

Surface Water – Surface Facilities Area

Metropolitan Coal monitors the water management system at the mine's major surface facilities area. The site water management system comprises a series of collection dams, sumps and treatment systems. The system is operated to avoid mixing of clean water runoff and mine water, minimise off-site release of site runoff and to provide water supply requirements on-site. Figure 1 shows a schematic of the major surface facilities area water management system.

Water Use

Flow meters at key points in the water management system monitor flow rates using an electronic system and manual (weekly) readings. Manual weekly readings have been recorded during the review period while the electronic system has been updated.

Metropolitan Coal used approximately 136 megalitres (ML) of potable town water (as recorded by the Sydney Water meter) during the review period, with a monthly average of approximately 11 ML. The amount of town water used over the review period is shown in Chart 1. Metropolitan Coal also sourced approximately 114 ML of water from Camp Gully during the review period.

Licensed Discharge

Water discharged from the Water Treatment Plant to Camp Gully is monitored in accordance with Environment Protection Licence (EPL) No. 767, which requires Metropolitan Coal to continuously monitor the volume (kilolitre/day) of water discharged from the clean water tank in the Water Treatment Plant to Camp Gully.

The total amount of water discharged from the Water Treatment Plant to Camp Gully during the review period was 113 ML.

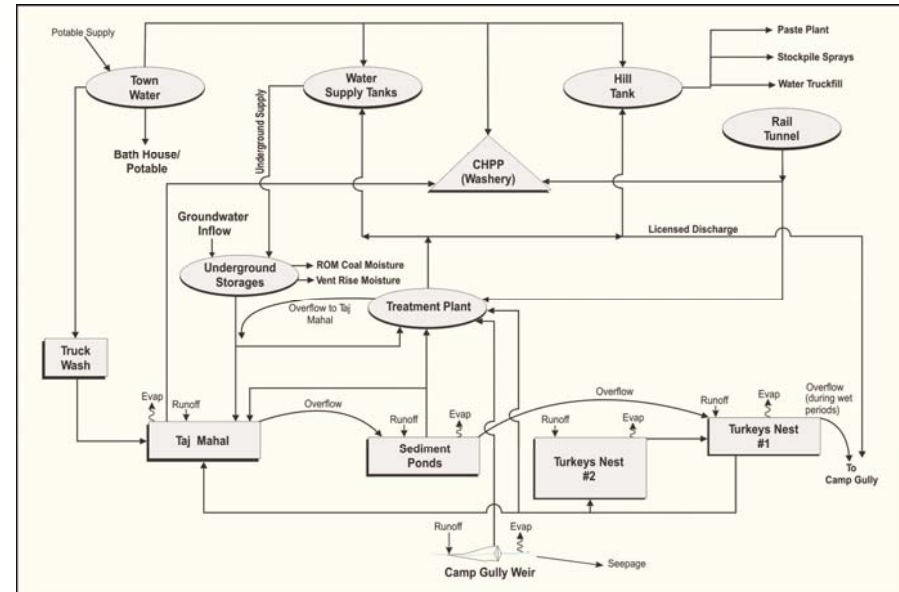


Figure 1 Major Surface Facilities Area Water Management Schematic

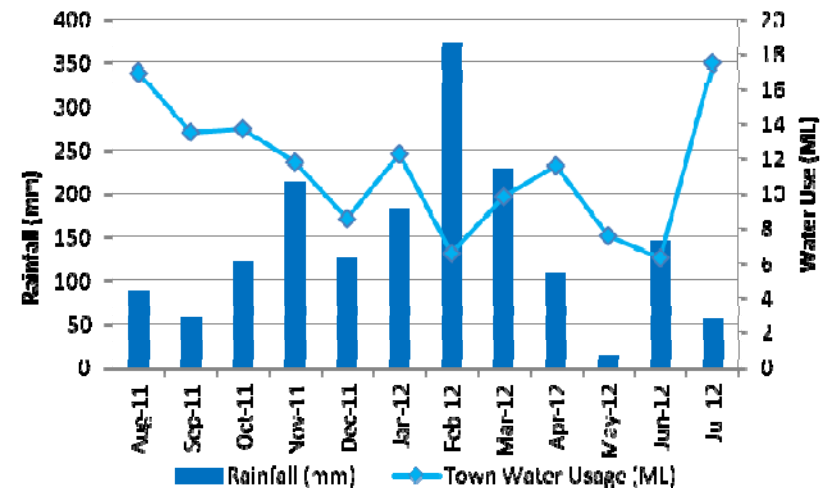


Chart 1 Rainfall and Town Water Use during the Review Period

METROPOLITAN COAL - ENVIRONMENTAL MONITORING SUMMARY

Water Quality

Surface water quality monitoring is conducted at EPL No. 767 monitoring point 9 (clean water tank of the water treatment plant), if discharge is occurring to Camp Gully. Water quality parameters for EPL No. 767 monitoring point 9 include: pH, oil and grease and total suspended solids.

The monitoring results indicate:

- pH ranged from 7.9 to 8.5, with an average of pH 8.3 (Chart 2).
- Oil and grease concentrations ranged from less than the detection limit (<2 milligrams per litre [mg/L]) to 5 mg/L (Chart 3).
- Total suspended solids were less than 5 mg/L (Chart 4).

The site water management system continuously monitors total suspended solids and prevents discharges of water that exceeds the criteria. Water that exceeds the criteria is treated further to ensure that only water which meets the acceptable criteria is discharged.

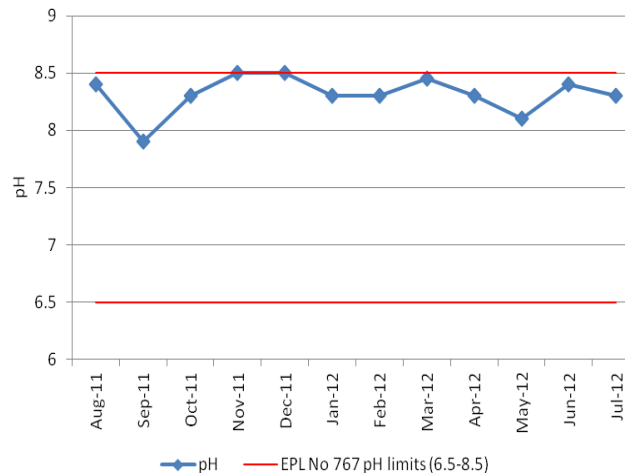


Chart 2 pH recorded at EPL No. 767 Monitoring Point 9

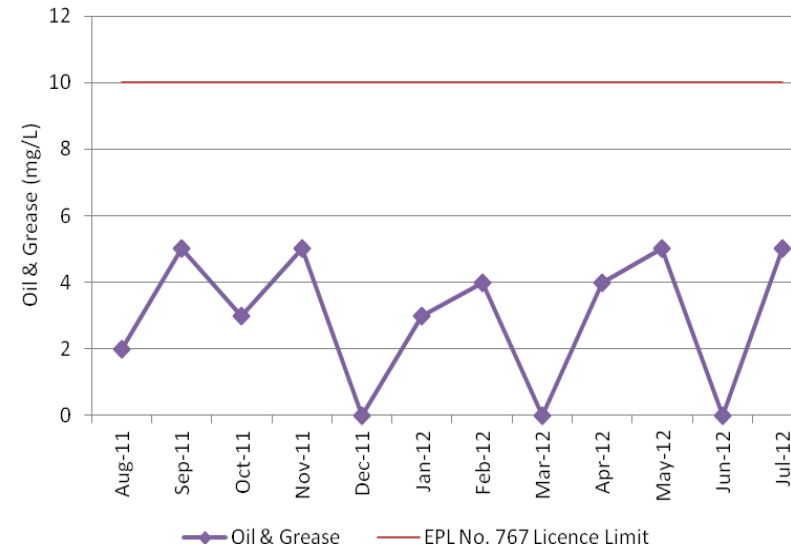


Chart 3 Oil and Grease recorded at EPL No. 767 Monitoring Point 9

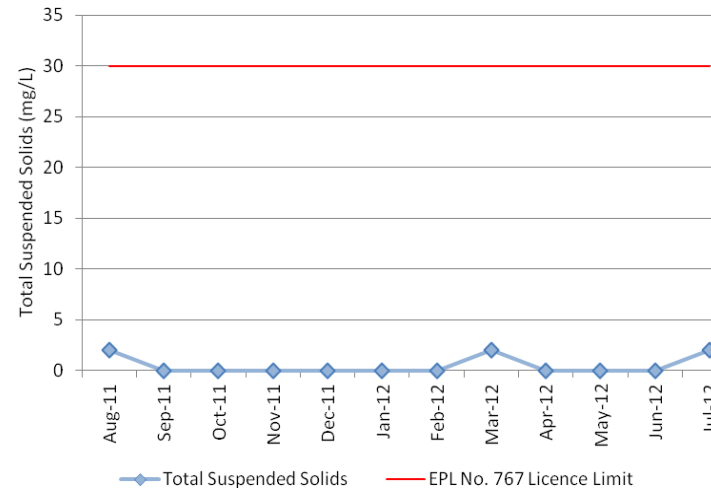


Chart 4 Total Suspended Solids recorded at EPL No. 767 Monitoring Point 9

METROPOLITAN COAL - ENVIRONMENTAL MONITORING SUMMARY

Water Quality (continued)

In addition, monthly surface water quality monitoring at four sites on Camp Gully commenced during the review period. More frequent (i.e. event-based) sampling is conducted at the Camp Gully sites during larger rainfall events (i.e. greater than 25 millimetres/day). Water quality parameters sampled include: pH (pH units), electrical conductivity (microSiemens per centimetre), oil and grease (mg/L), total suspended solids (mg/L), dissolved oxygen (percent Saturation and mg/L) and oxygen reduction potential (milliVolts).

Mine Water Make

Mine water make is monitored by Metropolitan Coal. The monitoring is described in the Groundwater section of this Environmental Monitoring Summary.

Overall System Integrity

Water management items are visually inspected and reported in accordance with the mine's maintenance system to assess the overall integrity of the water management system. This includes inspections of the:

- Integrity of all water management system pipelines and pumps for leaks and general serviceability (daily inspection).
- Integrity of all concrete bunded areas (hydrocarbon storages) for integrity and signs of leakage (daily inspection).
- Integrity of main water storages (Turkey's Nests, Sediment Ponds and Taj Mahal) and status of sediment accumulation (daily inspection).
- Signs of discharge of site runoff to Camp Gully or Helensburgh Gully, other than via licensed discharge points (daily inspection).
- Integrity of upslope diversions at site perimeter (weekly inspection).
- Integrity and effectiveness of erosion control measures (weekly inspection).

The Water Treatment Plant is also checked daily by the site's maintenance personnel under the direction of Metropolitan Coal's Environment and Community Manager.

The Environment and Community Manager (or their delegate) also inspects the site weekly.

The daily and weekly inspections have identified a number of improvements and maintenance requirements that have been subsequently implemented by Metropolitan Coal.

During the review period an environmental incident occurred on 15 August 2011. Water run-off from a Virgin Excavated Natural Material stockpile in the drift construction area was identified draining via an on-site clean water drain to the Helensburgh Creek culvert and subsequently into Camp Gully. Steps were immediately taken to barricade the clean water drain with sandbags to prevent further run-off into Camp Gully via the culvert. Clean up measures were implemented including the removal of the Virgin Excavated Natural Material stockpile using an excavator to a suitable containment area. Water samples taken from Camp Gully indicated the water quality at the discharge point into Camp Gully was quickly restored. The New South Wales Office of Environment and Heritage's (OEH) Pollution Line was advised of the incident on 15 August 2011 at 4:28 pm (Reference Number 130 492) and the New South Wales Department of Planning and Infrastructure on 15 August 2011 at 4:31 pm. Correspondence between Metropolitan Coal and OEH included the agreement of corrective actions to be implemented to rectify the issue including:

- installation of a concrete containment barrier to further segregate clean and dirty water;
- repair of sprinkler system on new drift conveyor to prevent a re-occurrence of the malfunction that led to continuous operation of the sprinkler system on the conveyor; and
- provision of further training to the contractors responsible for the drift construction regarding environmental obligations.