Holcim (Australia) Pty Limited

Lynwood Quarry
Surface Water Monitoring Program
Revision 2

June 2011

Umwelt
Environmental Consultants

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Surface Water Monitoring Program
Revision 2

Prepared by

Umwelt (Australia) Pty Limited

on behalf of

Holcim (Australia) Pty Limited

Project Director:	John Merrell		
Project Manager:	Brendan Rice		
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Umwelt
Environmental Consultants

2/20 The Boulevarde
PO Box 838
Toronto NSW 2283

Ph: 02 4950 5322
Fax: 02 4950 5737
Email: mail@umwelt.com.au
Website: www.umwelt.com.au

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1.0 Scope

This Surface Water Monitoring Program outlines the surface water monitoring required to be undertaken by Holcim (Australia) Pty Limited (Holcim), to ensure compliance with statutory requirements at Lynwood Quarry. The program addresses the requirements contained in the Lynwood Quarry Development Consent (DA-128-5-2005) and the Lynwood Quarry Environment Protection Licence (EPL no. 12939).

The Surface Water Monitoring Program is included as part of the Water Management Plan for Lynwood Quarry, in accordance with *Part c* of Condition 20, Schedule 3 of the Lynwood Quarry Development Consent. This is the second revision of the monitoring program. Revision one of the Surface Water Monitoring Program was prepared in consultation with the Department of Planning and Infrastructure (DP&I), NSW Office of Water (NOW), NSW Office of Environment and Heritage (OEH) and the Sydney Catchment Authority, and was approved by the Director-General on 31 August 2007. This Revision 2 of the program has been prepared following the granting of approval in March 2011 for the modifications to the project.

Condition 23, Schedule 3 of the Development Consent specifies the requirements for the Surface Water Monitoring Program. These requirements are summarised in **Table 1.1** below.

Table 1.1 - Development Consent 128-5-2005 - Surface Water Monitoring Requirements

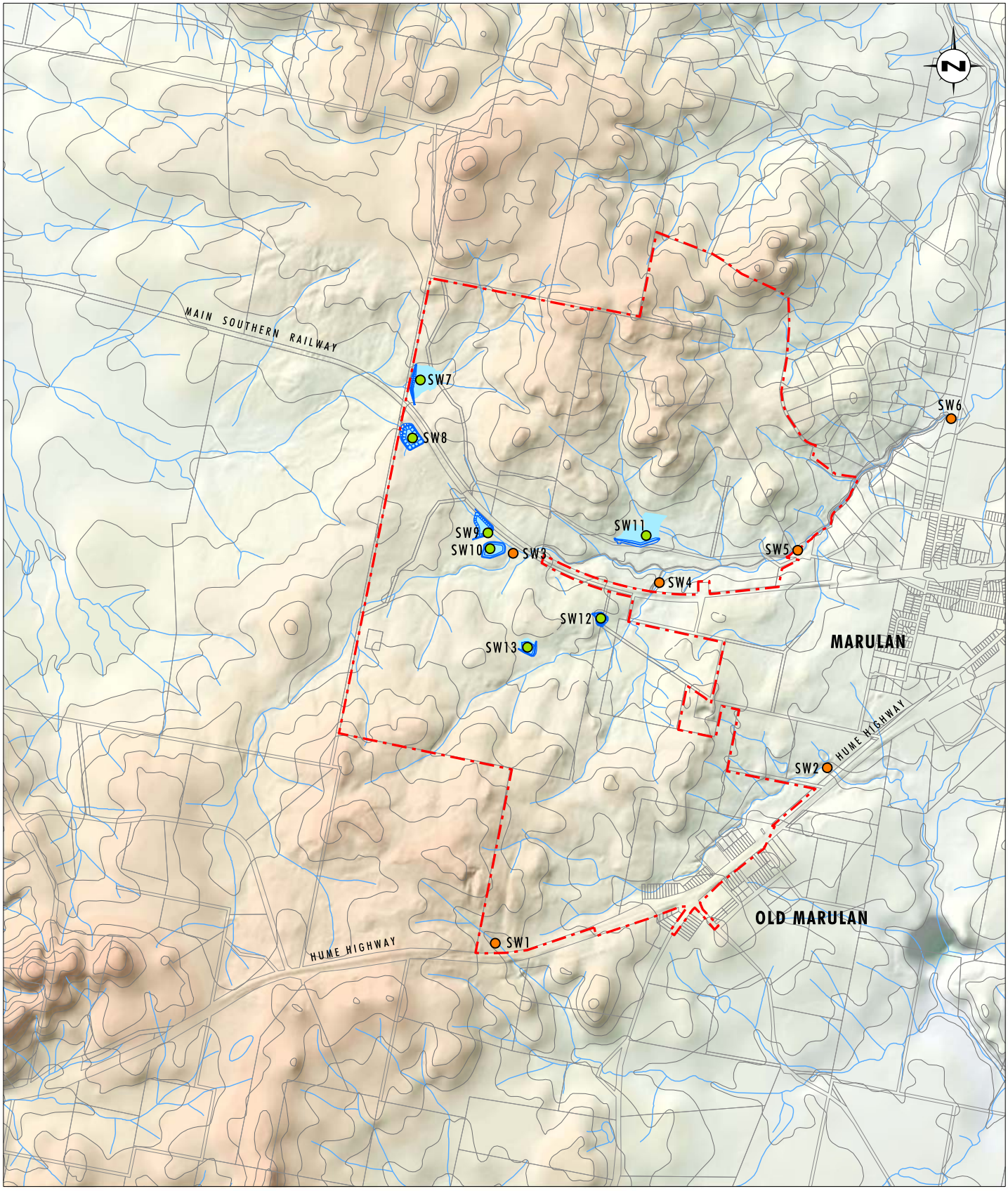
Condition	Requirements	Relevant Section of Program
23.	The Surface Water Monitoring Program shall include:	
23. a)	detailed baseline data on surface water flows and quality in Joarimin Creek, Lockyersleigh Creek, and Marulan Creek;	**Section 2.0**
23. b)	surface water impact assessment criteria;	**Section 3.0**
23. c)	a program to monitor surface water flows and quality;	**Section 4.0**
23. d)	a protocol for the investigation of identified exceedances of the surface water impact assessment criteria; and	**Section 5.0**
23. e)	a program to monitor the effectiveness of the Erosion and Sediment Control Plan.	**Section 6.0**

Note: The surface water monitoring program must be consistent with the current version of Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales (DEC).

This Program has also been prepared to satisfy the surface water monitoring requirements of the Lynwood Quarry EPL.

2.0 Baseline Data

A surface water quality monitoring program was established in the project area in July 2004 to provide baseline surface water data. Surface water quality has been monitored since this time at four locations on Joarimin Creek (SW3 to SW6) and two locations on Marulan Creek (SW1 and SW2) (refer to **Figure 2.1**). Surface water quality has been monitored at one location on Lockyersleigh Creek (SW7) since February 2005 (refer to **Figure 2.1**).



Base Source: LPI 2004

0 0.5 1 1.5km
1:36 000

Legend

- Project Area
- Surface Water Monitoring Location
- Site Water Management Dams
  Surface Water Monitoring Locations (when constructed)

FIGURE 2.1

Surface Water Monitoring Locations

Construction of Lynwood Quarry commenced during November 2010. Only surface water monitoring data prior to November 2010 has analysed as baseline data for the operations in this monitoring program. Baseline monitoring at SW7 discussed in this report is prior to the construction of Sediment Dam F at this location.

The surface water locations have been monitored monthly for:

- flow (by way of observation as streams are ephemeral);
- pH;
- electrical conductivity;
- Total Dissolved Solids (TDS);
- chloride (Cl);
- iron (Fe);
- manganese (Mn);
- arsenic (As);
- nitrite;
- nitrate;
- total phosphorous;
- oxidised nitrogen;
- Total Kjeldahl Nitrogen (TKN); and
- Benzene, Toluene, Ethylbenzene, and Xylene (BTEX).

Consent Condition 23 a) requires that detailed baseline data on surface water flows and quality in Joarimin Creek, Lockyersleigh Creek and Marulan Creek be detailed in this Program. The results of the monitoring program are summarised below. Graphs of key water quality parameters are shown in **Appendix A**.

Joarimin Creek (monitoring sites SW3 to SW6) is ephemeral and the number of water quality samples collected has therefore varied over time. The water quality records for upstream sites are intermittent, as regular flows have not occurred at these locations during the monitoring period. A more complete record of water quality is available at the downstream monitoring points (SW5 and SW6), where ponds of water have remained during dry periods. The ranges for key water quality parameters for Joarimin creek from July 2004 to November 2010 are outlined in **Tables 2.1** to **2.4**.

Table 2.1 - Joarimin Creek - pH

	SW3	SW4	SW5	SW6	Combined
Minimum	6.1	5.6	5.8	6.2	5.6
80th Percentile	6.76	6.5	6.8	7.1	7
Maximum	7.3	6.7	7.3	9.7	9.7

Table 2.2 - Joarimin Creek - Electrical Conductivity (µS/cm)

	SW3	SW4	SW5	SW6	Combined
Minimum	189	254	235	248	189
80th Percentile	830	743	732	1197	954
Maximum	1085	1135	1362	3255	3255

Table 2.3 - Joarimin Creek - Total Nitrogen (mg/L)

	SW3	SW4	SW5	SW6	Combined
Minimum	0.98	0.52	0.75	0.41	0.41
80th Percentile	2.24	1.20	1.98	1.00	1.40
Maximum	2.80	2.30	3.40	1.90	3.40

Table 2.4 - Joarimin Creek - Total Phosphorus (mg/L)

	SW3	SW4	SW5	SW6	Combined
Minimum	0.04	0.03	0.03	0.01	0.01
80th Percentile	0.27	0.11	0.17	0.06	0.12
Maximum	0.48	0.23	0.30	0.20	0.48

Only four sets of water quality sampling results are available from Lockyersleigh Creek, as the Creek has been dry during all other sampling times. The results of the sampling undertaken in February 2005, March 2007, November 2007 and February 2008 are displayed in **Tables 2.5** to **2.8**.

Table 2.5 - Lockyersleigh Creek – pH

	SW7
Minimum	6.4
80th Percentile	7.4
Maximum	7.7

Table 2.6 - Lockyersleigh Creek - Electrical Conductivity (µS/cm)

	SW7
Minimum	529
80th Percentile	3789
Maximum	3922

Table 2.7 - Lockyersleigh Creek - Total Nitrogen (mg/L)

	SW7
Minimum	1.80
80th Percentile	2.90
Maximum	3.20

Table 2.8 - Lockyersleigh Creek - Total Phosphorus (mg/L)

	SW7
Minimum	0.11
80th Percentile	0.22
Maximum	0.25

Marulan Creek is also ephemeral at the two monitoring locations (SW1 and SW2), as a result, sampling has also been intermittent. The ranges for the key water quality variables for Marulan Creek from July 2004 to November 2010 are shown in **Tables 2.9** to **2.12**.

Table 2.9 - Marulan Creek – pH

	SW1	SW2	Combined
Minimum	5.4	5.7	5.4
80th Percentile	6.86	6.72	6.78
Maximum	7.1	7.5	7.5

Table 2.10 - Marulan Creek - Electrical Conductivity (µS/cm)

	SW1	SW2	Combined
Minimum	202	89	89
80th Percentile	807	214	625
Maximum	1003	351	1003

Table 2.11 - Marulan Creek - Total Nitrogen (mg/L)

	SW1	SW2	Combined
Minimum	0.58	0.73	0.58
80th Percentile	6.80	1.60	1.48
Maximum	2.00	2.00	2.00

Table 2.12- Marulan Creek - Total Phosphorus (mg/L)

	SW1	SW2	Combined
Minimum	0.02	0.03	0.02
80th Percentile	0.07	0.16	0.14
Maximum	0.20	0.32	0.32

The Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) (ANZECC Guidelines) define a number of default trigger values for physical and chemical stressors. The trigger values for upland rivers in slightly disturbed ecosystems in south-east Australia are outlined in **Table 2.13**.

Table 2.13 - ANZECC Trigger Values for Key Water Quality Parameters

Water Quality Parameter	Trigger value			
	NSW Upland Rivers		NSW Lowland Rivers	
Total Nitrogen (mg/L)	0.25		0.50	
Total Phosphorus (mg/L)	0.02		0.05	
pH	Lower limit	Upper Limit	Lower limit	Upper Limit
	6.5	7.5	6.5	8.5
Conductivity (µS/cm)	30 - 350		125 - 2200	

Source: ANZECC (2000): Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

Comparison of the baseline monitoring results to the ANZECC trigger values contained in **Table 2.13** indicates that the existing water quality in the project area exceeds the trigger values for the majority of water quality parameters, indicating that these values are not suitable for use as impact assessment criteria for the project (refer to **Section 3.0**). The key findings of the comparison to the ANZECC trigger values are outlined below.

The ANZECC trigger value for Total Nitrogen was exceeded at all monitoring sites within Marulan, Joarimin and Lockersleigh Creeks for all the samples taken over the baseline sampling period. The average level of Total Nitrogen across the three creeks for the sampling period was 1.2 mg/L, which is nearly five times the ANZECC trigger value of 0.25 mg/L.

Total Phosphorous levels in all creeks exceeded the ANZECC trigger value. In Joarimin Creek 25 of 97 samples exceeded the ANZECC trigger value, in Lockersleigh Creek 3 of 4 samples exceeded the ANZECC trigger value and 13 of 29 samples exceeded the ANZECC trigger value in Marulan Creek. The average level of phosphorous across the three creeks for the total sampling period was 0.026 mg/L, which is 30 percent higher than the ANZECC trigger value of 0.02 mg/L.

pH across the creeks generally ranged from 6.5 to 7.7, generally complying with the ANZECC trigger value, except for one sample taken from SW6 (Joarimin Creek) in September 2004, which was alkaline with a pH of 9.7,and 42 samples from Joarimin Creek and 15 samples from Marulan Creek, which were below the ANZECC minimum pH of 6.5.

Conductivity exceeded the ANZECC trigger value in 138 out of 189 samples taken. All three creeks recorded exceedances of the ANZECC trigger value (refer to **Appendix A**).

3.0 Surface Water Impact Assessment Criteria

Discharge water quality limits for Total Suspended Solids (TSS), pH and oil and grease are specified in the Lynwood Quarry development consent in Condition 17 of Schedule 3.

The other key surface water parameters to be measured include Electrical Conductivity (EC), Total Nitrogen (TN) and Total Phosphorous (TP). As discussed in **Section 2.0**, background water quality in the project area exceeds ANZECC default trigger values for upland rivers in

NSW and therefore ANZECC default trigger values for upland rivers in NSW cannot be used to provide impact assessment criteria. Where sufficient baseline data has been collected trigger values have been calculated as the 80th percentile of the background values in accordance with the ANZECC Guidelines (ANZECC, 2000). Where sufficient baseline data has not been collected the default trigger values for lowland rivers in NSW have been selected. Trigger values have only been selected for surface water monitoring locations downstream of the site (i.e. SW2, SW5 and SW6) and for site water management system dams (for example, SW7).

These limits will be the impact assessment criteria trigger values for the project surface water monitoring program and are specified in **Table 3.1**. Although trigger values are not listed for SW1, SW3 and SW4 it should be noted that surface water quality results from these locations will be used if further analysis or investigations into surface water quality is required, for example if the trigger values in **Table 3.1** are exceeded.

Table 3.1 - Trigger Values for Key Water Quality Parameters

Water Quality Variable	Trigger Value			
	SW2	SW5	SW6	Site Water Mgt System[2]
pH	6.5 to 7.5	6.8	7.1	6.5 to 7.5
Electrical Conductivity	2200 µS/cm	732 µS/cm	1197 µS/cm	2200 µS/cm
Oil and Grease[1]	10 mg/L or none visible	10 mg/L or none visible	10 mg/L or none visible	10 mg/L or none visible
Total Suspended Solids[1]	50 mg/L	50 mg/L	50 mg/L	50 mg/L
Total Nitrogen[2]	2.1 mg/L	2.0 mg/L	1.0 mg/L	2.1 mg/L
Total Phosphorus[2]	0.21 mg/L	0.17 mg/L	0.06 mg/L	0.21 mg/L

Note 1: Specified in DA-128-5-2005, Schedule 3, Condition 17

Note 2: SW7 to SW13

It should also be noted that in determining the trigger values for SW6 on Joarimin Creek one sample result has been discarded as this result is considered to be anomalous with the other water quality sample results at SW6 (refer to **Appendix A**). This sample was a reading for EC of 9341 µS/cm recorded on 5 October 2006. This approach, i.e. discarding this sample result when determining trigger values, is a conservative approach and as such will result in a slightly lower trigger value being selected for SW6.

Where the impact assessment criteria trigger values are exceeded, the Environmental Officer will undertake an investigation to identify the cause of the exceedance as discussed in **Section 5.0**. The investigation findings will be reported in the Annual Environmental Management Report (AEMR) for the project.

Should an investigation be required it will be undertaken by the Environmental Officer as discussed in **Section 5.0**. If required, corrective action will be undertaken in accordance with **Section 8.2**.

4.0 Program to Monitor Surface Water Flows and Quality

Surface water monitoring will continue throughout the construction and operational phases of the project at seven monitoring sites (SW1 to SW6) across Joarimin and Marulan Creeks (refer to **Figure 2.1**). In addition, water quality monitoring will be undertaken from site water management dams prior any discharges undertaken in accordance with the EPL and development consent conditions to demonstrate compliance with discharge water quality limits. Monitoring points associated with site water management system dams are shown on **Figure 2.1** as sites SW7 to SW14. Monitoring of water quality in site dams may be undertaken at other times for site environmental management purposes.

Monthly surface water sampling at sites SW1 to SW6 will consist of:

- pH;
- Total Suspended Solids (TSS);
- Oil and Grease (mg/L);
- Electrical conductivity (µS/cm);
- Total Phosphorus (mg/L);
- Total Nitrogen (mg/L); and
- Flow (by way of observation as streams are ephemeral).

A monthly review of water quality data will be undertaken and will include consideration of flow and rainfall data.

Where an active discharge from a site dam is required, monitoring of water quality will be undertaken prior to discharge and then once every 24 hours during the discharge event. Parameters to be monitored will include:

- pH;
- Total Suspended Solids (TSS);
- Oil and Grease (mg/L);
- Electrical conductivity (µS/cm);
- Total Phosphorus (mg/L); and
- Total Nitrogen (mg/L).

Faecal coliforms will be measured monthly at dams capturing runoff from any areas used for recycled water application.

Monitoring of Total Phosphorus and Total Nitrogen will be undertaken during the construction phase and for the first two years of quarry operations, to establish if any trends associated with the Lynwood Quarry are discernable. If it is identified during this period that the quarry is not impacting on levels of Total Phosphorus and Total Nitrogen, monitoring of these

parameters may be discontinued. If monitoring of these parameters is proposed to be discontinued, the Sydney Catchment Authority, OEH and DP&I will be consulted during the revision of the monitoring program. Any revisions to the monitoring program will also be discussed in the AEMR.

5.0 Investigation Protocol

Upon identification of any surface water quality results that exceed the water quality triggers (refer to **Section 3.0**), the monitoring results for that monitoring period will be compared to the baseline data and previous monthly data to identify any trends in water quality results. Where an adverse trend is identified, an investigation will be undertaken to determine if operations at Lynwood Quarry were the cause of this exceedance. The investigation will include an analysis of the following variables to identify potential causes of adverse trends

- climate (including rainfall);
- changes to project operations (e.g. quarrying areas, equipment etc.); and
- changes in geology of the area being quarried.

The investigation will be undertaken by the Environmental Officer or their appointed representative, with the findings to be reported in the Annual Environmental Management Report.

Remedial action will be required if, following the investigation, it is found that the monitoring results indicate that the performance indicator levels are not being achieved due to failure or ineffectiveness of the site environmental management strategies. If required, corrective action will be undertaken in accordance with **Section 8.2**.

6.0 Program to Monitor the Effectiveness of the Erosion and Sediment Control Plan

Sediment Dams used during the construction phase of the project will be monitored and inspected after storm events, to ensure that they are operating in accordance with design principles.

Once operational, water storage and sediment dams will be monitored on a regular basis to ensure that collected sediment does not exceed 30% of the design capacity. This will ensure that sufficient capacity is maintained to appropriately treat any runoff during rainfall events. The dam spillways will also be regularly inspected to ensure that they are stable and will operate in accordance with design principles.

The sediment dams on site have been designed to ensure that any overflows during rainfall events within their design criteria have TSS < 50mg/L. The design criteria for the sediment dams are:

- Sediment Dams A, B and F – 90th percentile rainfall 5 day rainfall event for Goulburn; and
- Sediment Dams C, D and E – 20 year Average Recurrence Interval (ARI) critical duration storm event.

All other operational erosion and sediment controls, including diversion and catch drains, will be subject to regular inspections, to ensure that they are operating in accordance with design principles.

7.0 Monitoring Standards

Surface water monitoring at Lynwood Quarry will be undertaken in accordance with relevant Australian Standards, legislation and the OEH approved methods for sampling. The Australian Standards and the OEH approved methods relevant to the Surface Water Monitoring Program are listed below:

- NSW DEC, 2004, Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales.
- AS/NZS 5667.1:1998 Water Quality – Sampling – Guidance on the Design of Sampling Programs, Sampling Techniques, and the Preservation and Handling of Samples.
- AS/NZS 5667.10:1998 Water Quality – Sampling – Guidance on Sampling of Waste Waters.

8.0 Reporting and Review of Results

Monitoring results will be reviewed on a quarterly basis by the Lynwood Quarry Environmental Officer to assess compliance with limits outlined in **Section 2.0**. Should any exceedances of the limits be identified the Environmental Officer will report the exceedance to the DP&I, OEH and any other relevant agencies within seven days. Monitoring results will also be reported as required in the Annual Environmental Management Report (AEMR) and, as required, in the EPL Annual Return.

All surface water monitoring results will be made publicly available on the Lynwood Quarry website in accordance with Schedule 5, Condition 12 of the Development Consent. Holcim will update these results on a quarterly basis.

8.1 Complaints Response

In accordance with the Environmental Management Strategy, the Environmental Officer will maintain a centralised location to record communication records with relevant external stakeholders.

As described in the Environmental Management Strategy, Lynwood Quarry will utilise a Community Contact Line, which will be maintained and advertised regularly for the duration of the project. Complaints including those related to surface water will be recorded and investigated by the Environmental Officer. All other complaints, via letter, in person or by fax, will also be recorded and investigated by the Environmental Officer. The Environmental Officer will ensure that complaints are responded to in a timely and efficient manner.

Follow up correspondence with the complainant will be made explaining the outcome of complaint investigations.

8.2 Corrective Action

Table 8.1 summarises the potential surface water related issues that may arise and the appropriate corrective action to be taken.

Table 8.1 - Corrective Actions

Problem	Corrective Action
Exceedance of Development Consent conditions for surface water criteria	Investigation of exceedance, undertaking mitigating measures where applicable. Report exceedance to DP&I, OEH and senior management, as required.
Community complaints	Investigation of complaint, undertaking mitigating measures where applicable and provide feedback to complainant. Report complaint to senior management. Provide feedback to quarry planning and production personnel, where relevant.

9.0 Responsibility

The Lynwood Quarry Environmental Officer will be responsible for managing the Surface Water Monitoring Program. This duty includes assessing Lynwood Quarry's compliance with the conditions listed in the Development Consent and EPL.

If a contractor is engaged to undertake surface water monitoring on behalf of Holcim, all monitoring undertaken by the contractor must be in accordance with this Surface Water Monitoring Program and all relevant monitoring standards (as outlined in **Section 7.0**).

10.0 Program Review

The Environmental Officer shall review this program annually or more often as the need arises, including review of monitoring locations and parameters. If any significant changes to the program are required as an outcome of the review, the OEH and NOW will be consulted and the revised program submitted to the DP&I.

11.0 References

Australian and New Zealand Environment and Conservation Council (ANZECC). Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 2000.

NSW DEC, 2004. Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales.

AS/NZS 5667.1:1998 Water Quality – Sampling – Guidance on the Design of Sampling Programs, Sampling Techniques, and the Preservation and Handling of Samples.

AS/NZS 5667.10:1998 Water Quality – Sampling – Guidance on Sampling of Waste Waters.

APPENDIX A

Results of Monitoring Program

Monitoring Location SW1

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
1-Jul-04	SW1																								
3-Sep-04	SW1																								
8-Oct-04	SW1		49	230	1	0.71	0.6	<0.01	0.02	0.02	0.02	1	1	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	1003	580
2-Nov-04	SW1	Very slow water flow.	51	230	1	4.1	0.92	<0.01	<0.01	<0.01	0.03	0.87	0.88	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	849	630
30-Nov-04	SW1	Dry																							
6-Jan-05	SW1	Dry																							
2-Feb-05	SW1		33	44	<1	0.49	0.08	<0.01	0.03	0.03	0.03	1.1	1.1	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.6	322	270
2-Mar-05	SW1	Dry																							
8-Apr-05	SW1	Dry																							
5-May-05	SW1	Dry																							
2-Jun-05	SW1	Dry																							
6-Jul-05	SW1		35	180	<1	0.18	0.05	<0.01	<0.01	<0.01	0.02	0.57	0.58	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7	245	320
3-Aug-05	SW1		60	14	<1	0.36	0.04	<0.01	0.03	0.03	<0.01	0.78	0.81	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	294	210
8-Sep-05	SW1	Dry																							
13-Oct-05	SW1	Dry																							
2-Nov-05	SW1	Dry																							
1-Dec-05	SW1		44	31	<1	0.45	0.02	<0.01	0.04	0.04	<0.01	1.1	1.1	0.04	<25	<25	150	<100	<1.0	<1.0	<1.0	<2.0	6.6	452	220
5-Jan-06	SW1	Dry																							
2-Feb-06	SW1	Dry																							
2-Mar-06	SW1	Dry																							
8-Jun-06	SW1		39	470	1	3.2	1.9	<0.01	0.02	0.02	0.01	1.6	1.6	0.12	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	5.4	920	750
3-Aug-06	SW1		41	150	<1	0.24	0.094	<0.01	0.01	0.01	0.02	0.59	0.6	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	609	410
7-Sep-06	SW1		50	170	1	1.6	0.35	<0.01	0.03	0.03	0.02	0.73	0.76	0.07	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.6	755	520
2-Mar-07	SW1		16	50	0	0.6	0.08	<0.01	0.02	0.02	0.03	1.1	1.1	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.1	543	260
13-Apr-07	SW1		35	85	2	5.2	0.92	<0.01	0.01	0.01	0.03	1.4	1.4	0.2	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	820	580

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
9-Jul-07	SW1		61	14	<1	0.36	0.027	<0.01	0.04	0.04	<0.01	0.7	0.73	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.1	291	210
8-Nov-07	SW1		60	5.2	<1	0.35	0.066	<0.01	<0.01	<0.01	0.03	1.2	1.2	0.07	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	5.7	256	230
7-Feb-08	SW1		18	120	<1	0.52	0.066	<0.01	<0.01	<0.01	0.02	0.7	0.67	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	676	460
30-Jul-09	SW1		30	110	<1	0.19	0.56	<0.01	0.02	0.02	0.04	0.9	0.94	0.07	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.1	629	380
8-Jan-10	SW1		35	1.1	2	0.38	0.68	<0.01	<0.01	<0.01	0.01	2	2	0.09	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	5.9	202	220
19-Jul-10	SW1		42	53	<1	0.31	0.019	<0.01	0.01	0.01	0.02	0.6	0.58	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	404	250
15-Dec-10	SW1	Low	0	0	0	0	0	0	0	0	0	0	1.3	0.06	0	0	0	0	0	0	0	0	6.6	510	0
12-Jan-11	SW1	Low	0	0	0	0	0	0	0	0	0	0	1.2	0.04	0	0	0	0	0	0	0	0	6	282	0
10-Feb-11	SW1	Low	0	0	0	0	0	0	0	0	0	0	1.9	0.23	0	0	0	0	0	0	0	0	5.8	184	0

Monitoring Location SW2

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
1-Jul-04	SW2																								
3-Sep-04	SW2																								
8-Oct-04	SW2		13	16	6	1	0.17	<0.01	0.02	0.02	0.03	2	2	0.19	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	136	180
2-Nov-04	SW2	Very little flow.	15	22	3	1	0.15	<0.01	0.02	0.02	0.03	1.3	1.3	0.09	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.8	228	200
30-Nov-04	SW2	Dry																							
6-Jan-05	SW2	Dry																							
2-Feb-05	SW2		12	9.4	1	0.76	0.03	0.02	0.3	0.32	0.03	1.2	1.5	0.15	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	100	160
2-Mar-05	SW2	Dry																							
8-Apr-05	SW2	Dry																							
5-May-05	SW2	Dry																							
2-Jun-05	SW2	Dry																							
6-Jul-05	SW2		8.5	10	<1	0.7	0.03	<0.01	0.03	0.03	0.02	0.87	0.9	0.09	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	351	180
3-Aug-05	SW2		21	29	1	0.46	0.01	<0.01	0.03	0.03	0.01	0.7	0.73	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	176	160
8-Sep-05	SW2	Dry																							
13-Oct-05	SW2	Dry																							
2-Nov-05	SW2	Dry																							
1-Dec-05	SW2		13	22	1	0.79	0.02	<0.01	0.02	0.02	0.01	1.1	1.1	0.06	<25	<25	180	<100	<1.0	<1.0	<1.0	<2.0	6.8	240	190
5-Jan-06	SW2	Dry																							
2-Feb-06	SW2	Dry																							
2-Mar-06	SW2	Dry																							
8-Jun-06	SW2		11	10	1	0.59	0.13	0.01	0.28	0.29	0.03	1.3	1.6	0.15	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	5.7	89	130
3-Aug-06	SW2		16	12	1	0.94	0.022	<0.01	0.01	0.01	0.01	0.88	0.89	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	126	140
7-Sep-06	SW2		20	9	3	1.2	0.074	<0.01	0.02	0.02	0.02	0.91	0.93	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	158	140
2-Mar-07	SW2		13	5	7	1.7	0.33	<0.01	<0.01	<0.01	0.04	1.7	1.7	0.31	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	162	170
13-Apr-07	SW2		14	0.5	9	4.4	0.32	<0.01	<0.01	<0.01	0.03	1.6	1.6	0.32	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	210	190
9-Jul-07	SW2		32	21	<1	0.34	0.019	<0.01	0.17	0.17	0.01	0.7	0.82	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.5	211	160
8-Nov-07	SW2		9.9	5.6	3	0.92	0.16	<0.01	0.01	0.01	0.04	1.1	1.1	0.12	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.6	183	200

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
7-Feb-08	SW2		10	6.9	2	1.3	0.13	<0.01	0.02	0.02	0.02	1.3	1.3	0.14	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	152	170
19-Jul-10	SW2		20	13	1	0.74	0.007	<0.01	<0.01	<0.01	0.02	0.8	0.8	0.07	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.1	155	140
15-Dec-10	SW2	Moderate	0	0	0	0	0	0	0	0	0	0	1.2	0.05	0	0	0	0	0	0	0	0	6.5	166	0
12-Jan-11	SW2	Moderate	0	0	0	0	0	0	0	0	0	0	0.92	0.05	0	0	0	0	0	0	0	0	6.5	232	0
10-Feb-11	SW2	Low	0	0	0	0	0	0	0	0	0	0	1.9	0.28	0	0	0	0	0	0	0	0	6	175	0

Monitoring Location SW3

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
1-Jul-04	SW3																								
3-Sep-04	SW3																								
8-Oct-04	SW3																								
2-Nov-04	SW3	Dry.																							
30-Nov-04	SW3	Dry																							
6-Jan-05	SW3	Dry																							
2-Feb-05	SW3		61	2.8	1	0.26	0.06	0.04	0.36	0.4	0.17	1.8	2.2	0.34	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	256	210
2-Mar-05	SW3	Dry																							
8-Apr-05	SW3	Dry																							
5-May-05	SW3	Dry																							
2-Jun-05	SW3	Dry																							
6-Jul-05	SW3		110	5.7	<1	0.22	0.01	<0.01	<0.01	<0.01	0.04	1.9	1.9	0.15	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.8	399	280
3-Aug-05	SW3	Dry																							
8-Sep-05	SW3	Dry																							
13-Oct-05	SW3	Dry																							
2-Nov-05	SW3	Dry																							
1-Dec-05	SW3		260	5	2	0.68	0.04	<0.01	0.02	0.02	0.02	2.3	2.3	0.21	<25	44	480	140	<1.0	<1.0	<1.0	<2.0	6.7	903	560
5-Jan-06	SW3	Dry																							
2-Feb-06	SW3	Dry																							
2-Mar-06	SW3	Dry																							
3-Aug-06	SW3		330	10	1	0.13	0.18	<0.01	0.02	0.02	0.06	1.3	1.3	0.07	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	1085	630
9-Jul-07	SW3		210	12	1	0.25	0.11	<0.01	0.04	0.04	<0.01	1.3	1.3	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	781	450
8-Nov-07	SW3		19	6.9	0	0.92	0.069	<0.01	<0.01	<0.01	0.04	2	2	0.23	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.3	189	200
7-Feb-08	SW3		54	3.9	1	0.64	0.048	<0.01	<0.01	<0.01	0.02	1.2	1.2	0.12	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	0	374	230
8-Jan-10	SW3		170	1.5	8	2.7	1.3	<0.01	<0.01	<0.01	0.14	2.8	2.8	0.48	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.1	721	500
19-Jul-10	SW3		55	14	2	0.34	0.04	<0.01	0.03	0.03	0.04	1	0.98	0.1	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.3	319	270
15-Dec-10	SW3	Low	0	0	0	0	0	0	0	0	0	0	1.9	0.31	0	0	0	0	0	0	0	0	6.6	475	0
12-Jan-11	SW3	Low	0	0	0	0	0	0	0	0	0	0	2	0.17	0	0	0	0	0	0	0	0	7	307	0

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
10-Feb-11	SW3	Low	0	0	0	0	0	0	0	0	0	0	2.3	0.31	0	0	0	0	0	0	0	0	6.8	695	0
6-Apr-11	SW3		0	0	0	0	0	0	0	0	0	0	0.8	0.03	0	0	0	0	0	0	0	0	6.1	943	0

Monitoring Location SW4

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
1-Jul-04	SW4																								
3-Sep-04	SW4																								
8-Oct-04	SW4		160	4.9	1	0.34	0.08	<0.01	0.02	0.02	0.01	1	1	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	581	410
2-Nov-04	SW4	Dry.																							
30-Nov-04	SW4	Dry																							
6-Jan-05	SW4	Dry																							
2-Feb-05	SW4		74	3.9	1	0.34	0.06	0.03	0.43	0.46	0.09	1.5	2	0.23	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	267	220
2-Mar-05	SW4	Dry																							
8-Apr-05	SW4	Dry																							
5-May-05	SW4	Dry																							
2-Jun-05	SW4	Dry																							
6-Jul-05	SW4		66	3.7	<1	0.41	0.03	<0.01	0.26	0.26	0.01	0.9	1.2	0.08	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.6	254	250
3-Aug-05	SW4		180	6.8	1	0.57	0.07	<0.01	0.01	0.01	<0.01	0.69	0.7	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	959	430
8-Sep-05	SW4	Dry																							
13-Oct-05	SW4	Dry																							
2-Nov-05	SW4	Dry																							
1-Dec-05	SW4		160	6	2	0.46	0.05	<0.01	0.02	0.02	<0.01	1.1	1.1	0.06	<25	<25	150	<100	<1.0	<1.0	<1.0	<2.0	6.6	590	440
5-Jan-06	SW4	Dry																							
2-Feb-06	SW4	Dry																							
2-Mar-06	SW4	Dry																							
8-Jun-06	SW4		300	15	5	0.34	0.38	<0.01	0.01	0.01	0.02	0.81	0.82	0.05	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	5.6	1135	660
6-Jul-06	SW4		130	7	2	2.2	0.22	<0.01	0.02	0.02	0.01	0.5	0.52	0.08	<25	<25	120	<100	<1.0	<1.0	<1.0	<2.0	5.8	521	320
3-Aug-06	SW4		230	9	1	0.63	0.06	<0.01	0.01	0.01	<0.01	0.86	0.87	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	750	430
7-Sep-06	SW4		220	4	1	0.42	0.2	<0.01	0.01	0.01	0.01	0.84	0.85	0.05	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	716	440
13-Apr-07	SW4		150	0.5	3	5.3	0.41	<0.01	0.01	0.01	0.02	1.1	1.1	0.12	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	572	470
9-Jul-07	SW4		120	5.6	<1	0.52	0.066	<0.01	0.1	0.1	<0.01	1.1	1.2	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	468	310

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
15-Aug-07	SW4		230	6	<1	0.23	0.15	<0.01	0.02	0.02	0.04	0.8	0.79	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	778	460
8-Nov-07	SW4		91	2.9	1	0.95	0.2	<0.01	<0.01	<0.01	0.02	1.3	1.3	0.09	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	397	310
7-Feb-08	SW4		81	1.4	<1	2.4	0.13	<0.01	0.01	0.01	0.01	1.2	1.2	0.12	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	347	260
6-Mar-08	SW4		110	0.7	<1	2.3	0.21	<0.01	<0.01	<0.01	0.03	0.9	0.94	0.08	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	470	350
8-Jan-10	SW4		140	4.2	4	1.8	0.33	0.01	0.07	0.08	0.02	2.2	2.3	0.17	<25	<25	130	<100	<1.0	<1.0	<1.0	<2.0	5.9	542	410
19-Jul-10	SW4		94	2	1	1.4	0.071	<0.01	0.02	0.02	0.01	0.8	0.86	0.05	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	365	240
15-Dec-10	SW4	Low	0	0	0	0	0	0	0	0	0	0	1.7	0.08	0	0	0	0	0	0	0	0	6.7	419	0
12-Jan-11	SW4	Low	0	0	0	0	0	0	0	0	0	0	1.2	0.03	0	0	0	0	0	0	0	0	6.7	838	0
10-Feb-11	SW4	Low	0	0	0	0	0	0	0	0	0	0	0.84	0.06	0	0	0	0	0	0	0	0	5.7	1540	0
10-Mar-11	SW4	Low	0	0	0	0	0	0	0	0	0	0	0.94	0.03	0	0	0	0	0	0	0	0	5.9	1390	0

Monitoring Location SW5

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
1-Jul-04	SW5		200	3.9	1	0.46	0.04	<0.01	0.04	0.04	<0.01	3	3	0.19	<25	<25	240	<100	<1.0	<1.0	<1.0	<2.0	6.9	740	480
3-Aug-04	SW5		210	2.5	2	0.17	0.16	<0.01	0.04	0.04	0.01	3.4	3.4	0.21	<1.0	<25	370	<100	<1.0	<1.0	<1.0	<1.0	6.8	793	490
3-Sep-04	SW5																								
8-Oct-04	SW5		68	4.7	1	0.55	0.06	<0.01	0.08	0.08	0.02	1.3	1.4	0.1	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	281	230
2-Nov-04	SW5	Very slow flow over the concrete ford.	63	3.1	2	1.2	0.12	<0.01	0.01	0.01	0.02	1.4	1.4	0.11	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	270	230
30-Nov-04	SW5				2	1.4	0.19	<0.01	0.03	0.03	0.01	1.3	1.3	0.1											
6-Jan-05	SW5		57	<1.0	3	3.7	0.22	<0.01	0.02	0.02	0.02	2	2	0.24	<25	39	410	<100	<1.0	<1.0	<1.0	<2.0	7	272	240
2-Feb-05	SW5		65	3.5	1	0.37	0.07	0.03	0.45	0.48	0.08	1.5	2	0.22	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.3	266	220
2-Mar-05	SW5		52	1.3	2	1.2	0.15	<0.01	<0.01	<0.01	0.02	1.2	1.2	0.1	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	235	170
8-Apr-05	SW5		97	<1.0	1	1.1	0.07	<0.01	<0.01	<0.01	0.01	0.86	0.87	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	363	240
5-May-05	SW5		110	<1.0	1	1.4	0.04	<0.01	<0.01	<0.01	0.02	0.87	0.88	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	395	250
2-Jun-05	SW5		110	1.2	1	1	0.02	<0.01	0.02	0.02	0.02	1.1	1.1	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.8	405	270
6-Jul-05	SW5		93	4.4	<1	0.41	0.06	<0.01	0.04	0.04	0.01	1	1	0.09	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	333	250
3-Aug-05	SW5		150	6.1	<1	0.6	0.03	<0.01	0.01	0.01	<0.01	0.8	0.81	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.6	498	330
8-Sep-05	SW5				1	0.66	0.02	<0.01	0.02	0.02	0.01	0.79	0.81	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.8	547	360
13-Oct-05	SW5		73	1	1	1.7	0.03	<0.01	0.01	0.01	0.01	1	1	0.07	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	301	260
2-Nov-05	SW5		120	1	2	1.9	0.14	<0.01	<0.01	<0.01	0.01	0.98	0.99	0.07	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.6	379	280
1-Dec-05	SW5		83	6	1	0.81	0.04	<0.01	0.02	0.02	<0.01	1.1	1.1	0.06	<25	<25	230	<100	<1.0	<1.0	<1.0	<2.0	6.4	279	300
5-Jan-06	SW5		280	<1	2	1.5	0.43	<0.01	<0.01	<0.01	0.02	1.6	1.6	0.1	<25	<25	130	<100	<1.0	<1.0	<1.0	<2.0	6.4	919	640
2-Feb-06	SW5		150	6	2	1.3	0.27	<0.01	0.01	0.01	0.04	1.6	1.6	0.11	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	574	390
2-Mar-06	SW5		180	3	2	3.2	0.3	<0.01	0.03	0.03	0.07	2	2	0.13	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7	708	500
7-Apr-06	SW5		220	5	1	1.4	0.063	<0.01	0.02	0.02	0.01	1.6	1.6	0.08	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.3	828	500
3-May-06	SW5		250	5	1	0.6	0.053	<0.01	<0.01	<0.01	0.01	2.1	2.1	0.1	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.1	910	690
8-Jun-06	SW5		63	3	<1	0.38	0.15	<0.01	0.4	0.4	0.03	1.4	1.8	0.19	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6	287	220

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
6-Jul-06	SW5		110	6	1	0.53	0.044	<0.01	0.02	0.02	<0.01	0.73	0.75	0.08	<25	<25	130	<100	<1.0	<1.0	<1.0	<2.0	6.4	399	280
3-Aug-06	SW5		180	7	1	0.58	0.025	<0.01	0.07	0.07	<0.01	0.88	0.95	0.05	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.6	566	360
7-Sep-06	SW5		190	6	1	0.46	0.077	<0.01	0.01	0.01	0.01	1.3	1.3	0.08	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.8	635	380
5-Oct-06	SW5		200	<5	1	0.44	0.21	<0.01	<0.01	<0.01	<0.01	1.3	1.3	0.1	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	732	450
2-Nov-06	SW5		280	4	2	0.49	0.25	<0.01	0.03	0.03	0.03	2	2	0.19	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.8	946	590
4-Dec-06	SW5		400	3	<1	0.37	0.3	<0.01	<0.01	<0.01	0.05	2.6	2.6	0.28	<25	<25	180	<100	<1.0	<1.0	<1.0	<2.0	6.8	1362	860
11-Jan-07	SW5		60	2	3	1	0.56	0.01	<0.01	0.01	0.02	2.2	2.2	0.19	<25	<25	520	200	<1.0	<1.0	<1.0	<2.0	6.4	310	260
9-Feb-07	SW5		84	<1	4	2.3	0.66	0.01	0.04	0.05	0.02	2.8	2.8	0.3	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.8	416	370
2-Mar-07	SW5		120	2	2	1.3	0.27	<0.01	<0.01	<0.01	0.01	1.6	1.6	0.13	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.3	468	320
13-Apr-07	SW5		110	<0.4	3	3.5	0.24	<0.01	0.03	0.03	0.02	1.4	1.4	0.2	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.3	469	340
2-May-07	SW5		120	<0.4	<1	2	0.16	<0.01	<0.01	<0.01	<0.01	1.4	1.4	0.09	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.6	491	350
6-Jun-07	SW5		130	0.5	1	2.3	0.068	0.01	0.01	0.02	0.02	1.9	1.9	0.08	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.6	506	370
9-Jul-07	SW5		78	5.5	<1	0.54	0.084	<0.01	0.06	0.06	<0.01	1.3	1.4	0.07	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.3	326	260
15-Aug-07	SW5		220	4.5	<1	0.73	0.048	<0.01	<0.01	<0.01	0.02	0.9	0.88	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	748	450
6-Sep-07	SW5		260	2.6	<1	0.44	0.096	<0.01	<0.01	<0.01	<0.01	0.9	0.88	0.03	<25	370	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	845	530
12-Oct-07	SW5		290	1.7	<1	0.79	0.26	<0.01	0.03	0.03	0.02	1.1	1.1	0.03	<25	160	450	140	<1.0	<1.0	<1.0	<2.0	6.6	1049	660
8-Nov-07	SW5		62	1.7	<1	1.3	0.23	<0.01	0.01	0.01	0.03	1.3	1.3	0.09	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	272	230
6-Dec-07	SW5		140	1.1	3	4.6	0.4	<0.01	0.01	0.01	0.03	1.1	1.1	0.17	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	530	390
10-Jan-08	SW5		90	<0.4	2	2	0.34	<0.01	0.03	0.03	0.02	1.4	1.4	0.14	<25	<25	400	<100	<1.0	<1.0	<1.0	<2.0	6.4	398	290
7-Feb-08	SW5		94	1	<1	2.3	0.12	<0.01	0.01	0.01	0.01	1.2	1.2	0.12	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.3	386	300
6-Mar-08	SW5		110	0.5	<1	2.2	0.13	<0.01	0.01	0.01	0.03	1.3	1.3	0.13	<25	<25	130	<100	<1.0	<1.0	<1.0	<2.0	6.6	445	330
11-Apr-08	SW5		99	1.4	1	2.3	0.15	<0.01	0.01	0.01	0.01	1.3	1.3	0.16	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	414	290
8-May-08	SW5		120	1.4	1	2.9	0.012	<0.01	0.03	0.03	0.12	1.1	1.1	0.09	<25	<25	170	<100	<1.0	<1.0	<1.0	<2.0	6.7	441	310
4-Jun-08	SW5		130	1.6	1	1.6	0.11	0.01	0.04	0.05	<0.01	1.2	1.2	0.08	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	442	320
3-Jul-08	SW5		130	1.6	<1	0.93	0.035	<0.01	0.07	0.07	0.03	1.1	1.2	0.08	<25	<25	160	<100	<1.0	<1.0	<1.0	<2.0	7.3	454	330
20-Feb-09	SW5		91	0.6	1	1.2	0.25	<0.01	<0.01	<0.01	<0.01	1.8	1.8	0.15	<25	51	360	<100	<1.0	<1.0	<1.0	<2.0	6.5	404	298
30-Jul-09	SW5		81	1.7	<1	0.91	0.013	<0.01	0.05	0.05	0.02	0.9	0.99	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	319	270
8-Jan-10	SW5		90	3.5	3	1.8	0.35	<0.01	0.04	0.04	0.02	2.3	2.3	0.15	<25	<25	<120	<100	<1.0	<1.0	<1.0	<2.0	5.8	378	310
19-Jul-10	SW5		84	2.2	<1	0.97	0.016	<0.01	0.02	0.02	0.01	0.9	0.96	0.05	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	333	260

Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
15-Dec-10	SW5	Moderate	0	0	0	0	0	0	0	0	0	0	1.6	0.07	0	0	0	0	0	0	0	0	6.3	464	0
12-Jan-11	SW5	Moderate	0	0	0	0	0	0	0	0	0	0	1.2	0.05	0	0	0	0	0	0	0	0	6.2	778	0
10-Feb-11	SW5	Low	0	0	0	0	0	0	0	0	0	0	1.4	0.13	0	0	0	0	0	0	0	0	6.1	618	0
10-Mar-11	SW5	Low	0	0	0	0	0	0	0	0	0	0	1.2	0.05	0	0	0	0	0	0	0	0	6.2	569	0
6-Apr-11	SW5		0	0	0	0	0	0	0	0	0	0	0.8	0.03	0	0	0	0	0	0	0	0	6	944	0

Monitoring Location SW6

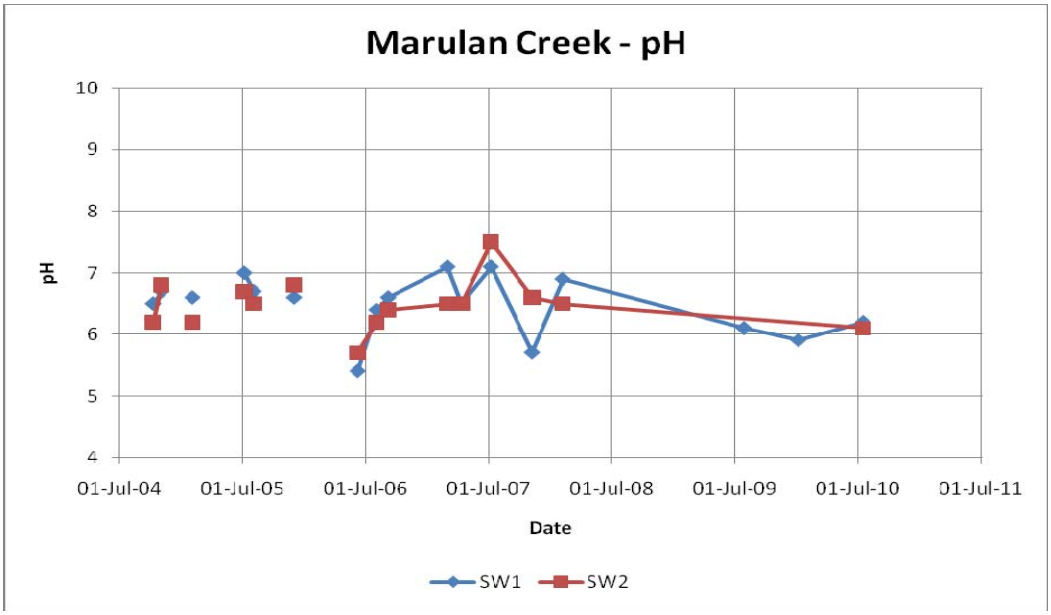
Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
1-Jul-04	SW6		740	11	2	0.04	0.24	<0.01	0.02	0.02	<0.01	0.93	0.95	0.01	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.1	2316	1200
3-Aug-04	SW6		740	12	2	0.11	0.56	<0.01	0.01	0.01	<0.01	0.4	0.41	0.02	<1.0	<25	<100	<100	<1.0	<1.0	<1.0	<1.0	7.1	2268	1400
3-Sep-04	SW6		930	15	3	0.03	0.73	<0.01	0.02	0.02	<0.01	0.45	0.47	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	9.7	3255	2200
8-Oct-04	SW6		120	3.8	<1	0.23	0.07	<0.01	0.02	0.02	0.01	1.1	1.1	0.09	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	488	360
2-Nov-04	SW6	More water than previous samples	62	2.4	1	0.86	0.11	<0.01	0.01	0.01	0.01	1.2	1.2	0.08	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7	277	240
30-Nov-04	SW6				<1	0.79	0.26	<0.01	0.01	0.01	<0.01	0.88	0.89	0.05											
6-Jan-05	SW6		130	1.3	1	1.1	0.33	<0.01	<0.01	<0.01	0.01	1	1	0.06	<25	64	500	<100	<1.0	<1.0	<1.0	<2.0	7	575	410
2-Feb-05	SW6		59	2.9	1	0.36	0.08	0.03	0.49	0.52	0.05	1.4	1.9	0.2	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	248	210
2-Mar-05	SW6		150	2	2	0.57	0.21	<0.01	<0.01	<0.01	0.01	0.87	0.88	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	588	360
8-Apr-05	SW6		160	2.6	<1	0.18	0.03	<0.01	<0.01	<0.01	0.01	0.78	0.79	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.2	682	390
5-May-05	SW6		210	2.6	<1	0.45	0.08	<0.01	0.01	0.01	0.02	0.58	0.59	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	887	500
2-Jun-05	SW6		350	3.5	1	0.21	0.12	<0.01	<0.01	<0.01	0.01	0.94	0.95	0.01	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.1	1290	760
6-Jul-05	SW6		92	3.1	<1	0.37	0.05	<0.01	0.06	0.06	0.01	0.9	1	0.09	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.8	352	280
3-Aug-05	SW6		170	5.2	<1	0.16	0.03	<0.01	<0.01	<0.01	<0.01	0.67	0.68	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	632	420
8-Sep-05	SW6		230	4	<1	0.08	0.04	<0.01	<0.01	<0.01	0.01	0.53	0.54	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.5	860	560
13-Oct-05	SW6		140	3	<1	0.54	0.06	<0.01	<0.01	<0.01	<0.01	0.72	0.73	0.05	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7	529	370
2-Nov-05	SW6		220	1	1	0.23	0.16	<0.01	<0.01	<0.01	<0.01	0.65	0.66	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.2	821	630
1-Dec-05	SW6		77	6	1	0.82	0.03	<0.01	0.02	0.02	0.01	1.1	1.1	0.07	<25	<25	130	<100	<1.0	<1.0	<1.0	<2.0	6.7	323	270
5-Jan-06	SW6		320	13	2	0.74	0.4	<0.01	<0.01	<0.01	0.02	0.83	0.84	0.05	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.6	1052	680
2-Feb-06	SW6		180	5	2	0.94	0.63	<0.01	0.01	0.01	0.02	1.2	1.2	0.05	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7	667	430
2-Mar-06	SW6	Brown oil film on surface.	340	4	<1	0.74	0.28	<0.01	0.01	0.01	0.04	0.96	0.97	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	1176	730
7-Apr-06	SW6		480	5	1	0.14	0.16	<0.01	0.02	0.02	<0.01	0.65	0.67	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.3	1730	1000
3-May-06	SW6		720	6	2	0.13	0.18	<0.01	<0.01	<0.01	0.01	0.6	0.61	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7	1910	1200

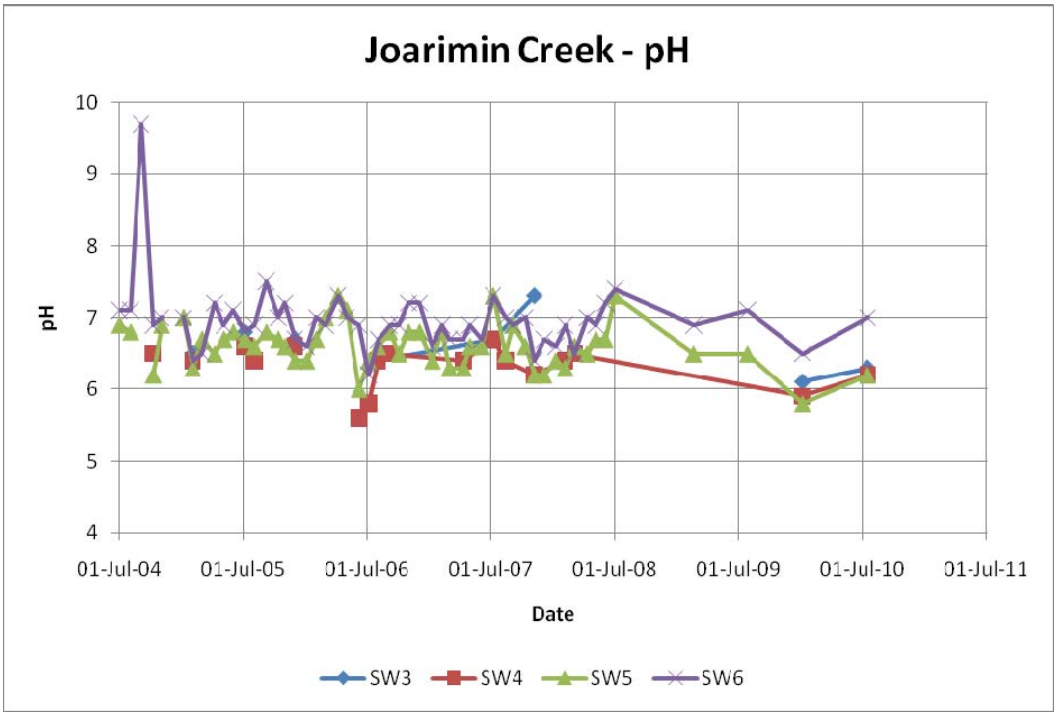
Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
8-Jun-06	SW6		650	8	<1	0.12	0.14	<0.01	0.01	0.01	<0.01	0.43	0.44	0.01	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	2091	1200
6-Jul-06	SW6		120	5	<1	0.33	0.074	<0.01	0.03	0.03	0.02	0.4	0.43	0.05	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.2	425	280
3-Aug-06	SW6		140	7	<1	0.45	0.098	<0.01	0.02	0.02	<0.01	0.84	0.86	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	576	350
7-Sep-06	SW6		210	9	<1	0.25	0.18	<0.01	0.01	0.01	0.01	0.85	0.86	0.05	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	818	490
5-Oct-06	SW6		220	6	1	0.37	0.21	<0.01	<0.01	<0.01	<0.01	0.87	0.88	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	9341	550
2-Nov-06	SW6		280	7	1	0.32	0.13	<0.01	0.01	0.01	0.02	1	1	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.2	1055	640
4-Dec-06	SW6		340	7	<1	0.1	0.36	<0.01	0.02	0.02	0.03	1	1	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.2	1303	790
11-Jan-07	SW6		94	3	1	1.2	0.27	<0.01	0.02	0.02	<0.01	1.4	1.4	0.08	<25	<25	150	110	<1.0	<1.0	<1.0	<2.0	6.6	412	310
9-Feb-07	SW6		240	2	2	2.4	0.42	<0.01	0.04	0.04	0.02	1	1	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	890	640
2-Mar-07	SW6		50	1	2	1.2	0.38	<0.01	<0.01	<0.01	0.01	1.3	1.3	0.1	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	309	230
13-Apr-07	SW6		140	0.8	1	0.54	0.18	<0.01	0.03	0.03	0.02	1	1	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	612	440
2-May-07	SW6		170	1.5	<1	0.58	0.16	<0.01	<0.01	<0.01	<0.01	1	0.99	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	697	470
6-Jun-07	SW6		270	2.2	<1	0.37	0.16	<0.01	<0.01	<0.01	0.02	0.7	0.75	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	984	600
9-Jul-07	SW6		110	5.8	<1	0.55	0.11	<0.01	0.12	0.12	0.01	1.1	1.2	0.06	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.3	485	330
15-Aug-07	SW6		270	5.8	<1	0.31	0.046	<0.01	<0.01	<0.01	0.02	0.8	0.77	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7	644	560
6-Sep-07	SW6		380	4	<1	0.14	0.068	<0.01	<0.01	<0.01	<0.01	0.7	0.66	0.02	<25	48	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	1260	790
12-Oct-07	SW6		430	3.2	1	0.15	0.11	<0.01	0.01	0.01	0.03	0.7	0.75	0.02	<25	62	<100	<100	<1.0	<1.0	<1.0	<2.0	7	1557	960
8-Nov-07	SW6		93	2.2	<1	0.85	0.19	<0.01	<0.01	<0.01	0.02	1	1	0.06	<25	<25	<50	<50	<1.0	<1.0	<1.0	<2.0	6.4	414	310
6-Dec-07	SW6		73	1.5	1	1.2	0.31	<0.01	0.01	0.01	0.02	1	0.97	0.07	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.7	351	250
10-Jan-08	SW6		37	2.9	1	1.2	0.24	<0.01	0.02	0.02	0.02	0.9	0.91	0.05	<25	<25	130	<100	<1.0	<1.0	<1.0	<2.0	6.6	307	180
7-Feb-08	SW6		52	2.1	<1	1.7	0.08	<0.01	<0.01	<0.01	0.01	1	1	0.09	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	378	220
6-Mar-08	SW6		160	1.4	<1	0.54	0.14	<0.01	<0.01	<0.01	0.02	0.7	0.73	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	644	450
11-Apr-08	SW6		230	3.9	<1	0.17	0.067	<0.01	0.01	0.01	<0.01	0.7	0.72	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7	886	580
8-May-08	SW6		300	3.7	<1	0.11	0.015	<0.01	0.02	0.02	0.03	0.6	0.63	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	1017	670
4-Jun-08	SW6		270	5.4	1	0.11	0.036	<0.01	0.03	0.03	<0.01	0.6	0.66	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.2	970	620
3-Jul-08	SW6		270	6.1	<1	0.16	0.016	<0.01	<0.01	<0.01	0.02	0.7	0.71	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.4	971	590
20-Feb-09	SW6		310	1.3	<1	0.19	0.12	<0.01	<0.01	<0.01	<0.01	0.8	0.85	0.03	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.9	1197	850
30-Jul-09	SW6		320	6.6	1	0.11	0.007	<0.01	<0.01	<0.01	0.02	0.6	0.57	0.02	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7.1	1174	680
8-Jan-10	SW6		300	4.4	1	1.5	0.46	<0.01	0.01	0.01	0.01	1	1	0.04	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.5	1149	740
19-Jul-10	SW6		250	3.9	1	0.16	0.007	<0.01	<0.01	<0.01	<0.01	0.6	0.62	0.01	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	7	1000	570

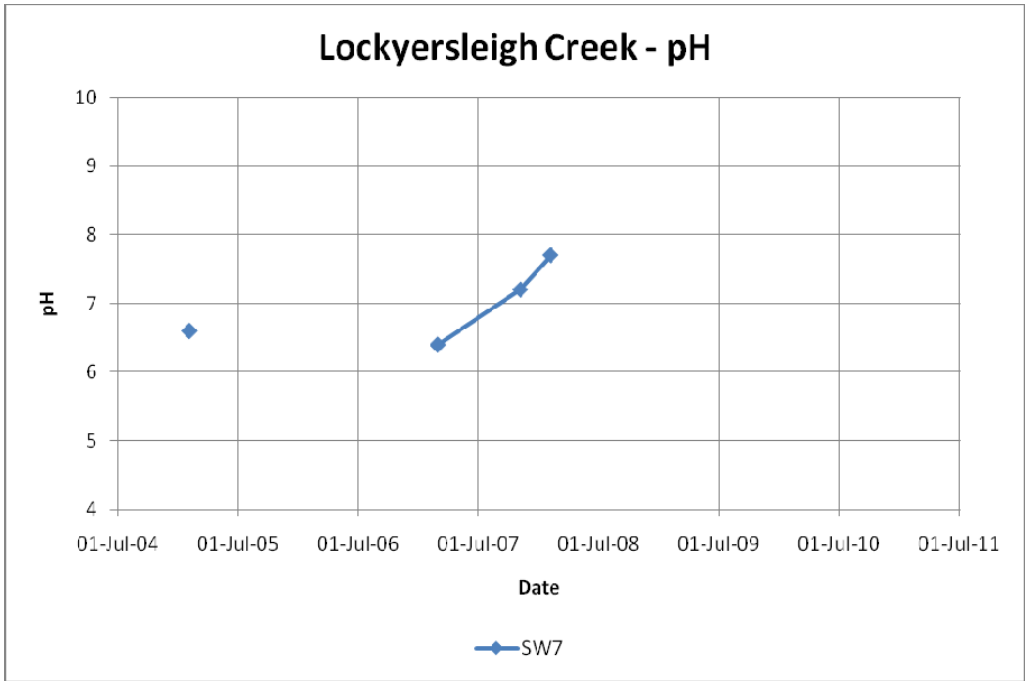
Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
15-Dec-10	SW6	Moderate	0	0	0	0	0	0	0	0	0	0	1.6	0.06	0	0	0	0	0	0	0	0	6.5	459	0
12-Jan-11	SW6	Moderate	0	0	0	0	0	0	0	0	0	0	0.98	0.02	0	0	0	0	0	0	0	0	6.9	943	0
10-Feb-11	SW6	Low	0	0	0	0	0	0	0	0	0	0	0.97	0.07	0	0	0	0	0	0	0	0	6.7	1182	0
10-Mar-11	SW6	Low	0	0	0	0	0	0	0	0	0	0	0.89	0.02	0	0	0	0	0	0	0	0	6.7	1143	0
6-Apr-11	SW6		0	0	0	0	0	0	0	0	0	0	0.82	0.02	0	0	0	0	0	0	0	0	6.7	973	0

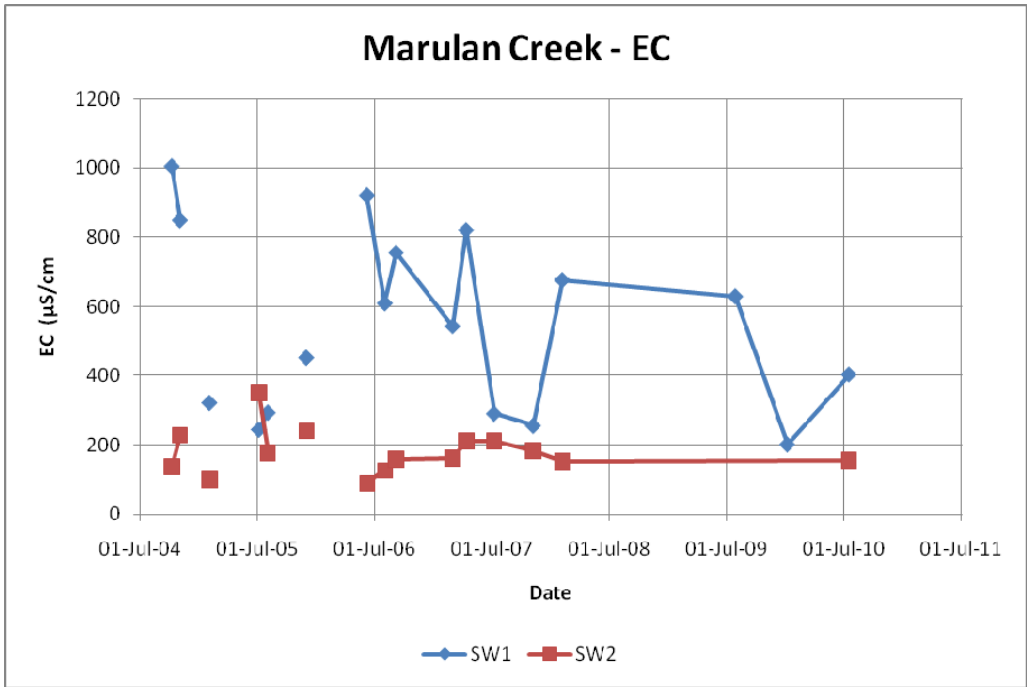
Monitoring Location SW7

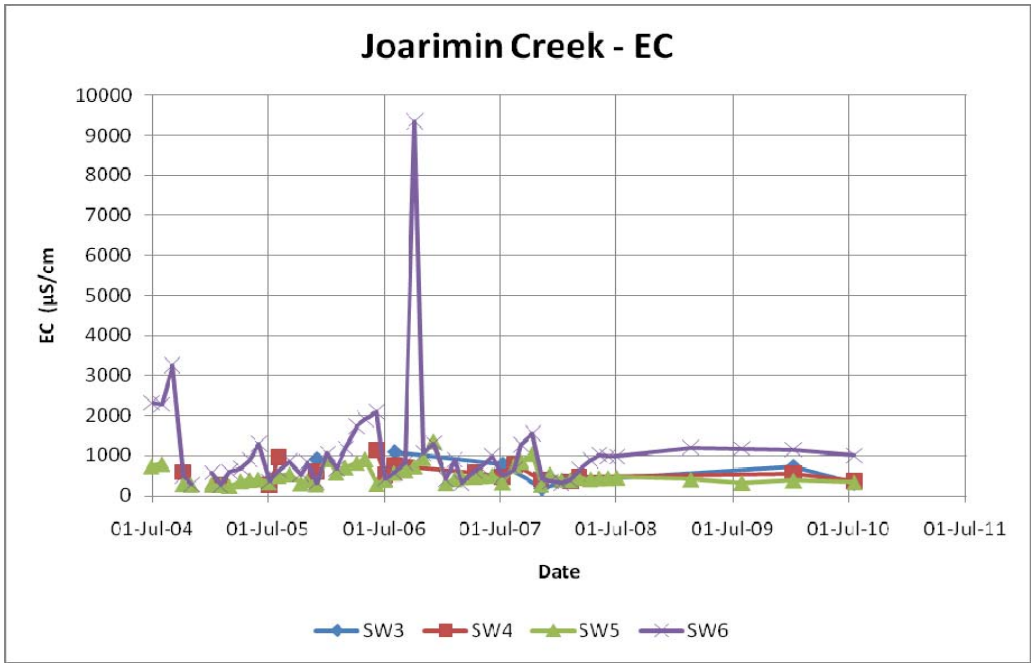
Date	Site	Flow	Cl (mg/L)	SO4 (mg/L SO4)	Diss As (ug/L)	Diss Fe (mg/L)	Diss Mn (mg/L)	Nitrite (mg/L N)	Nitrate (mg/L N)	Nit (mg/L N)	Phosp (mg/L P)	TKN (mg/L N)	Total N (mg/L)	Total P (mg/L P)	C6 - C9 (ug/L)	C10 - C14 (ug/L)	C15 - C28 (ug/L)	C29 - C 36 (ug/L)	Benz (ug/L)	Toluene (ug/L)	Ethyl Benz (ug/L)	Xylene (ug/L)	pH	EC (uS/cm)	TDS (mg/L)
4-Feb-05	SW7		1100	14	4	0.06	0.45	<0.01	0.02	0.02	0.12	2.7	2.7	0.25	<25	<25	530	<100	<1.0	<1.0	<1.0	<2.0	6.6	3700	2200
6-May-05	SW7	Dry																							
6-May-05	SW7	Dry																							
2-Jun-05	SW7	Dry																							
6-Jul-05	SW7	Dry																							
3-Aug-05	SW7	Dry																							
8-Sep-05	SW7	Dry																							
13-Oct-05	SW7	Dry																							
2-Nov-05	SW7	Dry																							
1-Dec-05	SW7	Dry																							
5-Jan-06	SW7	Dry																							
2-Feb-06	SW7	Dry																							
2-Mar-06	SW7	Dry																							
2-Mar-07	SW7		140	3	3	1.9	0.24	<0.01	<0.01	<0.01	0.01	1.8	1.8	0.14	<25	<25	<100	<100	<1.0	<1.0	<1.0	<2.0	6.4	529	360
8-Nov-07	SW7		470	6.2	<1	0.24	0.5	<0.01	<0.01	<0.01	0.06	3.2	3.2	0.2	<25	<25	140	<100	<1.0	<1.0	<1.0	<2.0	7.2	1590	1100
7-Feb-08	SW7		1100	1.2	<1	0.54	0.69	<0.01	<0.01	<0.01	0.03	2.4	2.4	0.11	<25	<25	520	230	<1.0	<1.0	<1.0	<2.0	7.7	3922	2600

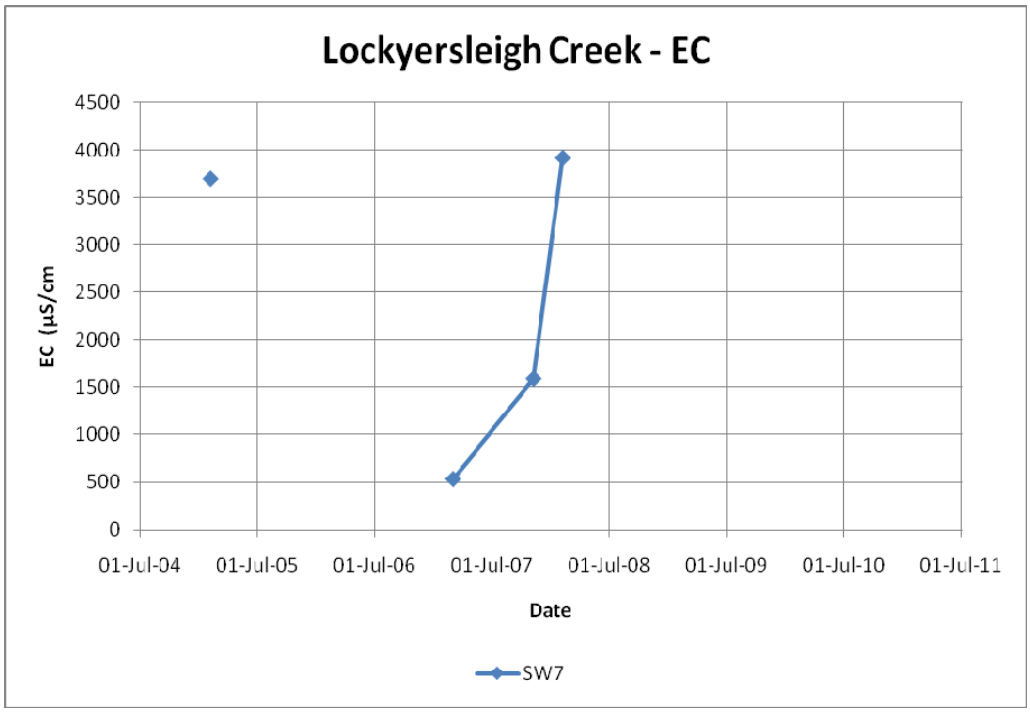

Marulan Creek - pH
10
9
8
7
6
5
4
pH
01-Jul-04
01-Jul-05
01-Jul-06
01-Jul-07
01-Jul-08
01-Jul-09
01-Jul-10
01-Jul-11
Date
SW1
SW2


Joarimin Creek - pH
10
9
8
7
6
5
4
pH
01-Jul-04
01-Jul-05
01-Jul-06
01-Jul-07
01-Jul-08
01-Jul-09
01-Jul-10
01-Jul-11
Date
SW3
SW4
SW5
SW6


Lockyersleigh Creek - pH
10
9
8
7
6
5
4
pH
01-Jul-04
01-Jul-05
01-Jul-06
01-Jul-07
01-Jul-08
01-Jul-09
01-Jul-10
01-Jul-11
Date
SW7


Marulan Creek - EC
1200
1000
800
600
400
200
0
EC (µS/cm
01-Jul-04
01-Jul-05
01-Jul-06
01-Jul-07
01-Jul-08
01-Jul-09
01-Jul-10
01-Jul-11
Date
SW1
SW2


Joarimin Creek - EC
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
EC (µS/cm
01-Jul-04
01-Jul-05
01-Jul-06
01-Jul-07
01-Jul-08
01-Jul-09
01-Jul-10
01-Jul-11
Date
SW3
SW4
SW5
SW6


Lockyersleigh Creek - EC
4500
4000
3500
3000
2500
2000
1500
1000
500
0
EC (µS/cm
01-Jul-04
01-Jul-05
01-Jul-06
01-Jul-07
01-Jul-08
01-Jul-09
01-Jul-10
01-Jul-11
Date
SW7

Umwelt (Australia) Pty Limited
2/20 The Boulevarde
PO Box 838
Toronto NSW 2283

Ph. 02 4950 5322
Fax 02 4950 5737