must be prepared by a suitably qualified hydrogeologist/hydrologist whose appointment/s have been approved by the Director-General, and shall include:
- a) a Water Balance;
 - b) an Erosion and Sediment Control Plan;
 - c) a Surface Water Monitoring Program; and
 - d) a Groundwater Monitoring Program.
12. The Water Balance shall:
- a) include details of all water extracted (including water make), dewatered, transferred, used and/or discharged by the quarry; and
 - b) describe measures to minimise water use by the development.
13. The Erosion and Sediment Control Plan shall:
- a) be consistent with the requirements of the Department of Housing's *Managing Urban Stormwater: Soils and Construction* manual;
 - b) identify activities that could cause soil erosion and generate sediment;
 - c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
 - d) describe the location, function, and capacity of erosion and sediment control structures; and
 - e) describe what measures would be implemented to maintain the structures over time.
14. The Surface Water Monitoring Program shall include:
- a) detailed baseline data on surface water flows and quality in waterbodies that could potentially be impacted by the quarry;
 - b) surface water impact assessment criteria;
 - c) a program to monitor surface water flows and quality;
 - d) a protocol for the investigation, notification and mitigation of identified exceedances of the surface water impact assessment criteria; and
 - e) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.
15. The Groundwater Monitoring Program shall include:
- a) a program to collect detailed baseline data, based on sound statistical analysis, to benchmark the pre-quarrying natural variation in groundwater levels, yield and quality in groundwater bores within the predicted drawdown impact zone identified in the Amendment Report;



- b) groundwater impact assessment criteria for monitoring bores and privately-owned bores;
- c) a program to monitor impacts on the groundwater supply of potentially affected landowners, groundwater dependent ecosystems, and on vegetation; and
- d) a protocol for the investigation, notification and mitigation of identified exceedances of the groundwater impact assessment criteria.

Note: The Groundwater Monitoring Program shall be prepared in accordance with the recommendations of the independent groundwater assessment reports (prepared by Mackie Environmental Research Pty Ltd, dated July 2005 and December 2004, available from the Department), unless otherwise authorised by the Director-General.

Groundwater Contingency Strategy

16. Within 6 months of the date of this consent, the Applicant shall prepare a Groundwater Contingency Strategy for the development, in consultation with the DNR, and landowners within the predicted drawdown impact zone identified in the Amendment Report, and to the satisfaction of the Director-General. The strategy shall include:
 - a) the procedures that would be followed in the event of any exceedance of the groundwater impact assessment criteria, or other identified impact on groundwater; and
 - b) measures to mitigate, remediate and/or compensate any identified impacts to provide an alternative long-term supply of water to the affected landowner that is equivalent to the loss attributed to the development.

Note: The strategy shall be prepared in accordance with the procedures detailed in schedule 4, and the recommendations of the independent groundwater assessment reports (prepared by Mackie Environmental Research Pty Ltd, dated July 2005 and December 2004, available from the Department), unless otherwise authorised by the Director-General.

Annual Independent Groundwater Audit

17. Each year from the date of this consent, or as otherwise directed by the Director-General, the Applicant shall undertake an independent audit of the groundwater impacts of the development to determine compliance with the groundwater impact assessment criteria, to the satisfaction of the Director-General. The audit shall be conducted by a suitably qualified and independent hydrogeologist whose appointment has been approved by the Director-General.

Reporting

18. Each year from the date of this consent, the Applicant shall:
 - a) review, and if necessary update, the Water Management Plan; and
 - b) report the results of this review in the AEMR, including:
 - details of the review for each sub-plan;
 - the results of monitoring;
 - the results of the independent groundwater audit (including a copy of the report); and
 - details of the measures undertaken/proposed to address any identified issues.

Quarry Closure Groundwater Management Plan

19. Prior to the commencement of quarrying in Stage 3/6 or 5 years prior to the cessation of quarrying (whichever is the sooner), the Applicant shall commission a suitably qualified hydrogeologist, whose appointment has been approved by the Director-General, to assess the potential long term impacts of the final void on groundwater resources, and to develop a quarry closure and post-closure groundwater management plan. The plan shall:
 - a) be prepared in consultation with the DNR, the CCC, and landowners within the predicted drawdown impact zone identified in the Amendment Report; and



- b) include strategies, in accordance with the Groundwater Contingency Strategy, to ensure the long-term security of water supply to any landowner whose groundwater bores exceed, or are likely to exceed in the future, the groundwater impact assessment criteria, to the satisfaction of the Director-General.

METEOROLOGICAL MONITORING

20. Prior to carrying out any development, the Applicant shall establish and subsequently maintain a meteorological station in the vicinity of the development, to the satisfaction of the DEC and the Director-General. The station shall as a minimum, unless otherwise authorised by the Director-General, monitor daily rainfall and evaporation in accordance with the requirements in *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW*.

REHABILITATION AND LANDSCAPING

Rehabilitation

21. The Applicant shall progressively rehabilitate the site to the satisfaction of the Director-General, in a manner that is generally consistent with the concept final landform in the Amendment Report (as reproduced in Appendix 2). The rehabilitation of the site must include at least 1 hectare of open heathland/sedgeland in low lying and drainage areas.

Rehabilitation and Landscape Management Plan

22. Within 6 months of the date of this consent, the Applicant shall prepare and subsequently implement a Rehabilitation and Landscape Management Plan for the development in consultation with Council and DEC, and to the satisfaction of the Director-General: This plan must:
- identify the areas likely to be disturbed by the development;
 - describe in general the short, medium, and long-term measures that would be implemented to rehabilitate the site;
 - describe in detail the measures that would be implemented over the next 5 years to rehabilitate the site;
 - describe how the performance of these measures would be monitored over time;
 - set completion criteria for the rehabilitation of the site;
 - include a Vegetation Clearing Protocol, a Pest and Weed Management Plan, and a Landscape Plan; and
 - include a program to monitor the development's effects on vegetation, including threatened species and groundwater dependent ecosystems.
23. Within 4 years of providing the Rehabilitation and Landscape Management Plan to the Director-General, and every 5 years thereafter, the Applicant shall review and update the plan to the satisfaction of the Director-General.

Rehabilitation Bond

24. Within 12 months of the date of this consent, the Applicant shall lodge a rehabilitation bond for the development with the Director-General. The sum of the bond shall be calculated at \$2.50/m² for the total additional area to be disturbed in each 5 year review period, or as otherwise directed by the Director-General.

Notes:

- If the rehabilitation is completed to the satisfaction of the Director-General, the Director-General will release the rehabilitation bond.
- If the rehabilitation is not completed to the satisfaction of the Director-General, the Director-General will call in all or part of the rehabilitation bond, and arrange for the satisfactory completion of these works.



25. Within 4 years of lodging the rehabilitation bond with the Director-General, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall review, and if necessary revise, the sum of the bond to the satisfaction of the Director-General. This review must consider:
- the effects of inflation;
 - any changes to the total area of disturbance; and
 - the performance of the rehabilitation against the completion criteria of the Rehabilitation and Landscape Management Plan.

TRAFFIC AND TRANSPORT

Site Access

26. Prior to the commencement of extraction in the applicable quarry stages, the Applicant shall:
- seal the internal access road from the site entrance to the Stage 3 extraction limit for Stages 3/1 and 3/2; and
 - seal the internal access road from the site entrance to the administration area for Stages 3/3 onwards,
to the satisfaction of the Director-General.

Note: The access road and quarrying stages are as shown on Figure 3 of the Amendment Report.

27. Prior to carrying out any development, the Applicant shall provide a painted seagull arrangement to Peats Ridge Road, to improve egress for vehicles turning right from the access road, to the satisfaction of the RTA.
28. The Applicant shall ensure that the long term access road is designed to:
- accommodate heavy vehicle turning paths for the left hand turn from Peats Ridge Road into the access road, to the satisfaction of the RTA and the Director-General; and
 - provide for vehicular access to the pit floor, to the satisfaction of the DPI and the Director-General.

Parking

29. The Applicant shall provide sufficient parking on-site for all quarry-related traffic, in accordance with Council's parking codes, and to the satisfaction of the Director-General.

Road Haulage

30. The Applicant shall ensure that all loaded vehicles entering or leaving the site are covered.
31. The Applicant shall ensure that all loaded vehicles leaving the site are cleaned of materials that may fall on the road before they are allowed to leave the site.

VISUAL IMPACT

32. The Applicant shall
- implement all practicable measures to minimise the visual impacts of the development;
 - establish, re-vegetate and subsequently maintain the acoustic barrier to minimise the visual impacts of development, in accordance with the concept final landform in the Amendment Report (as reproduced in Appendix 2);
 - include a progress report on the re-vegetation and maintenance of the acoustic barrier in the AEMR, to the satisfaction of the Director General.
33. The Applicant shall take all practicable measures to prevent and/or minimise any off-site lighting impacts from the development.



34. All external lighting associated with the development shall comply with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*.

WASTE MANAGEMENT

35. The Applicant shall:
- monitor the amount of waste generated by the development;
 - investigate ways to minimise waste generated by the development;
 - implement reasonable and feasible measures to minimise waste generated by the development; and
 - report on waste management and minimisation in the AEMR.
- to the satisfaction of the Director-General.

HAZARD MANAGEMENT

Dangerous Goods

36. The Applicant shall ensure that the storage, handling, and transport of dangerous goods is conducted in accordance with the relevant Australian Standards, particularly *AS1940* and *AS1596*, and the *Dangerous Goods Code*.

Safety

37. The Applicant shall secure the development to ensure public safety to the satisfaction of the Director-General.

BUSHFIRE MANAGEMENT

38. The Applicant shall:
- ensure that the development is suitably equipped to respond to any fires on site; and
 - assist the Rural Fire Service and emergency services as much as possible if there is a fire on site.

PRODUCTION DATA

39. The Applicant shall:
- provide annual production data to the DPI using the standard form for that purpose; and
 - include a copy of this data in the AEMR.

QUARRY EXIT STRATEGY

40. At least 3 years prior to the cessation of quarrying, the Applicant shall prepare a Quarry Exit Strategy for the development, in consultation with the Council, and to the satisfaction of the Director-General. The plan must:
- define the objectives and criteria for quarry closure;
 - investigate options for the future use of the site, including any final void/s;
 - describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the development; and
 - describe how the performance of these measures would be monitored over time.



SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. If the results of monitoring required in schedule 3 identify that impacts generated by the development are greater than the relevant impact assessment criteria in schedule 3, then the Applicant shall notify the Director-General and the affected landowners and/or existing or future tenants accordingly, and provide quarterly monitoring results to each of these parties until the results show that the development is complying with the criteria in schedule 3.

INDEPENDENT REVIEW

2. If a landowner considers that the operations of the quarry are exceeding the impact assessment criteria in schedule 3, then he/she may ask the Applicant in writing for an independent review of the impacts of the development on his/her land.

If the Director-General is satisfied that an independent review is warranted, the Applicant shall within 3 months of the Director-General advising that an independent review is warranted:

- a) consult with the landowner to determine his/her concerns;
 - b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to determine whether the development is complying with the relevant criteria in schedule 3, and identify the source/s and scale of any impact on the land, and the development's contribution to this impact; and
 - c) give the Director-General and landowner a copy of the independent review.
3. If the independent review determines that the quarrying operations are complying with the relevant criteria in schedule 3, then the Applicant may discontinue the independent review with the approval of the Director-General.
 4. If the independent review determines that the quarrying operations are not complying with the relevant criteria in schedule 3, and that the quarry is primarily responsible for this non-compliance, then the Applicant shall:
 - a) take all practicable measures, in consultation with the landowner, to ensure that the development complies with the relevant criteria; and
 - b) conduct further monitoring to determine whether these measures ensure compliance; or
 - c) secure a written agreement with the landowner to allow exceedances of the relevant criteria in schedule 3; or
 - d) in the case of an exceedance of the groundwater impact assessment criteria, implement compensatory water supply measures in accordance with the Groundwater Contingency Strategy (condition **Error! Reference source not found.** of schedule 3), to the satisfaction of the Director-General.

If the additional monitoring referred to above subsequently determines that the quarrying operations are complying with the relevant criteria in schedule 3, then the Applicant may discontinue the independent review with the approval of the Director-General.

If the Applicant is unable to finalise an agreement with the landowner, then the Applicant or landowner may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 3).



If, following the Independent Dispute Resolution Process, the Director-General is satisfied that the noise generated by the development is exceeding the noise impact assessment criteria in schedule 3 by more than 5 dB(A), then the Director-General may grant land acquisition rights to the affected landowner.

5. If the landowner disputes the results of the independent review, either the Applicant or the landowner may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 3).

6. If any disputes arise from the implementation of the Groundwater Contingency Strategy (condition **Error! Reference source not found.** of schedule 3), either the Applicant or the landowner may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 3).

7. If, following an Independent Dispute Resolution Process, the Director-General is satisfied that the quarry is causing an exceedance of the groundwater impact assessment criteria, and that compensatory water supply would not provide an acceptable alternative long-term supply of water to the affected landowner that is equivalent to the loss attributed to quarrying related impacts, then the Director-General may grant land acquisition rights to the affected landowner.

LAND ACQUISITION

8. Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant shall make a binding written offer to the landowner based on:
- the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the development, having regard to the:
 - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
 - presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date;
 - the reasonable costs associated with:
 - relocating within the Gosford local government area, or to any other local government area agreed to by the Director-General; and
 - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and
 - reasonable compensation for any disturbance caused by the land acquisition process.

However, if at the end of this period, the Applicant and landowner cannot agree on the acquisition price of the land, and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.

Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer or Fellow of the Institute, to consider submissions from both parties, and determine a fair and reasonable acquisition price for the land, and/or terms upon which the land is to be acquired.

If either party disputes the independent valuer's determination, then the independent valuer should refer the matter back to the Director-General.



Upon receiving such a referral, the Director-General shall appoint a panel comprising the:

- (i) appointed independent valuer (or alternative appointed by the President of the NSW Division of the Australian Property Institute);
- (ii) Director-General and/or nominee/s; and
- (iii) President of the Law Society of NSW or nominee,

to consider submissions from both parties, including meeting with the parties individually if requested, and to determine a fair and reasonable acquisition price for the land, and/or the terms upon which the land is to be acquired.

Within 14 days of receiving the panel's determination, the Applicant shall make a written offer to purchase the land at a price not less than the panel's determination.

If the landowner refuses to accept this offer within 6 months of the date of the Applicant's offer, the Applicant's obligations to acquire the land shall cease, unless otherwise agreed by the Director-General.

9. The Applicant shall bear the costs of any valuation or survey assessment requested by the independent valuer, panel, or the Director-General and the costs of determination referred above.
10. If the Applicant and landowner agree that only part of the land shall be acquired, then the Applicant shall pay all reasonable costs associated with obtaining Council approval for any plan of subdivision, and registration of the plan at the Office of the Registrar-General.



SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING

ENVIRONMENTAL MANAGEMENT STRATEGY

1. Within 3 months of the date of this consent, the Applicant shall prepare, and subsequently implement, an Environmental Management Strategy for the development to the satisfaction of the Director-General. This strategy must:
 - a) provide the strategic context for environmental management of the development;
 - b) identify the statutory requirements that apply to the development;
 - c) describe in general how the environmental performance of the development would be monitored and managed during the development;
 - d) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - manage cumulative impacts; and
 - respond to emergencies; and
 - e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development; and
 - f) be updated within 3 months of the completion of each Independent Environmental Audit.

ENVIRONMENTAL MONITORING PROGRAM

2. Within 3 months of the date of this consent, the Applicant shall prepare an Environmental Monitoring Program for the development, to the satisfaction of the Director-General. This program must consolidate the various monitoring requirements in schedule 3 of this consent into a single document.
3. Within 3 months of the completion of each Independent Environmental Audit (see below), the Applicant shall review, and if necessary update, the Environmental Monitoring Program to the satisfaction of the Director-General.

ANNUAL REPORTING

4. Each year, following the date of this consent, the Applicant shall prepare and submit an AEMR to the Director-General and the relevant agencies. This report must:
 - a) identify the standards and performance measures that apply to the development;
 - b) describe the works carried out in the last 12 months;
 - c) describe the works that will be carried out in the next 12 months;
 - d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;
 - e) include a summary of the monitoring results for the development during the past year;



- f) include an analysis of these monitoring results against the relevant:
 - impact assessment criteria;
 - monitoring results from previous years; and
 - predictions in the EIS and Amendment Report;
- g) identify any trends in the monitoring results over the life of the development;
- h) identify any non-compliance during the previous year; and
- i) describe what actions were, or are being taken to ensure compliance.

Independent Environmental Audit

- 5. Within 3 years of the date of this consent, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
 - a) be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Director-General;
 - b) be consistent with *ISO 19011:2002 - Guidelines for Quality and/ or Environmental Systems Auditing*, or updated versions of this guideline;
 - c) assess the environmental performance of the development, and its effects on the surrounding environment;
 - d) assess whether the development is complying with the relevant standards, performance measures, and statutory requirements;
 - e) review the adequacy of the Applicant's Environmental Management Strategy and environmental management plans/protocols; and, if necessary,
 - f) recommend measures or actions to improve the environmental performance of the development, and/or the environmental management and monitoring systems.
- 6. Within 3 months of commissioning this audit, the Applicant shall submit a copy of the audit report to the Director-General, with a response to the recommendations contained in the audit report.

COMMUNITY CONSULTATIVE COMMITTEE

- 8. Within 6 months of the date of this consent, the Applicant shall establish a Community Consultative Committee to oversee the environmental performance of the development. The CCC shall:
 - a) be comprised of at least:
 - 2 representatives from the Applicant, including the person responsible for environmental management at the quarry;
 - 1 representative from Council (if available); and
 - at least 2 representatives from the local community, whose appointment has been approved by the Director-General in consultation with the Council;
 - b) be chaired by an independent chairperson, whose appointment has been endorsed by the Director-General;
 - c) meet at least twice a year; and
 - d) review and provide comment on the environmental performance of the development, including any construction or environmental management plans, monitoring results, audit reports, or complaints.
- 9. The Applicant shall, at its own expense:
 - a) ensure that 2 of its representatives attend the Committee's meetings;
 - b) provide the Committee with regular information on the environmental performance and management of the development;
 - c) provide meeting facilities for the Committee;
 - d) arrange site inspections for the Committee, if necessary;
 - e) take minutes of the Committee's meetings;
 - f) make these minutes available to the public;
 - g) respond to any advice or recommendations the Committee may have in relation to the environmental management or performance of the development; and
 - h) forward a copy of the minutes of each Committee meeting, and any responses to the Committee's recommendations to the Director-General within a month of the Committee meeting.



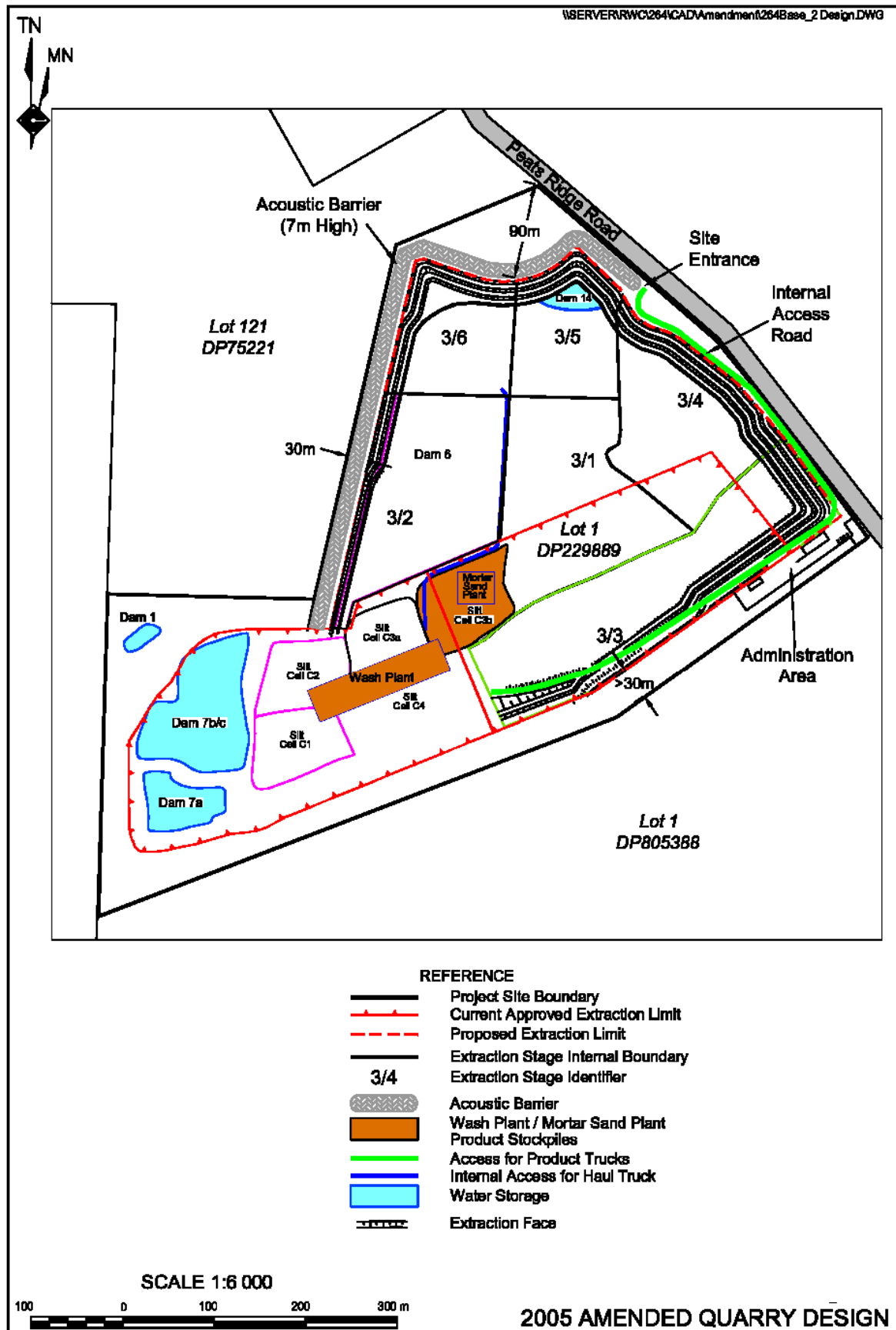
ACCESS TO INFORMATION

10. Within 1 month of the approval of any management plan/strategy or monitoring program required under this consent (or any subsequent revision of these management plans/strategies or monitoring programs), the completion of the independent audits required under this consent, or the completion of the AEMR, the Applicant shall:
- a) provide a copy of the relevant document/s to the Council, relevant agencies and the CCC;
 - b) ensure that a copy of the relevant documents is made publicly available at the quarry; and
 - c) put a copy of the relevant document/s on the Applicant's website;
to the satisfaction of the Director-General.
11. During the life of the development, the Applicant shall:
- a) make a summary of the results of all monitoring required under this consent publicly available both at the quarry and on the Applicant's website; and
 - b) update these results on a regular basis (at least every 3 months),
to the satisfaction of the Director-General.

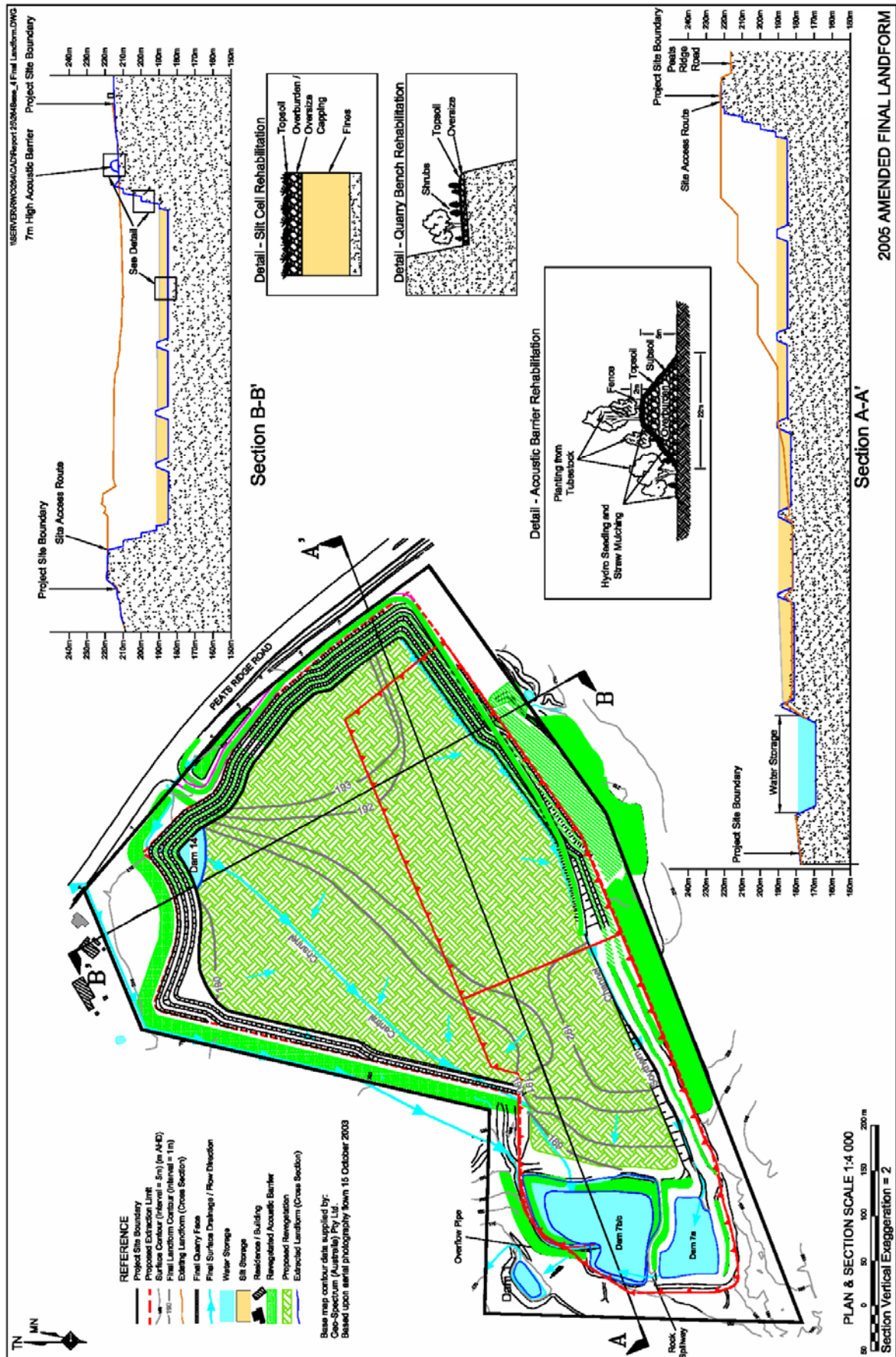
Note: The Applicant's environmental management plans/protocols should specify the reporting provisions for each environmental aspect.



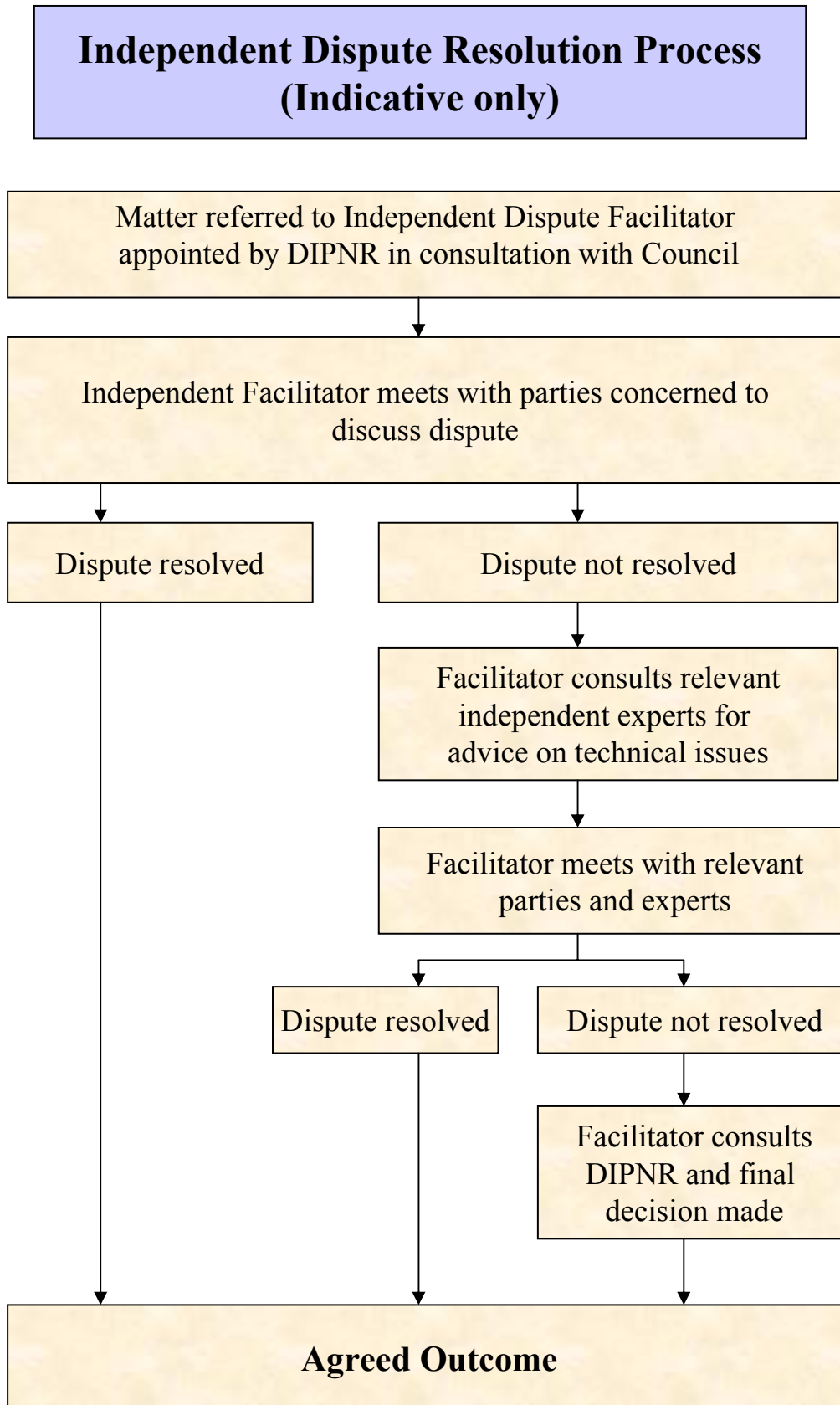
APPENDIX 1
QUARRY LAYOUT AND STAGING PLAN



APPENDIX 2
 CONCEPT FINAL LANDFORM



APPENDIX 3
INDEPENDENT DISPUTE RESOLUTION PROCESS



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Annexure 2

(No. of pages excluding this page = 8)

Annexure 2: Monitoring Results

Table A2-1:	2008 Groundwater Levels
Table A2-2:	2008 Groundwater Quality
Table A2-3:	2006 to 2008 Surface Water Monitoring Results
Table A2-4:	2008 Noise Monitoring Results
Table A2-5:	2006 to 2008 Deposited Dust Monitoring Results



Table A2-1

2008 Groundwater Levels*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CQ1	19.44	19.36	19.34	19.22	19.33	19.38	19.14	19.30	19.22	19.21	19.32	19.48
CQ2	5.02	4.57	4.95	R	R	R	R	R	R	R	R	R
CQ3	10.19	10.11	10.13	10.01	10.26	10.13	10.28	10.42	10.44	10.57	10.54	11.73
CQ4	5.68	5.52	6.19	5.29	5.75	5.51	5.85	6.28	6.24	6.57	6.81	7.17
CQ5	5.00	4.55	5.45	4.24	4.73	4.52	4.80	5.25	5.04	5.34	5.66	6.01
CQ6	10.59	11.37	10.42	10.01	11.96	11.95	12.70	11.62	11.26	12.07	13.46	11.54
CQ7	5.95	5.46	6.88	5.49	5.78	5.74	5.71	5.95	6.09	6.13	6.27	6.53
CQ8	6.00	6.51	5.87	5.23	7.26	7.29	8.05	6.87	6.70	7.22	8.79	6.80
CQ9	9.31	8.78	10.43	8.67	8.95	8.94	8.97	9.03	9.20	9.12	9.26	9.35
CQ10	22.08	21.94	21.92	22.47	21.94	22.10	21.79	22.00	21.91	21.93	22.06	22.26
CQ11S	7.08	7.09	7.85	6.59	7.07	6.82	7.09	7.80	7.53	7.89	8.22	8.71
CQ11D	8.45	8.38	9.57	8.02	8.44	8.24	8.56	9.14	8.96	9.35	9.57	10.06
CQ12	3.97	3.79	4.32	3.38	3.94	3.74	4.11	4.37	3.98	4.30	4.80	4.76
CQ13	10.90	11.10	11.36	10.64	11.13	10.86	11.18	11.64	11.51	12.09	12.18	13.04
CP3	6.17	6.92	6.02	5.17	5.71	5.73	5.78	7.04	6.25	6.69	9.75	8.00
CP4	4.95	6.64	7.77	3.44	7.39	5.73	7.77	8.24	7.93	8.80	9.04	9.74
CP5	6.29	5.25	13.62	4.94	5.30	5.11	5.45	15.54	7.80	6.46	16.90	8.07
CP6	10.82	7.99	NA	7.75	7.89	7.67	7.91	8.32	8.27	8.86	14.40	10.49
CP7	1.39	0.94	1.26	0.95	1.36	1.27	1.40	1.85	1.75	2.10	2.34	2.92
CP8	NR	NR	19.55	NR	NR	NR	NR	NR	19.26	NR	NR	NR
MW7	15.28	14.95	15.08	13.85	15.69	15.19	15.43	15.81	15.44	15.59	15.63	15.85
MW8	6.87	6.50	6.55	6.56	6.75	6.33	6.54	7.00	6.80	6.94	7.28	7.50
MW9	21.84	21.58	21.57	21.42	21.51	21.38	21.26	21.43	21.33	21.30	21.37	21.54
MW10	13.13	13.37	13.20	12.80	NA	11.99	12.19	12.21	13.02	12.63	13.09	13.43
MW13	NR	NR	NR	NR	NR	NR	7.49	7.72	7.62	7.76	7.88	8.06
MW16	NR	NR	NR	NR	NR	NR	8.05	8.34	8.25	8.38	8.53	8.73

* Recorded depth to water table from the top of the bore's collar

NR = Not recorded

R = Bore removed



Table A2-2

2008 Groundwater Quality

	pH											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CQ1	5.50	5.40	6.50	4.70	5.70	5.20	4.20	4.80	4.10	4.20	3.70	4.30
CQ2	5.20	5.00	6.00	R	R	R	R	R	R	R	R	R
CQ3	5.50	5.60	7.60	6.30	6.50	5.80	6.00	6.20	5.50	5.60	5.40	5.90
CQ4	4.90	4.90	6.30	5.40	6.20	5.40	5.00	5.30	4.50	4.50	4.30	6.80
CQ5	4.80	4.70	5.80	4.60	5.80	5.20	4.20	4.50	3.60	3.60	3.50	6.80
CQ6	4.80	4.60	6.00	4.60	5.90	5.20	4.10	4.60	3.60	3.60	3.50	4.10
CQ7	4.80	4.80	6.10	4.90	6.00	5.30	4.50	4.70	3.90	4.00	3.80	6.80
CQ8	4.80	4.50	5.40	4.90	5.90	5.20	4.20	4.60	3.70	3.40	3.60	6.80
CQ9	4.90	4.80	5.60	4.80	5.90	5.30	4.20	4.70	3.80	3.70	3.80	6.80
CQ10	5.60	4.50	5.70	4.90	5.80	5.40	4.30	4.90	4.10	4.00	4.10	4.40
CQ11S	4.70	4.60	6.10	4.70	5.90	5.20	4.40	4.70	3.90	3.90	3.70	4.30
CQ11D	4.70	4.80	7.80	6.00	6.60	5.70	5.80	6.10	5.50	5.60	5.40	5.80
CQ12	4.90	4.80	5.40	4.60	5.90	5.30	4.10	4.60	3.60	3.70	3.60	6.80
CQ13	4.60	4.50	6.60	5.30	6.10	5.40	4.90	5.30	4.70	4.70	4.60	5.10
CP3	4.70	4.70	4.80	4.30	5.20	4.90	4.40	4.70	3.90	4.10	4.00	4.40
CP4	4.50	4.50	6.30	4.90	6.10	5.30	4.70	4.90	4.10	4.20	NR	NR
CP5	4.50	4.50	5.50	4.60	6.00	5.20	4.20	4.50	3.70	3.70	3.60	4.10
CP6	4.20	4.30	5.40	4.60	5.60	5.10	4.10	4.50	3.80	3.60	3.60	4.10
CP7	4.70	4.80	7.10	5.00	6.10	5.30	4.40	4.70	4.00	4.10	4.10	4.60
CP8	NR	NR	6.00	NR	NR	NR	NR	NR	3.80	NR	NR	NR
MW7	5.00	5.00	6.40	4.80	5.80	5.33	4.30	4.60	4.10	4.00	3.90	4.40
MW8	5.00	5.00	7.00	5.10	6.00	5.30	4.50	4.80	4.20	4.20	4.00	4.50
MW9	5.40	5.10	6.60	4.80	5.80	5.20	4.40	4.60	4.20	3.90	3.90	4.30
MW10	4.90	4.90	8.50	5.00	NA	5.30	4.40	4.60	3.90	4.00	3.90	4.40
MW13	NR	NR	NR	NR	NR	NR	4.50	4.80	4.10	4.10	4.00	4.50
MW16	NR	NR	NR	NR	NR	NR	4.40	4.70	4.00	4.10	3.90	4.40

NR = Not recorded

R = Bore removed



Table A2-2 (Cont'd)

2008 Groundwater Quality

Electrical Conductivity (uS/cm)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CQ1	135	135	150	135	135	135	135	120	120	130	150	130
CQ2	70	75	70	R	R	R	R	R	R	R	R	R
CQ3	125	125	130	125	75	170	165	130	100	110	150	110
CQ4	95	95	100	95	90	90	90	80	70	80	100	90
CQ5	175	175	180	175	175	170	175	170	180	170	220	180
CQ6	135	155	270	270	265	260	260	240	240	240	300	250
CQ7	105	1405	105	100	100	100	105	90	90	80	130	110
CQ8	185	185	180	170	175	175	175	170	160	170	220	190
CQ9	110	115	125	125	125	125	120	110	110	110	150	120
CQ10	140	140	155	150	145	150	155	130	130	140	190	150
CQ11S	155	155	165	165	160	160	160	140	140	140	160	160
CQ11D	125	125	130	125	125	125	120	110	110	110	150	120
CQ12	150	150	150	145	150	155	155	140	150	130	190	160
CQ13	195	190	190	190	190	190	195	180	180	170	230	180
CP3	160	160	165	160	165	165	165	150	160	140	190	160
CP4	220	225	220	225	225	220	220	200	210	200	NR	NR
CP5	270	270	240	275	255	260	235	130	230	250	320	280
CP6	240	240	235	235	230	230	235	210	230	210	250	220
CP7	260	240	275	280	295	205	315	300	300	300	370	320
CP8	NR	NR	150	NR	NR	NR	NR	NR	130	NR	NR	NR
MW7	125	125	100	105	125	130	125	110	110	110	150	120
MW8	115	110	105	105	105	105	105	90	90	90	120	110
MW9	100	95	90	90	95	90	95	80	80	80	110	90
MW10	125	125	125	125	NA	130	130	120	110	110	130	120
MW13	NR	NR	NR	NR	NR	NR	NR	115	90	100	140	100
MW16	NR	NR	NR	NR	NR	NR	NR	120	110	110	130	120

NR = Not recorded

R = Bore removed



Table A2-3

2006 to 2008 Surface Water Monitoring Results

Date sampled	Site A (Dam 1)					B					C					D					F (Dam 7b/c)				
	Parameter																								
	pH	EC uS/cm	TDS mg/L	TSS mg/L	Oil & Grease mg/L	pH	EC uS/cm	TDS mg/L	TSS mg/L	Oil & Grease mg/L	pH	EC uS/cm	TDS mg/L	TSS mg/L	Oil & Grease mg/L	pH	EC uS/cm	TDS mg/L	TSS mg/L	Oil & Grease mg/L	pH	EC uS/cm	TDS mg/L	TSS mg/L	Oil & Grease mg/L
01/05/2006	5.70	89		<1	<5																7.66	98		2	<5
02/06/2006	5.13	98		2	<5																6.67	93		7	<5
03/07/2006	5.00	87		2	<5																5.55	84		1	<5
02/08/2006	5.35	97		<1	<5																6.32	93		2	<5
04/09/2006	5.24	95		2	<5																5.11	95		2	<5
03/10/2006	5.18	96		8	<5																6.64	96		13	<5
01/11/2006	5.24	101		4	<5																6.38	91		5	<5
01/12/2006	5.31	105		5	<5																5.44	94		4	7
03/01/2007	4.99	96		3	<5																5.58	90		9	<5
02/02/2007	5.31	98		2	<5																5.13	101		2	<5
01/03/2007	4.89	86	55	24	<5																5.34	85	70	9	<5
03/04/2007	5.11	93		2	<5																5.32	92		3	<5
10/05/2007	5.38	83		6	<5																5.78	85		8	<5
01/06/2007	5.13	91	51	5	<5																4.95	94	52	3	<5
02/07/2007	6.12	74	36	31	<5																6.40	74	35	51	<5
02/08/2007	4.87	60	25	15	<5																5.15	59	30	19	<5
04/09/2007	7.23	57	38	20	<5																7.69	56	37	26	<5
03/10/2007	6.10	57	44	5	<5																6.60	61	48	8	<5
01/11/2007	5.58	69	48	10	5																5.92	80	43	3	<5
03/12/2007	5.01	70	58	17	<5																5.83	65	68	33	<5
02/01/2008	6.31	61	50	14	<5																6.68	64	56	6	<5
18/01/2008	5.93	60		6	<5	6.10	75		6	<5											5.84	62		142	<5
31/01/2008	5.89	72	52	8	<5																5.93	73	57	7	<5
29/02/2008	6.09	68	55	11	<5																6.51	77	59	25	<5
01/04/2008	5.27	57	44	8	6																5.34	57	44	104	<5
01/05/2008	5.36	57	74	46	<5																5.70	56	89	64	<5
02/06/2008	6.79	59	47	17	<5																7.91	59	66	17	<5
02/07/2008	5.77	58	38	19	<5																6.52	58	42	10	<5
01/08/2008	7.25	62	38	11	<5	7.33	79	74	3	<5											5.82	98	54	1	<5
01/09/2008	7.37	77	40	5	<5	7.06	81	65	2	<5	6.62	110	53	<1	<5	6.27	107	65	8	<5	6.43	67	47	4	<5
02/10/2008	6.47	66	46	8	<5						6.06	112	56	<1	<5						5.97	67	49	8	<5
03/11/2008	6.01	63	44	2	<5											5.68	101	61	1	<5	5.55	65	49	5	<5
02/12/2008	6.80	57	54	2	<5						6.08	98	62	1	<5						5.60	64	59	8	<5
06/01/2009	6.61	67	46	4	<5						5.93	94	58	1	<5						5.54	66	45	3	<5

Note: Results from 18/01/2008 were wet weather samples (daily rainfall >50mm)

Results assembled by Carbon Based Environmental Pty Limited.

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2008 Noise Monitoring Results

Table A2-4.1

Attended Noise Measurement Results (Wednesday, 16 January 2008)				
Location	Time	$L_{Aeq,15min}$ due to Quarry Operations (dB(A))	Daytime Criteria $L_{Aeq,15min}$ (dB(A))	Comments
CN-4	1.55pm - 2.10pm	35	35	Peats Ridge Road heavy traffic L_{Amax} 49-51dB(A) and light traffic L_{Amax} 42-44dB(A), insects constantly audible 46-57dB(A), distant engine noise audible from quarry est. 32-36dB(A), impact noise associated with loading of truck on site L_{Amax} 44dB(A)
CN-3	2.15pm - 2.30pm	37	39	Peats Ridge Road heavy traffic L_{Amax} 53-60dB(A) and light traffic L_{Amax} 43-55dB(A), insects constantly audible 42-50dB(A), distant engine noise audible from quarry est. 36-38dB(A), impact noise associated with loading of truck on site L_{Amax} 47dB(A)
CN-1	2.40pm - 2.55pm	38	41	Peats Ridge Road heavy traffic L_{Amax} 64-73dB(A) and light traffic L_{Amax} 52-62dB(A), insects constantly audible 42-44dB(A), distant engine noise audible from quarry est. 33-48dB(A)
CN-2	3.05pm - 3.20pm	40	40	Peats Ridge Road heavy traffic L_{Amax} 52-54dB(A) and light traffic L_{Amax} 45-49dB(A), insects constantly audible 52-63dB(A), distant engine noise audible from quarry est. 37-45dB(A)
Attended Noise Measurement Results (Thursday, 6 March 2008)				
CN-4	9.05am - 9.20am	34	35	Traffic along Peats Ridge Road audible at times, est. range of SPL 46-50dB(A). Insects constantly audible 33-35dB(A), distant engine noise from quarry audible for extended period of time (approx. 10-13mins), est. range of SPL 33-35dB(A).
CN-3	9.25am - 9.40am	31	39	Traffic along Peats Ridge Road audible at times, est. range of SPL 47-55dB(A). Engine noise from quarry audible for extended period of time (approx. 10-13mins), est. range of SPL 30-32dB(A).
CN-1	9.45am - 10.00am	38	41	Traffic along Peats Ridge Road audible at times, est. range of SPL 65-75dB(A). Engine noise from quarry audible for extended period of time (approx. 10-13mins), est. range of SPL 37-39dB(A).
CN-2	10.05am - 10.20am	35	40	Traffic along Peats Ridge Road audible at times, est. range of SPL 55-65dB(A). Engine noise from quarry audible for extended period of time (approx. 10-13mins), est. range of SPL 34-36dB(A).



Table A2-4.1 (Cont'd)

Attended Noise Measurement Results (Thursday, 19 June 2008)				
Location	Time	L_{Aeq,15min} due to Quarry Operations (dB(A))	Daytime Criteria L_{Aeq,15min} (dB(A))	Comments
CN-1	9.40am – 9.55am	42	41	Typical traffic on Peats Ridge Road 55-64dB(A), heavy traffic on Peats Ridge Road 66-70dB(A). Excavator engine noise from quarry audible for extended period of time (approx. 7mins) est. 45-46dB(A).
CN-3	10.00am – 10.15am	34	39	Typical traffic on Peats Ridge Road 48-51dB(A), heavy traffic on Peats Ridge Road 53-63dB(A). Constant excavator engine noise from quarry audible during lull in traffic est. 32-36dB(A).
CN-4	10.20am – 10.35am	36	35	Typical traffic on Peats Ridge Road 40-43dB(A), heavy traffic on Peats Ridge Road 44-46dB(A). Constant engine noise from quarry audible during lull in traffic est. 35-41dB(A).
CN-2	10.50am – 11.05am	35	40	Typical traffic on Peats Ridge Road 51-53dB(A), heavy traffic on Peats Ridge Road 54-62dB(A). Constant excavator engine noise from quarry audible during lull in traffic est. 30-36dB(A).



Table A2-4.2

Unattended Noise Measurement Results (16-27 September 2008)				
Recorded $L_{Aeq,15min}$				
Location	Day	Evening	Night Time	Comments
CN-1	50-55	50-55	55-65	The measurements during this survey indicate that the noise conditions are complied with at the Gazzana Residence. Noise levels likely affected by extraneous noises such as traffic passing on Peats Ridge Road as well as natural noises associated with birds, trees, insects and frogs. Local farming activities might also have contributed to the captured noise levels. Quarry activities were noted to be barely audible by the Wilkinson Murray representative during both site visits.
CN-3	45-55	45-50	50-65	The measurements during this survey indicate that the noise conditions are complied with at the Kashouli Residence. Measurement results during day, evening and night time periods were affected by extraneous noises associated with the natural environment surrounding the receiver and traffic on Peats Ridge Road.
CN-4	40-65	60-65	40-55	The measurements during this survey indicate that the noise conditions are complied with at the Townsend Residence.
CN-2	45-55	40-45	50-60	Measurements during this survey indicate that the noise conditions are complied with at the King Residence. Measurement results during day, evening and night time periods were affected by extraneous noises associated with the natural environment surrounding the receiver and traffic on Peats Ridge Road.



Table A2-5
2006 to 2008 Deposited Dust Monitoring Results

Month	CD1	CD2a	CD2b	CD3	CD4	CD5	CD6
Nov-05		0.8		0.5			
Dec-05		0.8		0.5			
Jan-06		0.8		0.5			
Feb-06		1.6		0.5			
Mar-06		4.0		0.4			
Apr-06		4.3		0.5			
May-06	1.2	6.9		0.4			
Jun-06	1.2	5.0		0.2			
Jul-06	0.7	C		1.1			
Aug-06	1.6		1.0	0.5			
Sep-06	0.9		0.3	0.9			
Oct-06	2.3		1.2	0.8	0.7		
Nov-06	3.3		1.1	1.7	1.6		
Dec-06	2.0		3.9	3.2	1.6	2.5	2.2
Jan-07	0.8		0.9	0.6	C	C	C
Feb-07	1.9		1.3	1.2	1.2	0.8	1.0
Mar-07	1.8		1.8	1.6	1.2	1.1	0.7
Apr-07	0.5		1.1	0.4	0.7	0.6	C
May-07	0.9		0.6	0.4	0.8	1.6	3.0
Jun-07	1.0		1.6	0.4	0.2	0.3	0.1
Jul-07	1.0		1.5	0.6	0.8	0.5	1.0
Aug-07	1.3		1.8	0.9	0.9	0.6	0.9
Sep-07	0.6		0.9	0.5	3.3	1.0	0.9
Oct-07	2.1		4.8	1.3	1.6	1.4	1.4
Nov-07	2.6		2.5	1.1	0.9	0.9	1.2
Dec-07	0.4		1.2	1.4	1.1	1.0	1.4
Jan-08	1.4		0.4	0.5	0.6	2.9	0.4
Feb-08	0.9		1.0	1.2	0.7	0.5	0.8
Mar-08	0.9		2.0	0.5	0.4	0.3	0.4
Apr-08	0.6		1.8	0.4	0.3	0.4	0.3
May-08	0.6		0.5	0.3	1.2	0.2	0.5
Jun-08	1.4		1.2	0.4	1.7	C	1.1
Jul-08	0.8		0.9	0.2	1.1	0.5	1.4
Aug-08	0.7		2.2	0.3	0.4	0.2	3.0
Sep-08	0.5		C	0.6	0.5	0.4	2.3
Oct-08	1.0		C	1.3	0.8	0.9	0.9
Nov-08	1.4		2.3	0.8	1.0	0.6	0.8
Dec-08	1.5		4.0	0.6	1.1	C	0.7

C = Contaminated.

Results assembled by Carbon Based Environmental Pty Limited.



Annexure 3

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Annexure 3: Independent Groundwater Audit



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