TOMINGLEY
GOLD OPERATIONS PTY LTD
(A wholly owned subsidiary of Alkane Resources Ltd)
ABN 53 149 040 371

Annual Environmental Management Report 1 January – 31 December 2014

Mine: Tomingley Gold Operations
Mining Leases: ML1684
MOP Period: 13/5/2014 - 31/03/2021
AEMR Period: 01/01/2014 – 31/12/2014
Leaseholder: Tomingley Gold Operations Pty Ltd
Mine Operator: Tomingley Gold Operations Pty Ltd
Reporting Environmental Officer: Mark Williams
Signatures:

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March 2015

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Definitions

Term	Definition
$CaCO_3$	Calcium carbonate
Council	Narromine Shire Council
CCC	Community Consultative Committee
DSC	Dam Safety Committee
EEC	Endangered ecological community
EC	Electrical Conductivity
EPA	Environment Protection Authority
EP&A	*Environment Planning and Assessment Act 1979*
EPL	Environment Protection Licence
DP&E	Department of Planning & Environment
DRE	Division of Resources and Energy (Department of Trade and Investment, Regional Infrastructure and Services)
ha	Hectares
HVAS	High volume air sampler
LDP	Licensed discharge point
LFA	Landscape function analysis
Mining Act	*Mining Act 1992*
MOP	Mining operations plan
ML	Mining Lease
NGERS	National Greenhouse and Energy Reporting Scheme
NMP	Noise Management Plan
NOW	NSW Office of Water
NSS	Noise and Sound Services
OEH	Office of Environment and Heritage
PM10	Particulate matter
RMS	Roads and Maritime Services
SEEC	Strategic Environmental and Engineering Consulting
TARP	Trigger action response plan
TEOM	Tapered Element Oscillating Microbalance
TGO	Tomingley Gold Operations
TGP	Tomingley Gold Project
TSP	Total suspended particulates
WAD	Weak acid dissociable cyanide
WAL	Water access licence
WHS	Workplace Health & Safety
WRE	Waste rock emplacement

1 Introduction

1.1 Tomingley Gold Mine

This Annual Environmental Management Report (AEMR)/Annual Review reports on operational and environmental management activities undertaken at Tomingley Gold Operations Pty Ltd (TGO) during the calendar year 2014, and provides details on activities proposed for 2015. The report has been produced to meet AEMR/annual review requirements conditioned in the TGO Mining Lease (ML 1684) and Project Approval (PA09_0155). This report generally follows the requirements of Guidelines and Format for Preparation of an Annual Environmental Management Report (Department of Primary Industires – Mineral Resources, January 2006).

TGO is a wholly owned subsidiary of Alkane Resources Ltd. TGO is a medium-sized gold project with approximately 921,000 ounces of gold in the current defined resource space. TGO aims to produce 50,000-60,000 ounces of gold per year, over the next 7.5years years, based on an annual ore throughput of around one million tonnes.

The Tomingley area has a long history of gold mining and exploration, with gold first discovered and mined from the Tomingley Goldfield in the 1880s. Numerous underground mining operations were subsequently located in the McPhail area, immediately south of the TGO minesite. The last economic 'mining' activities were completed in the late 1990s and involved the re-treatment of tailings from the McPhail Mine.

The current mining operations are focused on the area immediately north of the historic Myalls United Mine. Mining commenced in three open cut mines (Wyoming One, Wyoming Three and Caloma) on the site in November 2013. The process plant, with associated residue facilities, was commissioned between December 2013 and February 2014.

1.2 Consents, Leases and Licenses

TGO operates under the environmental consents, leases and licenses specified in Table 1.

Table 1: Consents, leases and licenses

Title	Legislation	Regulatory Authority	Approval Duration/ Expiry
Project approval 09_0155 (MOD 1 – 24 July 2012)	Environmental Planning & Assessment (EP&A) Act 1979	NSW Department of Planning and Infrastructure (DP&I)	31 December 2022
Mining Lease 1684	Mining Act 1992	NSW Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS)	11 February 2034
Environment Protection License (EPL) 20169	Protection of the Environment Operations (POEO) Act 1997	NSW Environment Protection Authority (EPA)	Ongoing until surrendered (Next review 23 October 2018)
Controlled Works Approval 80CW809661 (Gundong CK levy)	Water Management Act 2000	NSW Office of Water (NOW)	02 January 2018
Groundwater licences WAL20270, WAL28643 and WAL29266	Water Management Act 2000	NSW Office of Water (NOW)	N/A
Notification of Dangerous Goods NDG200150	Work Health & Safety Act (WHS) 2011	WorkCover NSW	26 October 2015

Condition 4 of ML 1684 and Schedule 5, Condition 4 of Project Approval PA 09_0155 require the completion of an AEMR/annual review. Table 2 identifies the sections of this report that address these specific AEMR/annual review requirements.

Table 2: Annual Review compliance matrix

Condition	Requirement	Reference
PA 09_0155, Schedule 5, Condition 4.		
4. By the end of March each year following the commencement of construction, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must:		
(a)	describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year	Section 2 Section 5 Section 0
(b)	include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the: (i) the relevant statutory requirements, limits or performance measures/criteria; (ii) requirements of any plan or program required under this approval; (iii) the monitoring results of previous years; and (iv) the relevant predictions in the EA	Section 3 Section 4
(c)	identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance	Section 3 Section 6
(d)	identify any trends in the monitoring data over the life of the project	Section 3
(e)	identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies	Section 3
(f)	describe what measures will be implemented over the next year to improve the environmental performance of the project	Section 3 Section 6
ML 1684, Condition 4.		
(a)	The leaseholder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.	
(b)	The EMR must: (v) report against compliance with the MOP; (vi) report on progress in respect of rehabilitation completion criteria; (vii) report on the extent of compliance with regulatory requirements; and (viii) have regard to any relevant guidelines adopted by the Director-General;	Section 5

1.3 Mine Contacts

The primary contacts for the TGO during the review period are detailed in

Table 3.

Table 3: Tomingley Gold Operations Key Contacts

Key Contact	Position	Contact Details
Sean Buxton	Operations Manager	PO Box 59 Peak Hill, NSW, 2869 Phone: (02) 6867 9780
Mark Williams	Environment and Community Manager	PO Box 59 Peak Hill, NSW, 2869 Phone: (02) 6867 9780
Community Information Line		(02) 6865 6116

1.4 Actions Required from 2013 AEMR Review

A review of the 2013 TGO AEMR was held on 02 October 2014, and was attended by officers from Narromine Council (Council), DTIRIS - Division of Resources and Energy (DRE) and EPA. A summary of requirements resulting from that review are presented in Table 4.

Table 4: Actions from 2013 AEMR Review

Actions Required from previous AEMR Review	**Relevant AEMR Section**
TGO should maintain accessible record of dust control activities, as evidence of Dust Control Procedure/TARP implementation.	3.4
Include more detail on complaints response in complaints register information.	4.3/ Appendix H
Include noise thresholds when reporting monitoring and incidents in AEMR.	3.5
Soil stockpile volumes (tonnes) to be reported for start and end of each reporting period, and any soil quality test results.	5.2/ Table 16
Include non-mineral waste production figures.	2.7.2
Include figures for consumption of water, electricity and diesel.	2.9.1/ 3.4.2
Include information on internal (non-reportable) incidents.	Relevant sub-sections of Section 3
Include EPA incident report numbers for all reported incidents, and complaints received via EPA.	
Report where monitoring was not completed due to equipment failure, and discuss remedial action completed to address.	

2 Operations during the Reporting Period

2.1 Exploration

Exploration activities during the reporting period consisted of ten bores being drilled in the vicinity of the southern end of Waste Rock Emplacement (WRE) 3. These bores were drilled to further define the resource that may be accessed by the proposed Caloma 2 open cut pit.

All exploration drilling undertaken during the reporting period was located within ML 1684, on land owned by TGO.

2.2 Land Preparation

Fallen trees were cleared from the footprint for the proposed WRE 1 in September 2014. The majority of the larger trunks, limbs and root balls were removed from site by the Department of Primary Industries – Fisheries and Aquaculture to be used in a resnagging project in the Macquarie River between Dubbo and Wellington. 20-30 of the larger felled tree trunks were retained for use as habitat features in the rehabilitated landscape.

Remaining smaller branches and vegetation was mulched by a contractor for reuse in site rehabilitation.

The majority of topsoil recovery was completed in the previous reporting period, during the project construction phase. However, 718,108 m^3 of topsoil/subsoil was recovered during this reporting period, and included the following activities.

- The stockpiling of residual topsoil/subsoil stripped during initial site construction works (previous reporting period).
- Completion of topsoil stripping from the Wyoming 3 open cut footprint (first quarter).
- Stripping of the Central Dewatering Pond (CDP) footprint (May 2014);
- Pushing up a small area of topsoil at the eastern end of the WRE 2 (July 2014);
- Topsoil recovery from the eastern and western sides of Caloma 1 and the northern amenity bund footprint.
- Topsoil stripping for various civil construction projects, such as the contractor go-line area, warehouse laydown upgrade, re-fuelling bay and vehicle wash-down facility.

Topsoil stripping of larger areas, such as open cut pit and waste rock emplacements, is generally undertaken using scrapers. Smaller areas, such as linear corridors and small civil projects, are dozer pushed into windrows, and recovered by digger and truck.

Recovered material is placed in designated soil dumps, located to the east/southeast of Wyoming 3 and to the north/northeast of Caloma 1. Stabilisation of soil dumps (consisting of stockpile trim and rip, gypsum application, and seeding with pasture seedmix) occurred in May and September, following dump modification.

2.3 Construction

Construction of mine infrastructure was predominantly completed during the previous reporting period. However, several major projects were also completed during the 2014 reporting period, including:

- Contractor go-line/laydown area finalisation;
- Newell Highway underpass construction;
- Tomingley West Road widening and upgrade;
- Central Dewatering Pond construction;
- Crushing and screening circuit completion;
- ROM pad completion and rock amouring;
- Explosives magazine and compound completion;
- Warehouse laydown area upgrade;
- Administration car park
- Vehicle wash-down and re-fuelling facilities construction; and

- Water management system upgrade (including drain construction, polyline installation and sediment basin upgrade).

The Residue Storage Facility (RSF) Stage 2 wall raise was also commenced towards the end of the reporting period, and is due for completion in 2015.

2.4 Mining

A transition from the construction project contractor to a contract operations mobile plant fleet, staffed by TGO operators, occurred during the first half of the reporting period. Following the transition, the open cut fleet was gradually expanded as production operations increased. By the end of the reporting period, the mining fleet consisted of:

- 10 x Rear Dump Trucks (Cat 777)
- 2 x Water Carts (Cat 773D & 740)
- 4 x Excavators (EX1900, 2 x EX1200 & ZX330)
- 3 x Tracked Dozers (D9T & 2 x D10T)
- 2 x Wheel Dozer (834G & 854K)
- 2 x Wheel Loader (988H & 988G)
- 2 x Telehandlers (Manitou 732 & Dieci 1420)
- 1 x Service Truck

Mining from the Wyoming 3 and Caloma 1 open cut pits continued during the reporting period. Wyoming 3 was mined to a depth of 225 mRL (approximately 35m below natural land surface), with 180,622 m^3 ore being hauled to the ROM stockpile pad, and the majority of the 1,830,384 m^3 waste rock being placed in WRE 2.

Caloma 1 was mined to 235 mRL (approximately 30m below natural ground level), with the majority of the 5,168,176 m^3 waste rock being placed in WRE 3. Mining of ore from Caloma 1 commenced in March 2014, with completion of the Newell Highway Underpass allowing access to the ROM stockpile. 469,095 m3 of ore was mined from Caloma 1 during the reporting period.

Wyoming 1, having been left as a shallow excavation during the construction phase and used to store surface runoff water water whislt the central dam was being constructed, was dewatered and prepared for mining during the second half of 2014. No mining from Wyoming 1 occurred in 2014.

The priority for emplacement of waste rock was the completion of the amenity/noise bunds along the northern boundary of WRE 2 and WRE 3. Construction of these bunds commenced during the previous reporting period to provide visual and noise screening of mining operations from Tomingley. Construction of the Stage 1 amenity bunds (to 280 mRL) were completed by March. Subsequent stages of construction saw the WRE 2 amenity bund raised to 290 mRL, and WRE 3 bund raised to 295 mRL. Behind these protective bunds placement of waste rock into WRE 2 and WRE 3 continued throughout the reporting period.

Initial construction of WRE 1 was briefly commenced during the last reporting period. However, substantial construction of the dump was not started until December 2014, following clearing and topsoil stripping.

In-pit grade control drilling commenced in February 2014 in Wyoming 3 and Caloma 1 open cut pits, and continued in both pits throughout the reporting period. No drilling occurred in Wyoming 1. Blasting commenced on 28 February 2014, with a shot in Wyoming 3. The first blast in Caloma 1 pit was shot on 08 May 2014. No blasting occurred in Wyoming 1 pit. A total of 110 blasts were shot during the reporting period, consuming 1,407 tonnes of explosive emulsion and 25 tonnes of ANFO. Environmental Management of blasting is discussed in Section 3.6.

2.5 ROM and Ore Stockpile

Stockpile pads used as part of processing at TGO include the ROM stockpile pad, and the surge bin stockpile. Construction of the ROM stockpile pad was completed in March 2014. Ore mined from the open cuts was subsequently truck hauled to the ROM and stockpiled prior to crushing, screening and further processing. The ROM stockpile pad was subsequently extended to the east and south to allow for a higher volume of ore to be effectively stockpiled.

The surge bin stockpile was operational, and used as required, throughout the reporting period.

2.6 Mineral Processing

Ore material is processed within the on-site processing plant. Ore stored on the ROM pad is fed into the primary crusher and if required a rock breaker and secondary crusher is also used. Once crushed, the material is screened and fed into the grinding circuit, either directly or via a surge bin. The grinding circuit further reduces the ore in a ball mill and trommel or rotating screen. The milled material is then passed to a series of cyclones and separated for further processing in the appropriate gold extraction circuit.

Larger or denser material flows to a gravity concentrator which further separates denser material for intensive leach processing to extract the gold. Smaller or less dense material flows to the standard Carbon-in-leach (CIL) process. The intensive leach process is an intensive cyanidation process. The de-watered concentrate is exposed to a high oxygen, high cyanide solution, which dissolves the gold from the concentrate for subsequent gold recovery via the electrowinning circuit.

The CIL leach circuit holds ground material in tanks containing activated carbon. Sodium cyanide, lime and other additives dissolve the gold into solution. The dissolved gold is adsorbed onto pores of the carbon granules, which are then is collected using a screen within each tank. The gold-loaded carbon is transferred to an elution column where a strong heated caustic and cyanide solution reverses the adsorption process, allowing the gold to be removed from the solution by electrowinning.

The leach circuit would is constructed within a concrete bunded area with sufficient volume to contain 110% of the volume of the largest tank. All surface water flows within the bunded area would be directed to a sump and pumped back into the CIL tanks.

Figure 1 presents the layout of the Processing Plant and Office Area which comprise the following components.

- ROM Pad.
- Crushing and screening infrastructure including:
    - Primary crushing building;
    - screening building;
    - Surge bin and surge stockpile; and
    - conveyors.
- Processing plant (including grinding circuit, leach circuits and reagent storage areas).
- Raw water, process water and settling dams.
- Potable water processing plant.
- Transformer and electrical switch room.
- Workshops, laboratory and ablutions facilities.
- Administration office.

Construction of processing infrastructure required to process the mined ore was largely completed during the previous reporting period. However, several components, as disscussed below, were completed during the 2014 reporting period. Following commissioning of these components, the processing plant generally operated as described in the project Environmental Assessment (Alkane, 2011). During the reporting period, 966,078 dry tonnes of milled ore were processed.

The first ore was milled on the 22 January 2014, and the fist gold was poured on 14 February 2014.

The primary crusher was commissioned in February 2014, with peripheral components being completed over the next two months, finishing with installation of dust suppression in April. Up until commissioning of the primary crusher, a portable crusher was hired to prepare feed stock for the mill.

The on site laboratory was completed, and commenced sampling metallurgical accounting samples, on the 27 May.

A project to install an oxygen tank for the processing plant was completed, with commissioning in late November.

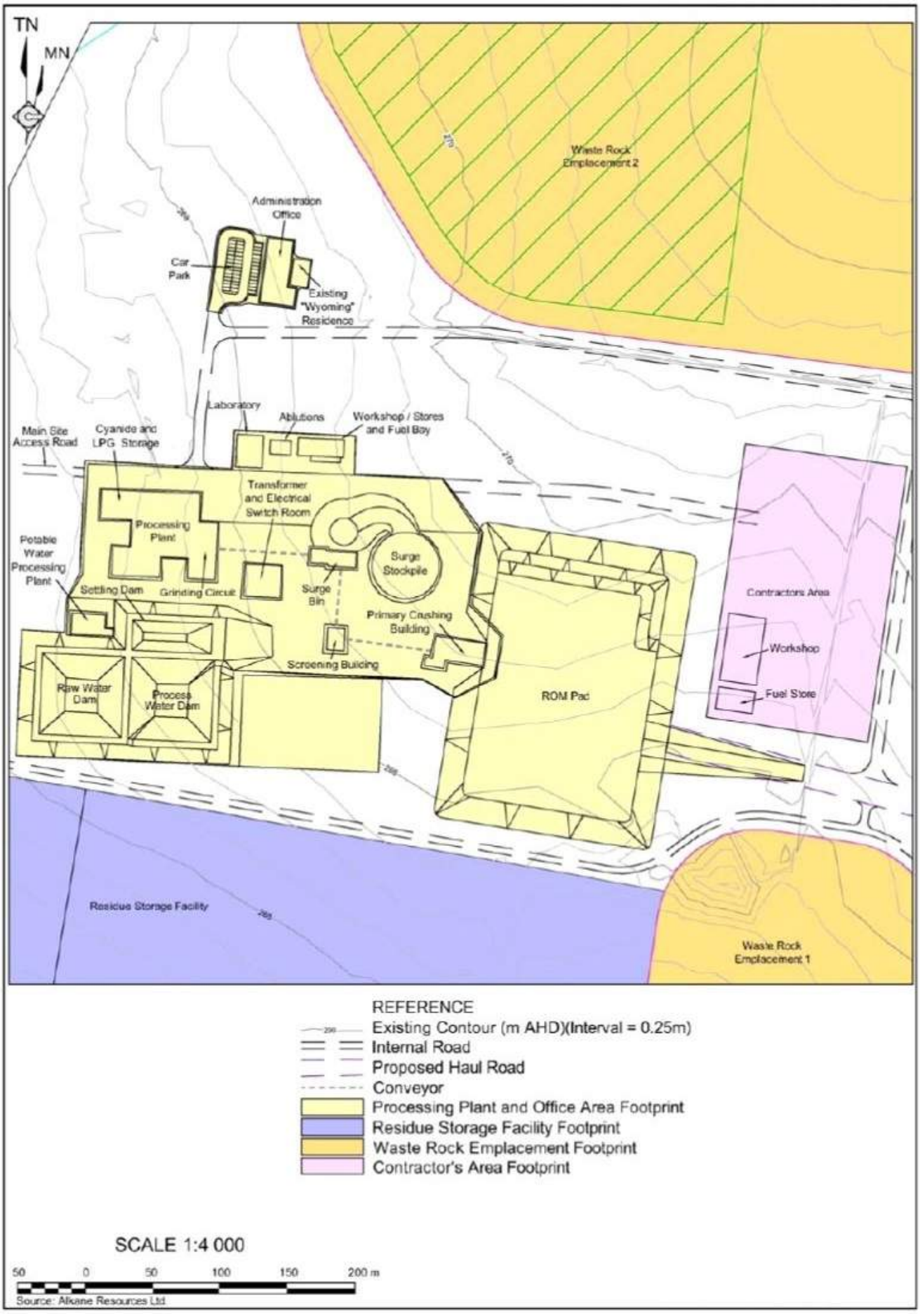


Figure 1: Processing Plant and Office Area Layout

2.7 Waste Management

For the purposes of reporting, waste management at TGO is classified into two broad categories:

1. *Mineral waste* – mining and mineral processing wastes; and
2. Non-mineral waste – including those waste streams such as general waste, recycling and regulated waste.

2.7.1 Mineral Waste

2.7.1.1 Waste Rock

Waste rock is mined material that contains insufficient gold to justify processing. An assessment of net acid generation potential (NAGP) in the open cut waste rock, completed during the project assessment, indicated that waste rock mined at TGO would not be acid generating.

During the reporting period, waste rock was placed in one of three waste rock emplacements, or used to construct, expand or maintain infrastructure such as amenity bunds and ROM stockpile pad. During the reporting period, 7,003,964 m3 of waste rock was mine at TGO, including:

- 1,835,788 m3 disposed of in WRE 2 (and associated amenity bunds); and
- 5,168,176 m3 disposed of in WRE 3 (and associated amenity bunds).

Further detail on waste volumes produced at TGO are presented in Table 5.

The methodology used to haul and place waste rock during the reporting period is consistent with the WRE design principles described in the TGO EA (Alkane, 2011) and current TGO Mining Operations Plan (TGO, 2014).

2.7.1.2 Process Residue

Following processing, liquid waste residue is pumped to thickener tanks to remove excess water for re-use, before being pumped to the Residue Storage Facility (RSF), constructed immediately to the south of the TGO processing plant. A total of 956,077 t of process residue was dischsarged into the RSF during the reporting period.

Residue material is alternately discharged into one of two cells of the RSF, with each cell having the opportunity to dry while residue is discharged to the adjacent cell. Discharge of residue into Cell 1 commenced in January 2014, with discharge into Cell 2 commencing in July 2014.

The material is discharged from spigots, regularly spaced around the perimeter of the each cell to allow an even build-up of residue solids over the whole area of each cell. Reclaim water is collected in two decant towers within the RSF and pumped directly to the process water dam for re-use. During the reporting period, 546.7 MLof decant water was recovered from the RSF for re-use in processing.

The RSF is desiged to contain all residue material generated throughout the mine life. RSF embankments are currently 5.5m high (during 2014 reporting period), and will progressively be raised to 15m over the life of the mine to maintain adequate storage capacity and facility integrity. Works to facilitate the Stage 2 embankement raising commenced towards the end of the 2014 reporting period and will continue in the next period.

The RSF is a prescribed dam under the *NSW Dams Safety Act 1978*, and the NSW Dam Safety Committee (DSC) provided conditional endorsment to mining within the notification zone got the TGO RSF on 12 February 2014. The RSF is operated and maintained to meet the requirements of the *Australian National Committee on Large Dams* (ANCOLD) *Guidelines on Dam Safety Management* (2003).

The majority of RSF construction was undertaken during the previous reporting period, with minor modifications being completed in 2014. Key features of the RSF include:

- Two cells with a combined area of 42ha.
- Crest elevation – 280.5m AHD.
- Crest width – 6m.
- Slope of outer face – 1:3 (V:H).
- Slope of inner face – 1:1.5(V:H).
- Key trench – up to 2m deep, base 3m wide, side slopes = 2:1 (V:H).

- Maximum elevation of residue – 280.0m AHD.

Operational management requirements for the TGO RSF are documented in the *Residue Storage Facility Operation Manual* (November 2013) and *RSF Monitoring Management Plan* (January 2014). Measures implemented to restrict access by fauna to potentially cyanide-contaminated water are presented in the *Biodiversity Management Plan* (2014) and discussed in Section 3.11.

Table 5: Production and Waste Summary

ITEM	Unit	Cumulative Waste & Stockpile Production	
		Start of Reporting Period	End Of Reporting Period
Topsoil Stripped (includes subsoil)	**m^3**	**376,130**	**718,146**
Topsoil Used/ Spread (includes subsoil)	**m^3**	**4,209**	**7,073**
Waste rock Surface	**m^3**	**696,788**	**7,700,752**
Ore	**kt**	**0.0**	**956.1**
Processing Waste (Residue)	**kt**	**0.0**	**956.1**
Product	**Oz**	**0.0**	**64,137**

2.7.2 Non-Mineral Waste

Non-mineral waste generated during the reporting period was collected onsite and transferred offsite by a licenced waste contractor for re-use, recycling or licenced waste disposal. No onsite landfilling of waste occurs at TGO. In January 2014, JR Richards was engaged to collect general waste and recyclables from TGO.

During the reporting period, an improved “go-line”, consisting of separate bunded laydown compounds for TGO departments and major contractors, was constructed immediately north of the ROM pad. As well as general equipment and parts storage, the go-line serves as a dedicated area where waste streams are collected and temporarily stored prior to shipment off site. A signed waste transfer area has been established as part of the go-line, with dedicated waste collection receptacles or temporary storage facilities for scrap metal, wood, batteries, rubber, and electronic goods and used liquid pods.

Table 6 lists the non-mineral wastes that were generated at TGO during the reporting period and outlines how each waste stream is managed. Waste management performance for the reporting year is indicated by the offsite transfer figures presented in Table 7.

Table 6: Waste Management Summary

Waste Stream	Management	Offsite Transfer
General waste (including food scraps)	Covered bins located within lunch rooms, offices, outside workshops and elsewhere as required.	Collected on a regular basis by a licensed waste contractor and transported to a licensed waste disposal facility.
General Recyclables	Covered bins located within lunch rooms, offices and elsewhere as required.	Collected on a regular basis by a licensed recycling contractor and transported to an appropriate recycling facility.
Waste oils and greases	Placed within bunded tank(s) within the workshop area. Where required, smaller, temporary storage containers are positioned close to work areas, with the contents of those container transferred to a larger storage tank prior to collection.	Collected on a regular basis by a licensed waste contractor and transported to an appropriately licensed facility for recycling.
Batteries	Placed within a covered and marked used battery storage area until removed from site.	Collected on a regular basis by an appropriate contractor and recycled.
Tyres	Placed within a marked used tyre storage area until removed from site, or temporarily re-used on site for construction of retaining walls, erosion protection or traffic control.	All tyres are removed from site for re-use or recycling. This includes tyres temporarily being used on-site.
Scrap Steel/Metal	Stored in a scrap steel skip within the workshop area or elsewhere as required.	Collected on a regular basis by a scrap metal recycler.
Waste Stream	**Management**	**Offsite Transfer**
Pallets	Pallets are stored in a sign-posted area within the main site delivery laydown area.	Collected on a regular basis by a licenced waste contractor for re-use or recycling.
Waste water	Waste water from the ablutions facilities and lunchrooms is treated using an onsite sewerage treatment plant.	Discharge from the treatment plant is area irrigated adjacent to the site entrance road.

Table 7: Waste Transfer Summary

Waste Stream	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2014 (t)
Oil Filters	-	-	-	-	-	-	-	-	-	-	2,052	-	2.05
Waste Grease	-	-	-	-	-	-	-	-	2,844	-	615	-	3.46
Empty Drums	-	-	-	-	-	-	-	-	-	-	300	-	0.30
Total Recycled Hazardous	-	-	-	-	-	-	-	-	2,844	-	2,967	-	5.81
Paper & Cardboard	-	340	630	510	-	-	-	-	-	-	-	-	1.48
Commingled	-	-	-	-	-	920	460	560	760	1,000	600	540	4.84
Total Recycled Non-Haz	-	340	630	510	-	920	460	560	760	1,000	600	540	6.32
Mixed solid (Disposed Non-Haz)	-	26,800	4,240	3,280	9,060	7,240	3,180	8,780	8,660	3,350	9,880	14,920	99.39
Total Weight	-	27,140	4,870	3,790	9,060	8,160	3,640	9,340	12,264	4,350	13,447	15,460	111.52
Recycled Waste	-	340	630	510	-	920	460	560	3,604	1,000	3,567	540	12.13
Recycled (%)		1.25	12.94	13.46	0.00	11.27	12.64	6.00	29.39	22.99	26.53	3.49	10.88

2.8 Hazardous Material Management

The highest risk for potential land contamination at TGO is the storage and handling of diesel fuel, and other hydrocarbons used in open cut fleet servicing. There is also a contamination and human health risk associated with the use of sodium cyanide and other reagents in processing. Management measures required to ensure the safe use and storage of hazardous materials at TGO are detailed in the *Hazardous Materials Management Plan*.

TGO notified Workcover NSW that dangerous goods were to be stored onsite. This notification was acknowledged on the 25 September 2013 by the granting of *Acknowledgement of Dangerous Goods on Premises NDG200150*. Renewal of this notification is required annually.

2.8.1 Dangerous Goods Management

Before new chemicals are introduced to site, TGO Safety and Environmental Staff assess the associated human health and environmental risk and, if required, condition their storage and use onsite.

Transport of hazardous materials to TGO is undertaken by licenced contractors, using approved containment. On delivery, hazardous materials are inspected for containment integrity, before being placed or transferred into the designated site storage facilities.

Chemicals and hydrocarbons are stored in AS compliant storage tanks, bunded areas or on temporary spill pallets, and segregated by dangerous goods class. Hazardous liquid storage tanks are contained within concrete bunds with a capacity of 110% of the volume of the liquid storage tank.

Safety Data Sheets (SDS) are electronically available across the site, via the ChemAlert database program. All SDS's across site are reviewed and updated regularly.

TGO inductions train mine site workers (employees and contractors) in the safe storage and use of hazardous substances, and actions required in the event of a spill, including spill clean-up, and incident reporting, and hazardous/contaminated waste disposal.

Offsite transfer of hazardous waste substances, or associated contaminated waste, is undertaken by a licenced contractor.

Regular audits are carried out to ensure compliance with hazardous materials management requirements.

2.8.2 Processing Reagent Management

Specific management measures have been implemented at TGO for sodium cyanide and other processing reagents to ensure that associated human health and environmental risks are minimised appropriately.

- Sodium Cyanide: Sodium cyanide is delivered in solid form in isotainers (sealed tanks designed for the transport and management of potentially harmful substances). Water is circulated through the isotainer to dissolve the sodium cyanide which is then transferred to liquid storage tank(s).
- Caustic Soda: Caustic soda is delivered to TGO by road in liquid form in road tankers and stored in a bunded caustic storage tank.
- Hydrochloric Acid: Concentrated hydrochloric acid is delivered by road in 1 000L sealed containers held inside shuttle bins. The containers are unloaded into a tank located in the concrete containment bund adjacent to, but separated from, the cyanide plant.

2.9 Water Management

Water management at TGO was generally undertaken in accordance with EPL and project approval requirements during the reporting period. The overall commitments and actions outlined in the Draft Water Management Plan (WMP) (TGO, 2014) and EA were also generally met. However, as TGO transitioned from construction to mining operations during the reporting period, and following several unlicenced discharge events, TGO determined that the Draft WMP required further review and modification prior to finalisation. It is expected that the WMP will be finalised midway through the next reporting period. TGO surface water monitoring and management performance is discussed is Section 3.7.

2.9.1 Water Supply

The majority of water consumed at the TGO site is used in ore processing and dust supression across the site. Potable water is also sourced from offsite. During the reporting period, water was sourced from multiple locations to meet this demand, including:

- Narromine water supply pipeline;
- Onsite dams, under harvestable rights;
- Recycling of mine water and process water; and
- Emergency haulage of water from Peak Hill Mine.

The principal offsite water source for TGO is from a licensed production bore, located on a private property located approximately 7km to the east of Narromine. This water is transported to site via the Narromine water pipeline, constructed during previous reporting period. The bore and pipeline are designed and licenced to supply up to 1,000 ML per annum. During the reporting period, 862.7 ML ML was transported to site by this pipeline.

The Maximum Harvestable Rights Dams Capacity (MHRDC) policy entitles a landholder to capture up to 10% of the rainfall and runoff from their property and use it for any purpose without needing a licence for the dam(s). The maximum capacity of dams/pits that may capture rainfall/runoff on TGO-owned land is 51.0ML. Water holding structures for sediment or pollution control purposes are exempt from the MHRDC consideration, unless the water captured is to be re-used on the site/property.

Water captured as part of open cut mining, including rainwater (under MHRDC) and groundwater inflow (licenced as per Table 1), is dewatered to the CDP and re-used onsite for dust suppression and processing. Approximately 511 ML of water was estimated to have been recovered from open cuts and site dams for re-use during the reporting period.

Water recovered during processing operations, and decant water from the RSF, reports to the Process Water Dam for re-use in processing. During the year, it is estimated that 546.7 MLwas recycled process/decant water.

During extensive dry periods, the option of emergency water haulage from Peak Hill Mine may also be used. This option was utlised in the reporting period, with 5.5 ML being transported to site in February 2014 and 13.2 ML in December 2014.

2.9.2 Clean Water Management

Clean water consists of through-flow from offsite, or water from onsite non-mine disturbed catchments, requiring separation from mine-impacted water, before being directed offsite. Management includes the construction of drains and bunds to collect and divert surface water flow passed, or away from, mining disturbed catchments.

During the reporting period, significant improvements were made to onsite clean water drains (and adjacent surface catchment area). These improvements are discussed further in Section 3.10.

2.9.3 Dirty Water Management

Dirty water consists of sediment-laden surface flow that is captured on site. The initial plan was to treat and discharge water from site however practical method is yet to be indentified to allow for this to occur. And comply with the current EPL limits. Treatment includes adequate retention time in a sediment basin and, if required, flocculnt treatment to allow the settlement of sediment load.

To facilitate the improvement of site dirty water management and to prevent dirty water discharging from site, significant upgrades to sediment basins and drains were completed during the reporting period, including the:

- The construction of Sediment Pond 5
- Upgrade/refurbishment of basin inflow drains and spillways;
- Commissioning of three portable pumps, and installation of polyline network, to facilitate the dewatering of sediment basins to the CDP;
- Upgrade of existing drainage network to improve surface water catchment capacity;
- Remedial treatment of site bypass drains, to ensure drain stability, reduce erosion and improve quality of non-mine water flow-through;
- Revegetation works on earthen infrastructure batters and topsoil dumps.

2.9.4 Contaminated Water Management

Contaminated water consists of water that, for the purposes of site water management, is considered not suitable for offsite discharge. These waters require special management to minimise environmental impact, and include:

- Water (rain water or groundwater) captured in opencut pits;
- Water recovered from processing operations, or processing byproducts such as residue;
- Water captured from onsite infrastructure, such as oil separators and wash-down facilities; and
- Sewerage generated onsite.

Contaminated water captured by open cut pits and dams is retained onsite in the CDP dirty-water cell and re-used for site operations. Contaminated process water is also recycled for re-use via decant from the RSF, the raw water dam and process water dam. Sewerage is treated at an approved onsite treatment plant and used to irrigate site revegetation areas. Construction of a vehicle wash-down facility and oily water separator was completed during the reporting year to facilitate the improvement of contaminated water management.

Table 8: Stored Water

Description and structure name	Storage Capacity m^3	Start of Reporting Period m^3	At end of Reporting Period m^3
Clean water Central Dewatering Pond – clean water cell	17,400	Nil (not yet constructed)	14,500
Contaminated Water Central Dewatering Pond – mine water call	78,200	Nil (not yet constructed)	7,500
Residue Storage Facility[1]	1,310,000 (Jan) – 423,870 (Dec)[2]	Nil (not yet operational)	500
Raw Water Dam[1]	10,700	Nil (not yet operational)	10,700
Process Water Dam[1]	9,200	Nil (not yet operational)	1,840

[1] Intermediate water storage facility - water volume stored fluctuates frequently based on operational water demand.

[2] Storage capacity decreases as RSF fills with residue.

2.10 Other Infrastructure Management

During the reporting period, a heavy vehicle underpass was excavated under the Newell Highway to allow the movement of haul trucks and other vehicles between Caloma pit (east of highway) and mine infrastructure west of the highway. In accordance with Schedule 2, Condition 11 of PA 09_155, the underpass was constructed generally in accordance with the Works Authorisation Deed agreed with NSW RMS in May 2011. Haulage of ore from Caloma open cut commenced in March 2014, with practical completion occurring in June 2014.

3 Environmental Management and Performance

3.1 Risk Management and Mitigation

A comprehensive Environmental Risk Assessment was conducted as part of TGO's *Environmental Assessment* process generally in accordance with *AS/NZS ISO 31000:2009 Risk Management - Principles and Guidelines*. TGO subsequently reviewed this risk assessment, with an emphasis on rehabilitation-specific risks, for the 2014 MOP. Table 9 presents the results of the 2014 MOP risk analysis, assuming the implementation of industry minimum standard mitigation measures.

Table 9: Key rehabilitation related risks identified

Issue	Exploration	Land preparation, vegetation and topsoil stripping	All construction activities including earth moving	Mine development and mining, surface and	Use / maintenance of roads, track and equipment	Waste rock emplacement management	Ore stockpiling and handling	Processing facilities and infrastructure	Residue Storage Facility management	Water management including storage event contingencies	Hazardous materials and fuel, handling / spills management	Sewerage	Rubbish disposal	Rehabilitation activities	Rehabilitated land and remaining features
air pollution, dust / other	L(2D)	M(2C)	M(2C)	M(2C)	L(2D)	M(2C)	L(2D)	L(1E)	M(2C)	L(1E)	L(1E)	L(1E)	L(1E)	M(2C)	L(2E)
erosion / sediment minimisation	L(1E)	L(1C)	M(2D)	L(1E)	L(1D)	L(2D)	L(1D)	L(1D)	L(1D)	M(2C)	L(1E)	L(1E)	-	M(2C)	L(2E)
surface water pollution	L(1E)	L(2D)	M(2D)	L(1E)	L(1D)	L(2D)	L(1D)	L(1D)	L(1D)	M(2C)	L(1E)	L(1E)	-	M(2C)	L(2E)
ground water pollution	L(1D)	-	-	L(2D)	-	-	-	-	-	-	L(2D)	L(2D)	-	-	-
contaminated or polluted land	L(1E)	-	-	-	-	-	-	M(3D)	M(3D)	-	M(3D)	L(2D)	L(1E)	-	-
threatened flora protection	L(1E)	M(3D)	-	-	-	-	-	-	-	-	-	-	-	L(2D)	L(2D)
threatened fauna protection	L(1E)	L(2D)	-	-	-	-	-	-	-	-	-	-	-	L(2D)	L(2D)
weed control and management	L(1E)	L(1E)	-	-	-	-	-	-	-	-	-	-	-	M(2C)	M(2C)
operational noise	M(2C)	M(2C)	M(2C)	L(2D)	L(1E)	M(2C)	L(2D)	L(2D)	L(1E)	L(1E)	-	-	-	L(2D)	L(2D)
vibration and air blast	-	-	-	L(2D)	-	-	-	-	-	-	-	-	-	-	-
visual amenity, stray light	L(2D)	L(2D)	M(2C)	L(2D)	L(1E)	L(2D)	L(1E)	L(1E)	L(1E)	L(1E)	-	-	-	L(1C)	L(1C)
aboriginal heritage	L(2D)	M(3D)	-	-	L(2D)	-	-	-	-	-	-	-	-	M(3D)	L(1E)
Non- Aboriginal heritage	-	L(2D)	-	-	L(1D)	-	-	-	-	-	-	-	-	L(2D)	L(1E)
bushfire	L(2E)	L(2E)	-	-	-	-	-	-	-	-	-	-	-	L(2E)	L(2E)
mine subsidence	-	-	-	M(3E)	-	-	-	-	-	-	-	-	-	-	-
hydrocarbon contamination	L(2D)	L(2D)	L(2D)	L(2D)	L(2D)	L(2D)	L(2D)	L(2D)	L(2D)	L(2D)	L(2D)	-	L(2D)	L(2D)	L(2D)
public safety	L(1E)	L(2E)	L(2E)	L(2E)	-	L(2E)	L(2E)	L(2E)	L(2E)	-	L(2E)	-	-	L(2E)	L(2E)

3.2 Environmental management strategy

TGO operate under an Integrated Management System that incorporates their Environmental Management Strategy (EMS), WHS Strategy and Quality Strategy. The EMS is consistent with the requirements of ISO14001:2004 and provides the strategic framework for TGO's environmental management, including risk management, legal and other compliance, roles and responsibilities, training, monitoring, incident management, non-compliance corrective and preventive action, auditing, and review.

To assist in minimising the environmental risk associated with TGO operations, the following management plans have been developed and implemented:

- Noise Management Plan.
- Blast Management Plan.
- Air Quality and Greenhouse Gas Management Plan.
- Cultural Heritage Management Plan.
- Biodiversity Management Plan.
- Hazardous Materials Management Plan.
- Traffic Management Plan
- Water Management Plan (draft).

These management plans outline the specific risks associated with site operations, and detail the monitoring, management and mitigation measures required to control those risks. TGO monitoring site locations are shown in Figure 2.

A review of TGO performance in managing these environmental risks is presented in the following sections. TGO performance review is assessed against:

- Environmentral impact predictions made in the EA;,
- Regulatory requirements and/or limits conditioned in TGO mining lease, project approval and Environmental Protection Licence;
- Management requirements and comitments presented in site management plans; and
- Monitoring results from previous reporting periods, where relevant (2014 was first year of operations and limited environmental monitoring was undertaken during previous reporting year).

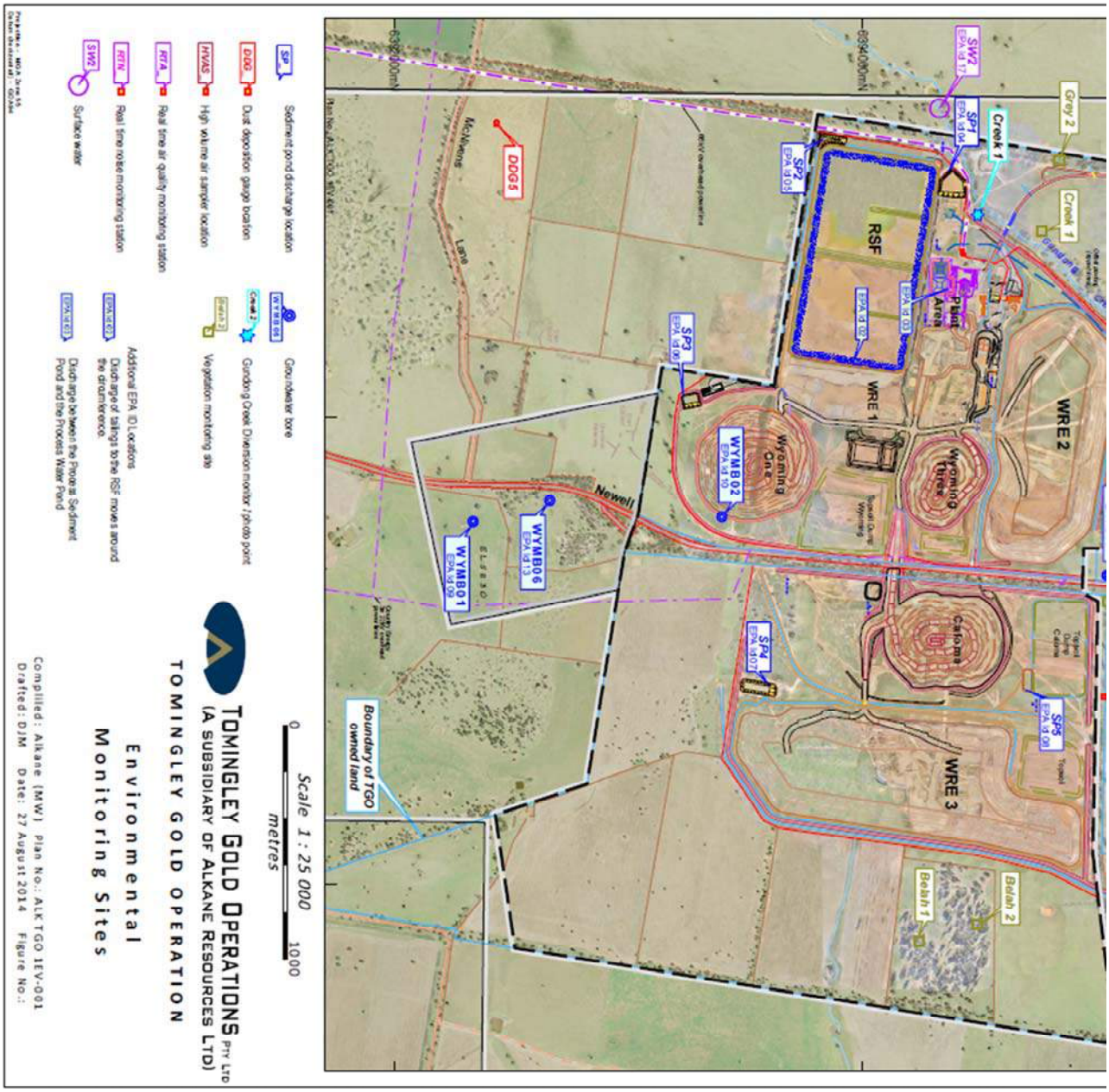


Figure 2: TGO environmental monitoring sites.

3.3 Meteorological monitoring

3.3.1 Management

As required in Schedule 3, Condition 20 of PA 09_0155, a meteorological monitoring station has been established onsite and was operated to provide continuous, real-time measurements during the reporting period. The station was installed in 2012, approximately 1 km north of the TGO site office. Data was collected during the reporting period on wind speed and direction, rainfall and temperature as shown in

Table 10: TGO 2014 rainfall and temperature summary

Month	Rain Total (mm)	Minimum 2m Temp (^{o}C)	Average 2m Temp (^{o}C)	Maximum 2m Temp (^{o}C)
Jan-14	62.1	11.2	26.7	42.1
Feb-14	42.2	0	20.07	41.5
Mar-14	140.8	8.7	21.75	31.8
Apr-14	68.8	3.1	17.6	30.3
May-14	56.4	1.7	13.91	26.3
Jun-14	53.2	0.5	10.24	18.8
Jul-14	31.6	-1.8	8.5	20.6
Aug-14	15	-3.4	9.9	20.6
Sep-14	22	-1.8	13.71	30.6
Oct-14	14	0	19.46	37.6
Nov-14	23.6	4.2	23.96	43.9
Dec-14	71	12.4	24.23	37.3
Total	600.7	-	-	-

The meteorological station was inspected and calibrated on 22 Febnruary 2014.

3.3.2 Performance

3.3.2.1 Wind

Prevailing winds were from the east-north-east throughout the year, with wind speed intensity increasing over summer. Tomingley township is situated upwind of the TGO during the prevailing winds. Winter and autumn experience an increase in the proportion of light to moderate winds from the south to south-west. The occurrence of calm wind conditions increases from 1.6% in summer to 3.7 % in autumn and winter. The annual wind rose for TGO is presented in Figure 3, and seasonal wind roses are provided in Appendix A.

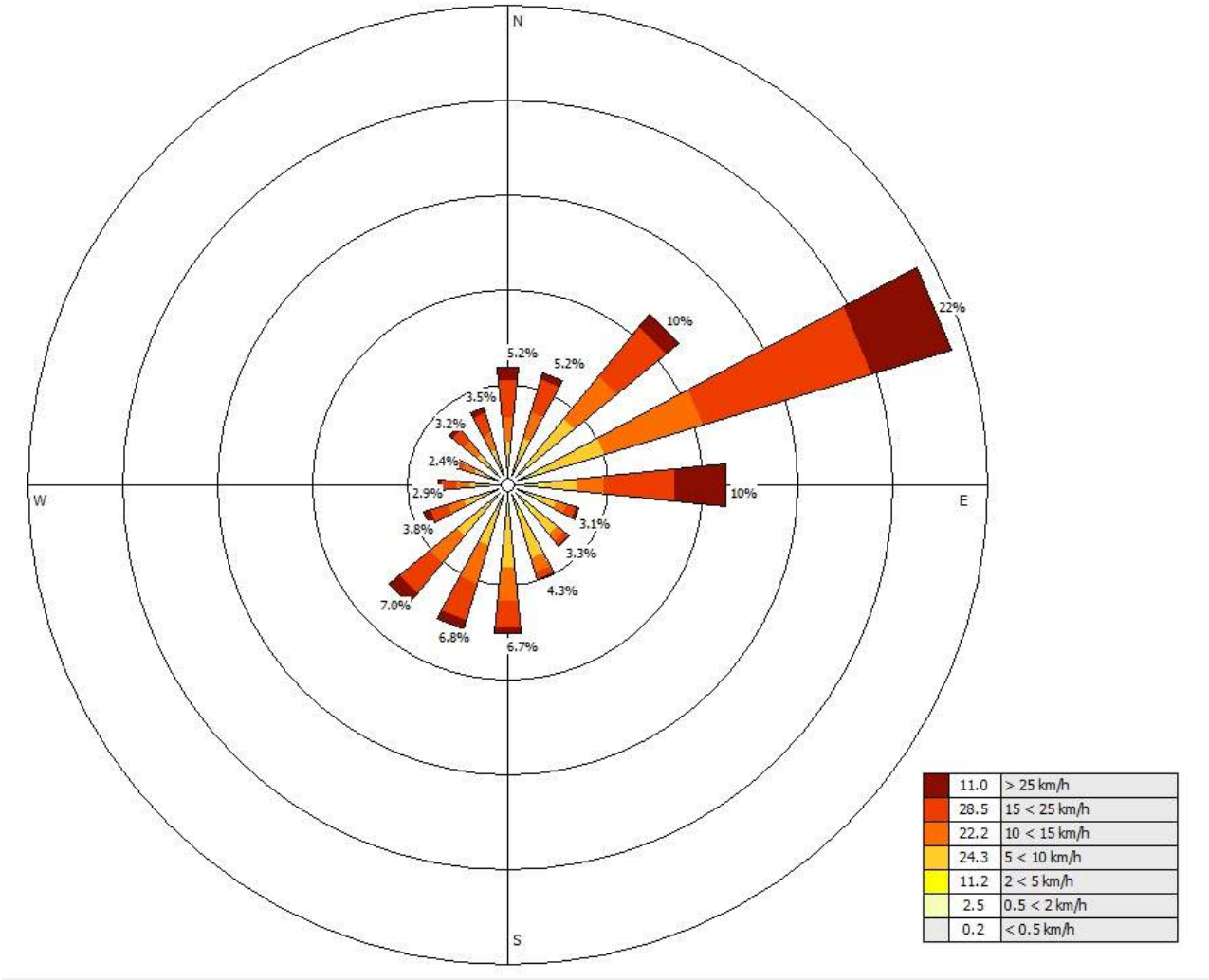


Figure 3: Tomingley Gold annual wind rose (01 January – 31 December 2014)

3.3.2.2 Rainfall

During the reporting period, rainfall was highly variable with a maximum monthly total of 140 mm in March and minimum of 14 mm in October. Total annual rainfall was 600.7 mm, which exceeds the long term average of 584.5 mm from the nearby Bureau of Meteorology Tomingley (Gundongs) weather station number 50139. Rainfall data is presented in Table 10 and Figure 4-2.

Table 10: TGO 2014 rainfall and temperature summary

Month	Rain Total (mm)	Minimum 2m Temp (°C)	Average 2m Temp (°C)	Maximum 2m Temp (°C)
Jan-14	62.1	11.2	26.7	42.1
Feb-14	42.2	0	20.07	41.5
Mar-14	140.8	8.7	21.75	31.8
Apr-14	68.8	3.1	17.6	30.3
May-14	56.4	1.7	13.91	26.3
Jun-14	53.2	0.5	10.24	18.8
Jul-14	31.6	-1.8	8.5	20.6
Aug-14	15	-3.4	9.9	20.6
Sep-14	22	-1.8	13.71	30.6
Oct-14	14	0	19.46	37.6
Nov-14	23.6	4.2	23.96	43.9
Dec-14	71	12.4	24.23	37.3
Total	600.7	-	-	-

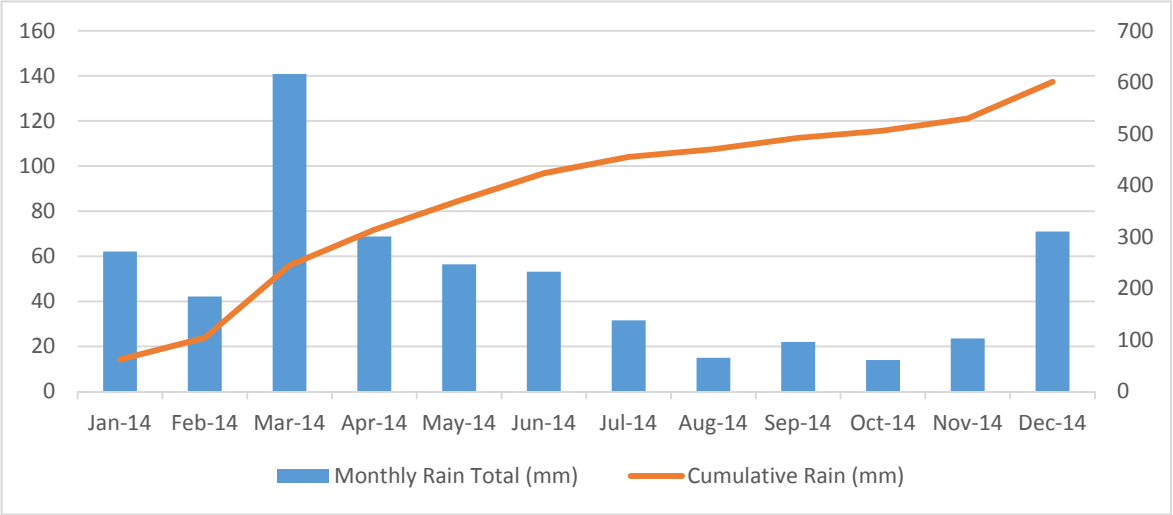


Figure 4: Tomingley Monthly and Cumulative Rainfall

3.3.2.3 Temperature

Minimum daily temperatures ranged from -3.4 ºC in August to 12.4 ºC in December. Maximum daily temperatures ranged from 18.8 ºC in June to 43.9 ºC in November. Temperature, as recorded at the TGO weather station, is presented in Table 10 and Figure 5.

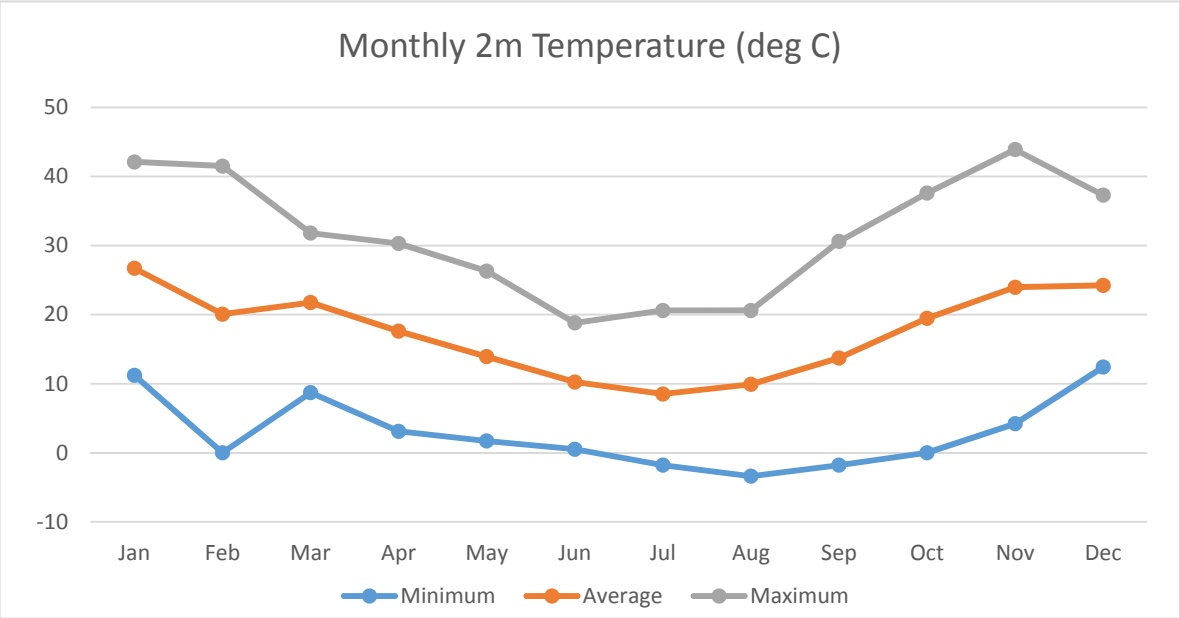


Figure 5: Tomingley Monthly Temperature 2014

3.3.3 Incidents

No environmental incidents relating to the monitoring of meteorological conditions occurred during the reporting period.

3.3.4 Improvements

No improvements to the meteorological monitoring system at TGO are proposed for the 2015 reporting period.

3.4 Air Pollution

3.4.1 Management

3.4.1.1 Air Quality

The TGO Air Quality and Greenhouse Gas Management Plan (AQGMP), prepared in accordance with Schedule 3, Condition 19 of PA 09_0155, was reviewed during the reporting period. The plan details management strategies and controls to reduce dust generation across the site, and minimise dust impacts at neighbouring sensitive receivers. Onsite operations have generally been undertaken in accordance with the comitments and controls presented in this management plan during the reporting year.

During the reporting period, in response to identified concerns relating to dust, a site specific dust control procedure was developed to provide dust prevention guidance for mining and processing operations. The procedure incorporates a Trigger Action Response Plan (TARP) to assist with dust management decision making. A training program was also implemented to communicate dust control requirements to relevant employees and contractors.

An air quality monitoring program has been implemented at TGO, with the following equipment having been installed in proximity to TGO.

- One Tapered Element Oscillating Microbalance (TEOM) measuring continuous direct PM10 mass;
- One High Volume Air Sampler (HVAS) measuring ambient concentrations of Total Suspended Particulates (TSP); and
- Five depositional dust gauges measuring the rate of dust deposition.

Results of these monitoring programs are discussed in Section 3.4.2.

3.4.1.2 Greenhouse Gas

The AGGMP also assesses greenhouse gas (GHG) emissions arising from the mining operations including GHG sources, options to reduce emissions and reporting requirements. TGO is required to report GHG emmission data under the National Greenhouse and Energy Reporting Scheme (NGERS). A summary of TGO GHG emissions is presented in Section 3.4.2.

3.4.2 Performance

3.4.2.1 Air Quality

The air quality monitoring program commenced in May 2013. Comparison of air quality results against previous years is not possible for data before May 2014, as 12 months of data had not been collected. 2014 was the first full reporting year of air quality monitoring, and the first year open cut operations, which were ramped up between January and April of that year. Full tabulated air quality monitoring results for the reporting year presented in Appendix B.

With the exception of DDG 4, depositional dust gauges were below the long term assessment limit of 4g/m^2/month (annual average). A spike in dust recorded at DDG 4 in March was most likely due to soil cultivation in an adjacent paddock by the neighbouring landholder. The elevated results for April, May and June were due an extended dry period and winds predominatly from a southerly (S, SW, SE) direction..The implementation of additional dust control measures towards the middle of the year started to make a positive impact, as indicated by the lower average dust deposition results in the second half of the year, despite an extended dry period with moderately strong southerly winds between August and October. A summary of monthly depositional dust results are presented in Figure 6.

PM10 mass concentration (PM10) data from first four months of the reporting period was unreliable due to technical issues with the TGO TEOM, with PM10 monitoring recommencing on 12 May 2014. PM10 results are assessed against the the short-term assessment limit of 50µg/m^3 (24 hour averege). Monitoring results indicate numerous exceedences over the period October to December 2014, measured at monitoring location RTA1, compared with three exceedences over the same period in the previous reporting year. PM10 monitoring results for RTA1 during the reporting period are presented in Figure 7. This Dust generation was an ongoing challenge at that time due to an extended dry period. A total volume of 185 ML of water was used for dust suppression in the reporting period, compared to 154 ML in the previous reporting period. In response to these exceedences, an independent air quality expert was engaged to review dust monitoring results at TGO to determine likely causes. This review is discussed further in Section 3.4.3.

Total Suspended Patrticulates (TSP), as measured via high volume air sampler (HVAS) at monitoring location HVAS1, are compared with the long term assessment limit of 90 µg/m^3 (annual avereage). The TSP monitoring results, as shown in Figure 8, indicate four elevated results associated with the hot dry weather in January/February and October/November. However, the annual average for TSP was 59.4 µg/m3, which is below the long term assessment limit.

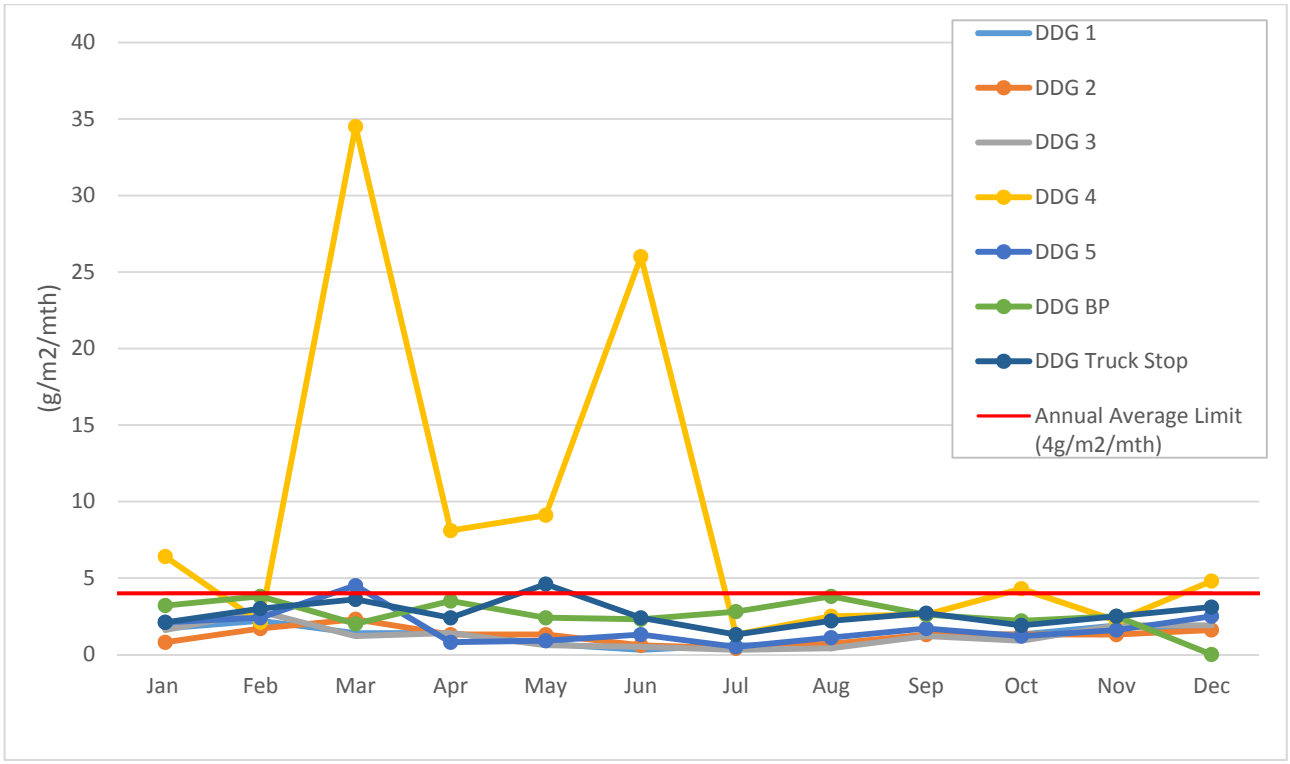


Figure 6: 2014 TGO depositional dust gauge (DDG) monitoring results

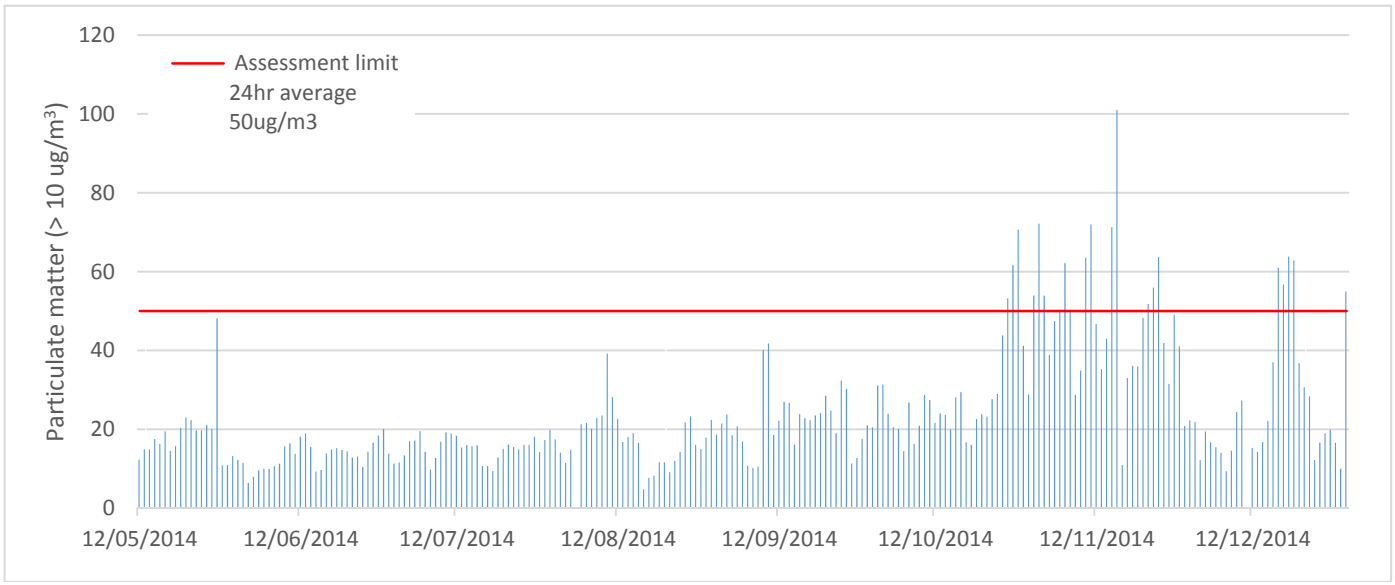


Figure 7: PM10 mass concentration (24 hour average) at TEOM RTA1

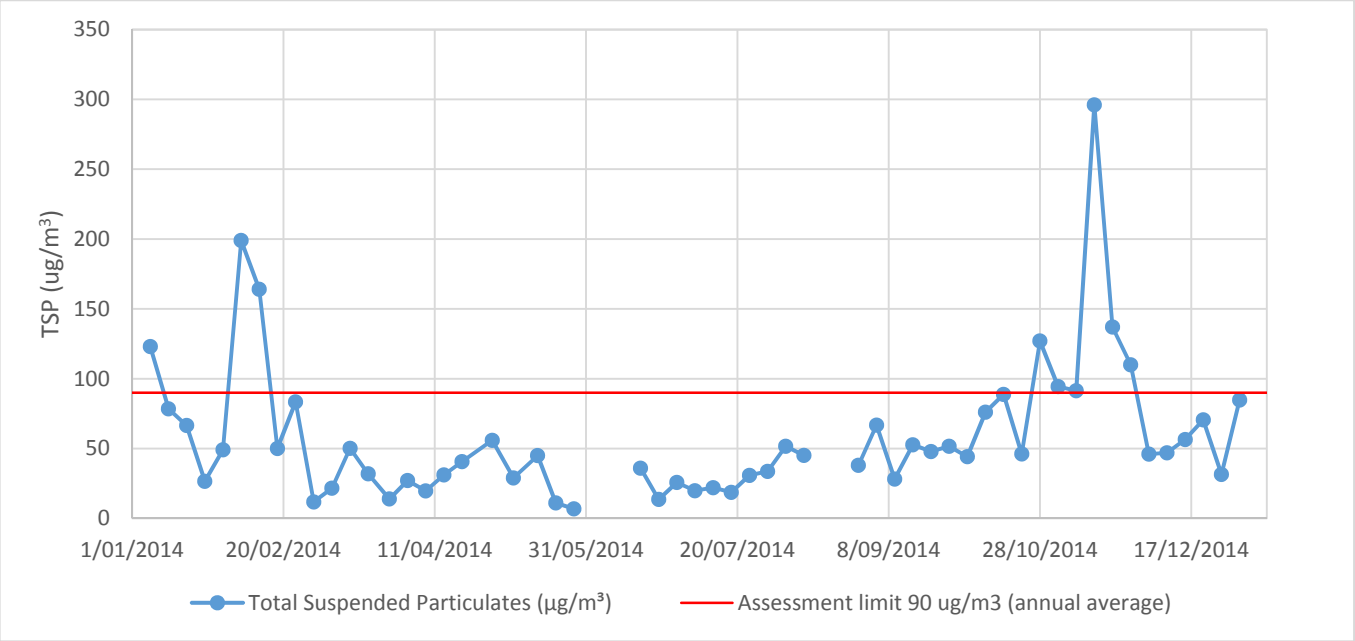


Figure 8: Total Suspended Particulates at HVAS1

3.4.2.2 Greenhouse Gas

For the NGERS reporting year (July 2013 to June 2014), TGO reported:

- 237,000 GJ of energy consumed, consisting of
  - 4.86 ML diesel (mobile plant)
  - 31.2 kL diesel (road transport)
  - 59.7 kL LPG
  - 12.7 GWh Electricity
- 13,200 kg CO2-e Scope 1 emitted; and
- 11,200 kg CO2-e Scope 2 emitted.

Scope 1 emisisons include energy emitted as part of core operations. For TGO, Scope 1 emissions are comprised mainly of diesel consumption for mining mobile plant operation, with minor contributions from road transport fuel (diesel) and LPG consumed in processing. Scope 2 emisisons inlcude energy consumed onsite, but burnt and emitted offsite. For TGO, Scope 2 emissions consist of electricity purchased from offsite.

3.4.3 Incidents

During the reporting period, TGO received 11 dust complaints, up from seven in the previous reporting period. Four of the 2014 complaints were received over January/ February, with six dust complaints received in November. All complaints were investigated, with monitoring data reviewed, and complainants responded to. Following compaints, dust generating activities were temporarily halted, relocated or scaled down until conditions improved.

Following elevated air quality monitoring results in late 2014, TGO engaged an independent air quality expert to investigate dust and meteorological monitoring results, and determine the likely source of the dust. The review concluded that the likely cause of the elevated results was TGO site activities during periods with south-westerly wind above 18-20 km/h. This conclusion was communicated to TGO site management and incorporated into the site dust control system. A full copy of the dust review report is included as Appendix C.

3.4.4 Improvements

Given the importance of air quality issues at TGO, the following initiatives are proposed for the 2015 reporting year.

- RST has been engaged to conduct a dust suppression polymer application trial on open cut haul roads during the hot dry weather early in the next reporting period.
- Following the initial GHD dust review in late 2014, independent reviews will be completed for subsequent air quality exceedences, to objectively assess likely TGO contribution.
- Modifications are being made to the water sprays on TGO water trucks, to provide greater covereage of haul road area per unit of water used.
- A dust control awareness program, consisting of toolbox talks and in-the-field mentoring, is being implemented to educate mobile plant operators in dust management requirements and operational dust reduction expectations at TGO.
- A meteorological prediction and email/text alert system has been developed during the reporting period, and will be implemented during the next reporting period. The alert will make mining supervisors and managers aware of approaching weather systems that may increase dust generation.
- In the next eporting period, the TEOM dust monitoring system will be modified to send text alerts to mining shift supervisors, making them aware of elevated offsite dust levels, and facilitating real-time operational response.

3.5 Operational Noise management

3.5.1 Management

The TGO Noise Management Plan (NMP), prepared during the previous reporting period to meet Schedule 3, Condition 6 of PA 09_0155, was reviewed in April 2014. The NMP outlines the management strategies and control measures implemented at TGO to prevent adverse noise impacts on neighbouring properties. Such measures include hours of operation, engineering noise controls, procedural noise controls, noise monitoring, staff induction and complaints response.

Construction of amenity bunds along the northern boundary of the mine site (between TGO and Tomingley township) is the key feature in the TGO noise mitigation strategy. The objective of the bund is to maintain a 5m high barrier on the northern side of open cut operations, including WRE construction. During the reporting period, the western bund (north of Wyoming Pit and WRE 2) was raised to 290 mRL, and the eastern bund (north of Caloma Pit and WRE 3) raised to 295 mRL.

A program to monitor noise levels at nearby receptors, mainly residential dwellings, was implemented in 2013 and continued during the reporting period. The program consists of the following activities:

- Meteorological monitoring – identifying weather conditions that may enhance noise propagation, such as calm, clear, cool nights, or very light breezes (<3m/s) from the south to south west). Meteorological monitoring results are discussed in Section 3.3.2.
- Attended monitoring – undertaken by noise consultant using hand held noise meter to measure noise levels and assess noise sources at nearest receptors. Monitoring was conducted across each *evening* and *night* period, across a three consecutive days.
- Continuous real-time noise monitoring - TGO operate a continuous noise meter at the most sensitive receiver (Brooklands) throughout the reporting period. Results from this continuous monitoring are presented in Figure, Figure 10 and Table 11.
- Targeted real-time monitoring – a portable real-time monitor was hired to conduct targeted real-time monitoring from April to June 2014. The monitor was located for 4 – 6 weeks at each of four of the nearest Tomingley village residences. Assessment of targeted monitoring results was completed by noise consultant throughout the monitoring period.
- Equipment modification - – as part of a program to investigate potential noise attenuation options, a full assessment of the mining fleet was carried out by Emeco and Hush Pak Engineering, including recommendations on treatment options for bulldozers and haul trucks.

- Monitoring results review - noise data from sound power, attended and targetted monitoring programs is either collected by noise consultants, or forwarded to consultants, for assessment. Noise exceedences will also be forwarded for review. Review conclusions and recommendations are communicated to site management and incorporated into noise management plan.
- Acoustic assessments – assessments of dwelling sound insulation properties, with recommendations for acoustic treatment, were made for selected residences during the reporting period.

Results from the noise monitoring program are discussed in Section 3.5.2.

A program to attenuate contractor mobile plant, particularly dozers, was also commenced in the reporting year. A trial replacement of idler gears on site dozers was completed to reduce noise generation. The noise reduction benefits of this project were marginal, and will not be more widely applied.

Following a suggestion by the noise consultants who conduct attended monitoring at TGO, the use of a low pass frequency filter (e.g. below 2 kHz) in sound level meters has been introduced to exclude high frequency extraneous noise such as frogs and cicadas. High frequency noise does not propagate from the mine over large distances, and the use of the filter will ensure noise monitoring is more representative of mine noise.

3.5.2 Performance

Attended noise monitoring was undertaken twice during the reporting period; from 7-9 April, and 22-24 September 2014. Both monitoring programs concluded that, except for the residence at 40 Myall St Tomingley (R3), noise from mine plant did not exceed noise limits.

At R3, mine plant noise could only be briefly measured during lulls in highway truck noise. During the April attended monitoring, mine noise levels (LAeq, 15 minute) were found to be 41 dBA to 43 dBA, and exceeded the noise limit for evening and night time by approximately 5 dB. In September, mine noise levels (LAeq, 15 minute) were found to exceed the noise limit of 38 dBA for evening and nighttime by at least 6 dB. This compared to the 2013 monitoring which indicated that tonal reversal alarms from construction plant were audible at R3 (in between highway truck noise), but were below noise limits. Copies of the attended monitoring reports are included in Appendix D.

Continuous real-time monitoring results were measured at residential receptor R1 (Brooklands), in the northwest of Tomingley village, for the duration of the reporting period. Noise measurements were captured for 96% of the reporting period, with four days in January and a week in April lost due to equipment failure. The equipment fault was rectified as soon as noticed, and all further data was captured for the remainder of the period.

The average daytime Leq for the reporting period was 57.3 dB, which is a reduction from the overall (combined day and night) Leq of 60.5 dB for the 2013 reporting period. The average night-time Leq for the reporting period was 52.2 dB, which is a reduction from the overall Leq of 60.5 dB for the 2013 reporting period. Both day and night Leq are elevated in comparison to the regulatory limits; however, this is not a breach of those limits, as the realtime measurements include noise from the other sources indicated by the attended monitoring. A summary of the real-time monitoring results for 2014 are presented in Tables 11 and Figures 9 and 10. The full daytime and ight-time real-time monitoring results for the reporting period are included in Appendix D.

The targeted monitoring and assessment conducted at four properties between April and June 2014 indicated excessive mine noise. As a result, discussions were held with the residents, and acoustic assessments were conducted on the affected dwellings.

3.5.3 Incidents

During the reporting period, TGO received 35 noise complaints. No noise related complaints were received in the previous reporting period. All complaints were investigated, including a review of monitoring data, and the complainants responded to.

If real-time monitoring indicates TGO is the source of elevated noise levels, operations will be modified to reduce offiste noise impacts. This occurred on several occasions during the reporting period, and included actions such as relocating dozers to lower elveations, replacing tracked dozers with wheeled dozers and reducing haul truck speed.

A noise consultant was engaged to review noise and meteorological monitoring data associated with two noise complaints received on the nights of 19 and 20 November 2014. The consultant determined that mine activity did contribute to elevated noise levels over the two nights, but that (following a review of meteorological results) an exceedence of regulatory limits did not ocuur as a temperature inversion was most likely in place.

3.5.4 Improvements

The placement of a portable continuous real-time noise monitor at noise receptors in proximity to TGO will be continued in subsequent reporting periods if community complaints and/or monitoring results indicate a requirement.

Discussions were held with community members during the reporting period regarding potential acoustic treatment of residential dwellings, such as installation of airconditioningor improved window glazing. Acoustic treatment of two dwellings will occur in the next reporting period, and the option of such treatment to other Tomingley village dwellings will be determined by further targeted monitoring.

A program to attenuate contractor mobile plant was commenced in the reporting year. Discussions were held late in 2014 with contract companies operating at TGO regarding potential attenuation options for their onsite plant, and this investigation will continue in the next reporting period.

Table 11: 2014 TGO real-time noise monitoring data summary

	Measurement (dB)						
	LAeq	LAMin	LA10	LA50	LA95	Day LAeq	Night LAeq
TGO Real-time noise monitor (adjacent to Receptor R1)	56.0	20.5	48.4	41.2	31.6	57.3	52.2

*L_{Aeq} (15 minute) noise criteria at Receptor R1 (Noise Assessment Group A) for day and night is 36 dB(A)

Figure 9: Daytime real-time noise monitoring results summary

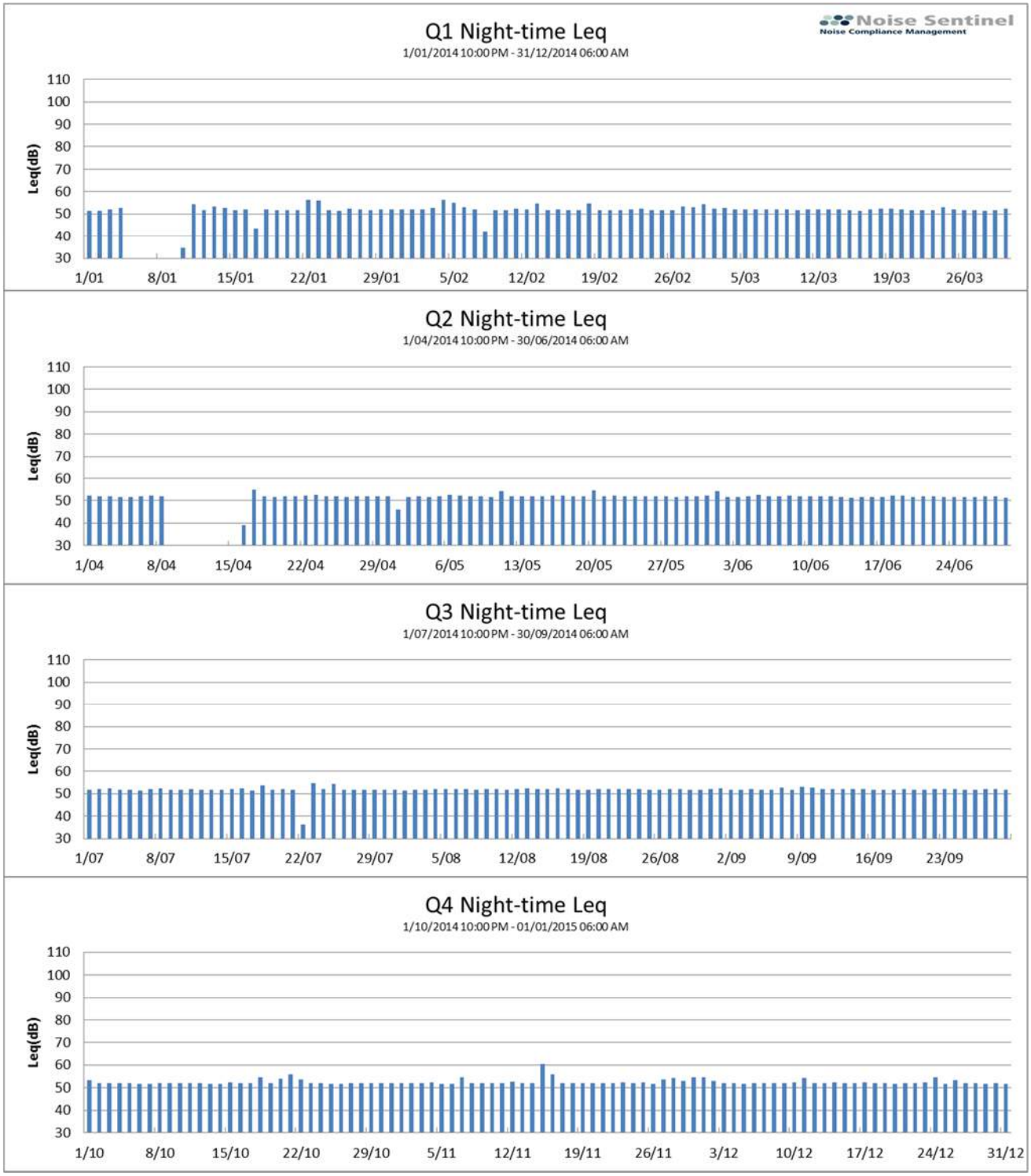


Figure 10: Night-time realtime noise monitoring results summary

3.6 Blasting

3.6.1 Management

Blasting at TGO is managed in accordance with the Blast Management Plan (BMP), which was prepared (during the previous reporting period) to meet relevant conditions of EPL 20169 and PA 09_0155, and reviewed during the reporting period. The BMP identifies blasting related environmental risks such as:

- excessive airblast overpressure;
- excessive ground vibration;
- flyrock; or
- dust and fume generation.

Management controls implemented to mitigate those risks are also outlined in the BMP. Such controls include:

- blast design and scheduling;
- meteorological monitoring;
- blast notification;
- pre-blast risk assessments;
- blast monitoring and regulatory limits;
- road closures;
- property inspections; and
- complaints response.

Blasting is managed by TGO Mining Department, with blast design and scheduling undertaken by the Mine Engineer, and notifications and pre-blast inspection completed by the Blasting Supervisor/Shot-firer.

TGO is restricted to three blasts per day, between 9am and 5pm, Monday to Saturday (excluding public holidays).

Blast monitoring is undertaken at four locations, V1 to V4. Locations V1 and V2 are located at the nearest residential receptors in Tomingley township and monitor airblast overpressure and ground vibration. V3 and V4 monitor potential ground vibration impact on infrastructure. V3 is located adjacent to the Newell Highway underpass and V4 is located at the eastern end of the RSF.

Structural inspections on buildings and other structures of neighbouring properties were undertaken during the previous to determine baseline condition.

3.6.2 Performance

A total of 90 blasts were shot at TGO in the reporting period. As blasting only commenced in 2014, comparison with previous reporting years is not possible.

The first blast at TGO was fired on 28 February 2014 in Wyoming 3 Pit, with the first blast in Caloma Pit fired on 08 May 2014.

One blast, on 01 July 2014, exceeded regulatory limits for airblast overpressure, with 122.4 dB measured at monitoring location V1 and 124.1 dB measured at monitoring location V2. The exceedence was investigated and reported to the EPA.. Two shots exceeded the 5% overpressure limit of 115 dB, giving 2.2% for the reporting period. No ground vibration exceedences were recorded during the reporting period.

Blast monitoring results for the reporting period are included in Appendix E.

3.6.3 Incidents

Other than the exceedence on 01 July 2014, no incidents related to blasting were recorded during the reporting period.

Two blast related complaints were received during the reporting period. One complaint was related to the overpressure exceedance on 01 July 2014. The second complaint, on 05 August 2014, related to suspected blast related property damage. An independent inspection of the subject property was arranged by TGO and the inspection report was provided to the complainant. The report advised that the damage to the proeprty was not caused by blastng and was a result of footing design and ground movement.

3.6.4 Improvements

No improvements in blasting management at TGO are proposed for the next reporting period.

3.7 Visual Amenity and Lighting

3.7.1 Management

The key management control for visual impacts from TGO site operations is the construction of the amenity bunds along the mine boundaries with Tomingley township and the Newell Highway. During the 2014 reporting period, the bunds were copleted to a height of 5m. A 5m high bund is also progressively constructed along the northern edge of WRE 2 and WRE 3 to ensure continuous sheilding of waste rock placement operations from Tomingley township.

A temporary vegetation treatment of the bunds, for stabilisation and dust suppression purposes, was completed as part of bund construction during the previous reporting period. However, permanent bund revegetation works were commenced during the 2014 reporting period. These works included topsoil placement and spray seeding/mulching vegetation establishment.

Planting of approximately 4000 tubestock in revegetation corridors surrounding the mine site was also completed in September 2014. These corridors were located around the northern, western and southern TGO boundaries, and around the southwestern edge of Tomingley township.

Construction of TGO infrastructure, such as the processing plant, has been finished in non-reflective, neutral colour consistent with the surrounding landscape. Permanent lighting has been positioned to ensure it is not directed towards surrounding residences or roads, and does not shine above the horizontal. Where lighting is required to shine above the horizontal to provide suitable local work area illumination, the lights have been capped orshielded to prevent light spillage offsite.

Positioning of portable night lighting for open cut operations, especially on elevated landforms such as the ROM pad and WRE, is supervised by the shift Open Cut Supervisor to ensure lighting plants are not directed towards the Newell Highway, Tomingley township or other surrounding residences. It is a standard duty of the night shift Open Cut Supervisor to inspect mine night light positioning from Tomingley and the highway and, if required, direct lighting plant realignment.

3.7.2 Performance

No complaints relating to visual amenity or night lighting were recorded during the reporting period.

An inspection of processing plant lighting was completed late in the reporting year to assess compiance with the requirement in PA 09_155 that no outdoor lights shine above the horizontal, towards the Newell Highway of towards surrounding residences. The inspection found that lighting was sheilded from the highway and surrounding residences and, while some lighting was shining above the horizontal, it was capped or otherwise shielded to prevent offsite impact.

3.7.3 Incidents

No incidents relating to visual amenity or night lighting were recorded during the reporting period.

3.7.4 Improvements

Construction and revegetation of the amenity bunds will continue during subsequent years to ensure a visual barrier is maintained between site operations and Tomingley township/Newell Highway. Rehabilitation of the WRE will also commence during the 2015 reporting period, which will contribute to an overall improvement in site visual amenity.

A project to construct visual barriers between the site and the Newell Highway, adjacent to the highway underpass, commenced during the 2014 reporting period. This project will be completed during the next reporting period.

3.8 Surface Water

3.8.1 Management

General site water management operations at TGO are described in Section 2.9. This section (Section 3.8) outlines the specific surface water management and monitoring actions completed during the reporting period. Surface water management actions relating to sediment control are discussed in Section 3.10.

The major improvement in the reporting period was the construction of the Central Dewatering Pond (CDP). The CDP consists of a 78.2 ML dirty water cell, and a 17.4 ML clean water cell. The dirty water cell receives water from the open cut pits, sediment basins, vehicle washdown and separator facilities. Construction of the CDP allowed for the dewatering of Wyoming 1 Pit during the reporting period. The clean water cell temporarily stores water from the Narromine pipeline, and any clean catchment water harvested onsite. The clean water cell reports to the process water dam, and provides a supplementary water source for dust supression.

Further modification of the site water balance occurred during the reporting period, as part of a review of the site draft Water Management Plan. Initially developed during TGO EA investigations, further refinement of the water balance has been required to improve model accuracy. This is an ongoing process that will be continued into the next reporting period.

A draft site specific procedure for the sampling and inspection of surface water was developed during the reporting period. The procedure details the actions required to sample TGO water holding structures, sample/inspect Gundong Creek, and complete the TGO Waterways Inspection. TGO Waterways Inspections are completed in-part monthly (with all areas inspected at least quarterly), or following heavy rain, and cover all site dams, drains, sediment basins, Gundong Creek and flood levee, and other areas that may impact on site water quality.

Surface water monitoring during the reporting period was completed accordance with the requirements of EPL 20169 and PA 09_0155. The surface water monitoring program consists of the following components:

- Gundong Creek
    - During flow, Gundong Creek is sampled daily at locations upstream (SW1) and downstream (SW2) of TGO;
    - Samples are collected quarterly at SW1 and SW2, where possible; and
    - Any offsite discharge from TGO into Gundong Creek is sampled daily.
- Sediment Basins are sampled during the intital capture of water to determine metals and cyanide concentrations, daily during offsite discharge and, if water present, quarterly.
- Process residue being transferred to the RSF, and decant water from the RSF, is sampled daily for Weak Acid Dissociable (WAD) Cyanide.
- Other receiving waters (such as road table drains or downstream farm dams) are sampled daily during TGO surface water discharge.

Surface water monitoring locations are shown on Figure 2. Surface water monitoring results are discussed in Section 3.8.2

Surface water management action responses, as triggered by monitoring results or offsite discharge, are detailed in the draft TGO Water Management Plan. Such response actions include results verification, supplementary sampling, independent investigation, regulatory reporting and notification of downstream water users.

3.8.2 Performance

Gundong Creek is an ephemeral watercourse which flows along the northern and western boundaries of the TGO site. Well before TGO development, Gundong Creek was modified from its original alignment, and water flow down Gundong Creek flow is rarely observed. Sampling at Gundong Creek monitoring locations SW1 (upstream of TGO) and SW2 (downstream of TGO) occurred once during the reporting period, on 01 June 2014. The sampling was carried out in the accumulated ponds following a rainfall event for background information. No flow was recorded in the creek. No TGO offsite discharges to Gundong Creek occurred during the reporting period.

Based on the single sample collected during the reporting period, copper was the only parameter result within the assessment criteria (ANZECC, 2000) at the upstream location (SW 1) that exceeded the criteria downstream (SW2). The copper exceedence was marginal and based on only one result to date. Further sampling will be required (from future creek flows) to trigger further investigation. Analytical results for the SW1 and SW2 Gundong Creek samples, compared against the ANZECC guideline criteria and previous results, are presented in Table 12.

Table 12: Surface Water Quality Data – Gundong Creek

Parameters	Gundong Creek Analytical Results						
	2014 (01/6/2014)		2013 (14/11/2013)		Background (14/07/2010)		Water Quality Criteria [1]
	SW 1	SW 2	SW 1	SW 2	SW 1	SW 2	
Electrical conductivity (µS/cm)	73	34	77	59	71	73	350
pH	7.31	6.92	5.74	5.96	Not sampled	Not sampled	6.5 - 8.0
Total Suspended Solids (mg/L)	84	186	745	586	106	<5	-
Oil and grease	<5	<5	Not sampled	Not sampled	Not sampled	Not sampled	-
Arsenic (total)	<0.001	0.001	Not sampled	Not sampled	Not sampled	Not sampled	0.024
Cadmium	<0.0001	<0.0001	Not sampled	Not sampled	Not sampled	Not sampled	0.0002
Copper	0.001	0.004	Not sampled	Not sampled	Not sampled	Not sampled	0.0014
Cyanide (total)	<0.004	<0.004	Not sampled	Not sampled	Not sampled	Not sampled	0.007
Lead	0.004	0.004	Not sampled	Not sampled	Not sampled	Not sampled	0.0034
Nickel	0.002	0.003	Not sampled	Not sampled	Not sampled	Not sampled	0.011
Total N	<1.0	<1.0	Not sampled	Not sampled	Not sampled	1.6	0.25
Total P	0.17	0.28	Not sampled	Not sampled	Not sampled	0.5	0.02
Zinc	0.018	0.024	Not sampled	Not sampled	Not sampled	Not sampled	0.008

[1] ANZECC (2000) 95% species protection trigger values for freshwater aquatic ecosystems

Eight discharge events from TGO occurred during the reporting period. Each of the eight discharge events was reported to the EPA, as it was likely that discharge water quality exceeded the Total Suspended Solids (TSS) concentration limit of 50 mg/L (EPL 20169). Discharge event details, and analytical results, are presented in Table 13. Full analytical results from sediment basin sampling are presented in Appendix F.

Table 13: Offsite discharge events during reporting period

Discharge event Date	Location	EPA Incident Report Number	Analytical Results			
			Date	pH	EC (mg/L)	TSS (mg/L)
			Trigger Value	6.5-8	350	50
01/3/2014	Caloma Drain offsite flow point into to eastern side of Newell Highway road reserve		03/3/14	7.71	228	2750
07/3/2014		C03691-2014	08/3/14	8.3	110	64.2
24/3/2014		C04837-2014				
26/3/2014		C05067-2014				
28/3/2014			27/3/14	8.07	127	8880
04/4/2014						
11/4/2014		C06100-2014				
03/6/2014	Sediment Basin 2	C08753-2014	01/6/14	7.68	116	751
			06/6/14	8.15	199	3700

[1] ANZECC (2000) 95% species protection trigger values for freshwater aquatic ecosystems

Sampling of process residue transferred to the RSF commenced in January 2014, with 655 residue samples being collected during the reporting year. Sampling results, presented in Appendix F, indicate compliance with the WAD Cyanide concentration limits (EPL 20169) of:

- 90th percentile limit of 20mg/L, and
- maximum limit of 30mg/L.

Only one sample (collected on 24 May 2014) exceeded the 90th percentile limit, with a WAD Cyanide concentration of 29.05 mg/L.

3.8.3 Incidents

Eight discharge events, as presented in Table 13, occurred at TGO during the reporting period. Discharges offsite with water quality analytical results exceeding the discharge water quality criteria of 50mg/L were reported to the EPA. EPA Incident Report Numbers for the reported discharges are presented in Table 13.

In response to these discharges, a program of site drain and sediment basin upgrade works (as described in Section 3.10.1) was initiated and completed during the second half of the reporting period. No discharge exceedences from sediment basins occurred following these upgrade works.

Two deceased ducks were retrieved from the RSF during the reporting period. Following the siting of a bird on the RSF on 28 March 2014, the incident was investigated and reported to the EPA (Incident Report No. C05215-2014). WAD cyanide levels in the week leading up to the incident averaged 4.4mg/L, and additional residue and decant water sampling undertaken as part of the incident investigation indicated WAD cyanide levels of 6.6 mg/L (residue) and 3.64 mg/L (decant water). On 10 December 2014, a dead bird was observed on the RSF. The incident was investigated and reported to the EPA (Incident Report No. C08055-2014). The WAD cyanide levels in the standing water averaged at 5ppm WAD cyanide in the week prior to the incident. Slurry WAD cyanide levels has averaged 4ppm WAD cyanide in the week prior to the incident. Samples of slurry and water collected as part of the incident investigation returned WAD cyanide levels of 6.6ppm and 3.64ppm respectively.

3.8.4 Improvements

The draft WMP will be revised and completed during the next reporting period.

A new site specific procedure for working in close proximity to drainage strucutres will be implemented to ensure all works are completed in a timely manner and bare ground remediated to an accpetable standard so as to minimise the risk of dirty water discharging from site.

Signage will be place adjacent to clean water structure alerting operators to there puprose, this will be done in conjunction with a toolbox presenation to all crews regarding the purpose and location of clean and dirty water drains.

3.9 Groundwater

3.9.1 Management

Operations at TGO, such as open cut mining and the use of bulk hazardous substances, have the potential to impact on groundwater quality and availability. To monitor these potential impacts, two groundwater monitoring programs have been implemented at TGO, comprising of:

- Quarterly groundwater bore monitoring; and
- Monthly RSF piezometer monitoring.

During the reporting period, a draft site specific procedure for the sampling and inspection of groundwater bores was developed, which details the actions required to monitor TGO groundwater bores and RSF piezometers.

In addition, an action response plan is detailed in the TGO draft WMP, which describes the management actions to be undertaken, when triggered by anomolous groundwater quality or groundwater level parameters. These actions include results verification, supplementary sampling, independent incident investigation and regulatory reporting.

3.9.1.1 Quarterly Monitoring

Seven monitoring bores, located within 2.5 km of TGO are monitored on a quarterly basis to determine whether TGO operations are impacting on district or regional groundwater resources. Monitoring bores are field measured, purged and sampled, with samples dispatched to an offsite NATA accredited laboratory for analysis.

Baseline groundwater monitoring (as required by PA 09_0155) was completed between November 2012 and May 2013. In 2014, groundwater sampling was conducted in March, June, September and December 2014. Groundwater monitoring bore locations, and groundwater analysis parameters, are shown on Figure 2 presented in Table 14.

During the 2014 reporting period, TGO engaged an environmental contractor with specialist monitoring equipment and extensive groundwater monitoring experience to ensure to ensure the quarterly groundwater monitoring program meets the specifications and requirements of project approval and EPL 20169.

Tabulated and charted results from quarterly groundwater bore monitoring are provided in Appendix G.

Table 14: TGO groundwater monitoring bore location details.

Monitoring Location	Distance from site (office) (m)	Direction from site (office)	Location	Hole Depth (m)	Groundwater Sample Analytes
GDCMB01	1400	NNW	613330 6396040	7	Redox / Oxygen (field) pH / EC (field and lab) Water temperature (field) Total Suspended Solids Total Dissolved Solids Water level below surface Ionic Balance Ammonia Alkalinity (CaCO3) Bicarbonate/ Carbonate Hardness (as calcium carbonate) Cyanide (Total, Free, WAD) Calcium/ Magnesium/ Potassium / Sodium (dissolved) Potassium / Sodium (dissolved) As, Cd, Cr, Ch, Cu, Fe, Pb, Mg, Ni, Zn
WYMB01	2430	SSE	614448 6392336	90	
WYMB02	1570	SE	614429 6393397	114.5	
WYMB03	1230	ENE	614678 6395043	84	
WYMB04	540	NNE	613646 6395147	96	
WYMB06	2140	SSE	614360 6392663	90	
WYMB10	1400	NNW	613276 6396025	150	

3.9.1.2 Monthly RSF Monitoring

Groundwater in the vicinity of the RSF is generally situated in fractured bedrock up to 50m below ground level. The overlying layer of weathered rock and clay (saprolite), plus the compacted clay layer established during RSF construction, would impede contaminant seepage from the RSF. Any resulting groundwater impacts would be gradual, and a network of 11 monitoring piezometers has been established around the RSF to identify such longterm impacts.

Monitoring of RSF piezometers commenced in March 2014, following well development. RSF piezometers are measured on a monthly basis and, when water level allows, also purged and sampled. Samples are sent to a offsite NATA accredited laboratory for analysis. Figure 11 shows RSF moitoring piezometer locations, and Table 15 shows RSF piezometer locations and analysis parameters.

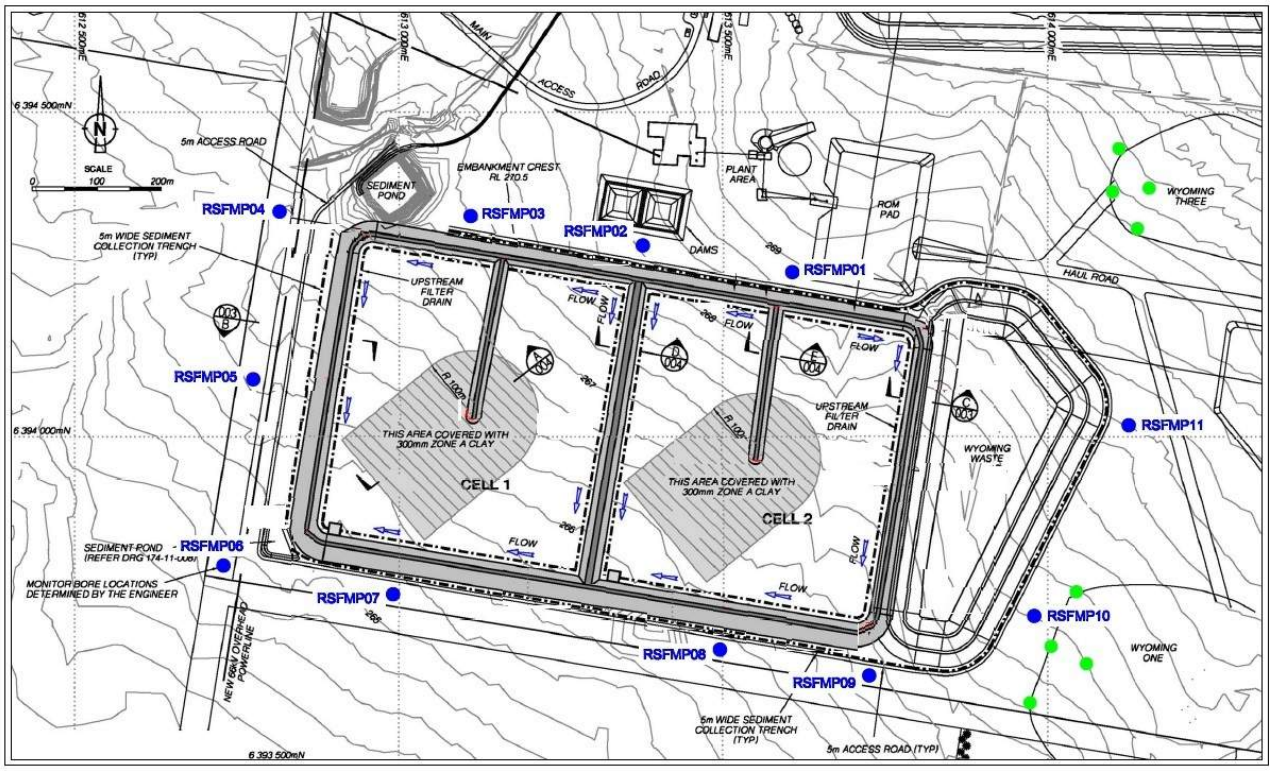


Figure 11: RSF Monitoring piezometer locations

Table 15: TGO RSF monitoring piezometer location details.

Monitoring Location	Location	Hole Depth (m)	Groundwater Sample Analytes
RSFMP01	613601 6394220	11	pH / EC (field and lab) Total Suspended Solids Total Dissolved Solids Water level below surface Ionic Balance Ammonia Alkalinity (CaCO3) Bicarbonate/ Carbonate Hardness (as calcium carbonate) Cyanide (Total, Free, WAD) Nitrite / Nitrate / Total N / Total P Calcium/ Magnesium/ Potassium / Sodium (dissolved) Sulphates / Chloride Al, As, Cd, Cr, Ch, Cu, Fe, Hg, Pb, Ni, Zn
RSFMP02	613398 6394260	11	
RSFMP03	613157 6394301	12	
RSFMP04	612879 6394326	6	
RSFMP05	612845 6394076	13	
RSFMP06	612785 6393813	4	
RSFMP07	613039 6393773	5.5	
RSFMP08	613523 6393693	5	
RSFMP09	613690 6393668	5	
RSFMP010	614040 6393809	5.5	
RSFMP011	614064 6394006	5	

3.9.2 Performance

Groundwater levels generally experienced a slight decline over the reporting period, but remained within range of basline data. The exception to this is GW-WYMB01, which had an average water level of 38.6 m below ground level for the reporting period, compared to 52.3 m for the baseline monitopring data. GW-WYMB01 results for pH and EC have remained within background range, and the initial water level reading (November 2012) was 36.6m. GW-WYMB06 had a 4m increase in water level for December, to 32m, compared to a steady baseline of 35-36m. Field results will need to be monitored in the next reporting period to determine whether this is a trend; however, the difference in groundwater level is not believed to be mining related.

GW-GDCMB01 had a large decrease in Redox for December, to 9 mV, compared to a baseline average of 127 mV. Field results will need to be monitored in the next reporting period to determine whether this is a trend. Sample results for pH and EC remained within range of baseline levels, with no anomolous results recorded.

This was the first year of RSF piezometer monitoring following development, and most of the wells were dry, or experiencd a drying trend over the reporting period. The exception was RSFMP03, which indicated an incremental increase in water level over the reporting period. No cyanide has been detected in RSFMP03 monitoring results and an initial investigation indicated that the RSF is not the likely source of the rising groundwater. Specialist consultants have been engaged to investigate RSFMP03, which will continue into the next reporting period. The general drying trend across the RSF piezometers, conbined with no cyanide detected in monitoring results, indicates no influence on near surface groundwater from the RSF.

Results from 2014 groundwater bore and RSF piezometer monitoring are presented in Appendix G.

3.9.3 Incidents

With the exception of the rising water levels in RSFMP03, and associated ongoing investigation, no groundwater related incidents were recorded in the reporting period.

3.9.4 Improvements

No improvements are proposed to groundwater management at TGO in the next reporting period.

3.10 Erosion and Sediment Control

3.10.1 Management

Significant improvements to TGO erosion and sediment control infrastructure were completed during the reporting period. As TGO transitioned from construction to operations early in the reporting period, deficencies were identified in the existing surface run-off drainage system. This situation was exacerbated by heavy rains in March and April, leading to offsite discharges of sediment laden water (as discussed in Section 3.8).

In reponse, an erosion consultant was engaged to revise the site Erosion and Sediment Control Plan (ESCP) and provide recommendations for improvements, which were developed into a remedial works program. A company specialising in erosion control and revegetation works were subsequently contracted to implement the program works across the site. The remedial works commenced in May 2014, and the main priority was the stabilisation and revegetation of the Calona central drain (CCD).

The entire length of the CCD was subject to remedial treatment program to ensure drain stability, reduce erosion and improve quality of clean water flow. This treatment was expanded to cover adjacent disturbed catchment reporting to drain, and other site drains that reported to the CCD. Treatment included:

- estabishment of sediment barriers throughout the project area, and a final downstream catch barrier;
- drain regrading to re-establish a suitable drain cross-sectional profile, and remediate erosion gullies and wash-outs;
- placement of geotextile fabric and rock-armouring on high-flow or high-risk areas, such as culverts and inflow drains;
- application and integration of gypsum into the regraded surface layer and topsoil;
- topsoil placement and spreading, including reinstatement of borrowed soil dumps;
- placement and stapling of jute meshing on drain bed and bank surfaces;

- hay-mulching of drain bed; and
- vegetation establishment via spray-seeding of pasture grass seedmix.

Placement of stripped topsoil and subsoil material into temporary stockpiles (referred to as soil dumps) continued for the first half of the reporting period, as the final mine infrastructure projects (such as the CDP) were constructed. Soil dumps were also modified as material was extracted for use in the remedial works. As soil dumps were completed, they were regraded and re-vegetated with a pasture seedmix to reduce erosion and prevent weed establishment.

As the high priority works of the remedial works program (such as CCD) were completed, the scope of the program was expanded to include other high erosion risk areas onsite, such as drains reporting to sediment basins on the Wyoming side of the mine site, and surface areas across the mine site that hadn't re-vegetated sufficiently following disturbance during the construction phase.

During the construction phase of the project, a temporary erosion and dust control revegatation treatment was applied to earthworks infrastucture such as the amenity bunds, the Gundong Creek levee bund and RSF embankment. As part of the 2014 remedial works program, high-risk infrastructure areas (such as steep slopes or earthworks adjacent to site boundaries or drains) were subjected to a more rigorous remedial revegetation treatment, including earthworks trim, gypsum/lime application, topsoil placement and spray-mulch seedmix application.

Remedial works were were completed in November 2014, and a visual improvement in the quality (clarity) of surface being discharge via the CCD has been observed since works completion.

Civil works were also completed to increase the storage capacity, and improve general function, of site sediment basins. These works also included refurbishment of site drains reporting to the sediment basins to improve stability and increase flow capacity. Three portable pumps were purchased, and new polylines installed, to facilitate the dewatering of sediment basins to the newly constructed CDP; thereby, increasing the capacity to retain catchment water onsite and reducing the potential for offsite discharge.

A procedure to sample and inspect sediment basins was also drafted during the reporting period. Inspections of a proportion of sediment basins are conducted monthly, with all site sediment basins being inspected once per quarter. Sediment basins are also inspected following heavy rain and/or dewatering. Sampling of sediment basins is discussed as part of the overall surface water monitoring program in Section 3.8. Figure 12 shows the location of remedial works, and Figures 13 to 16 show the remedial works in progress.

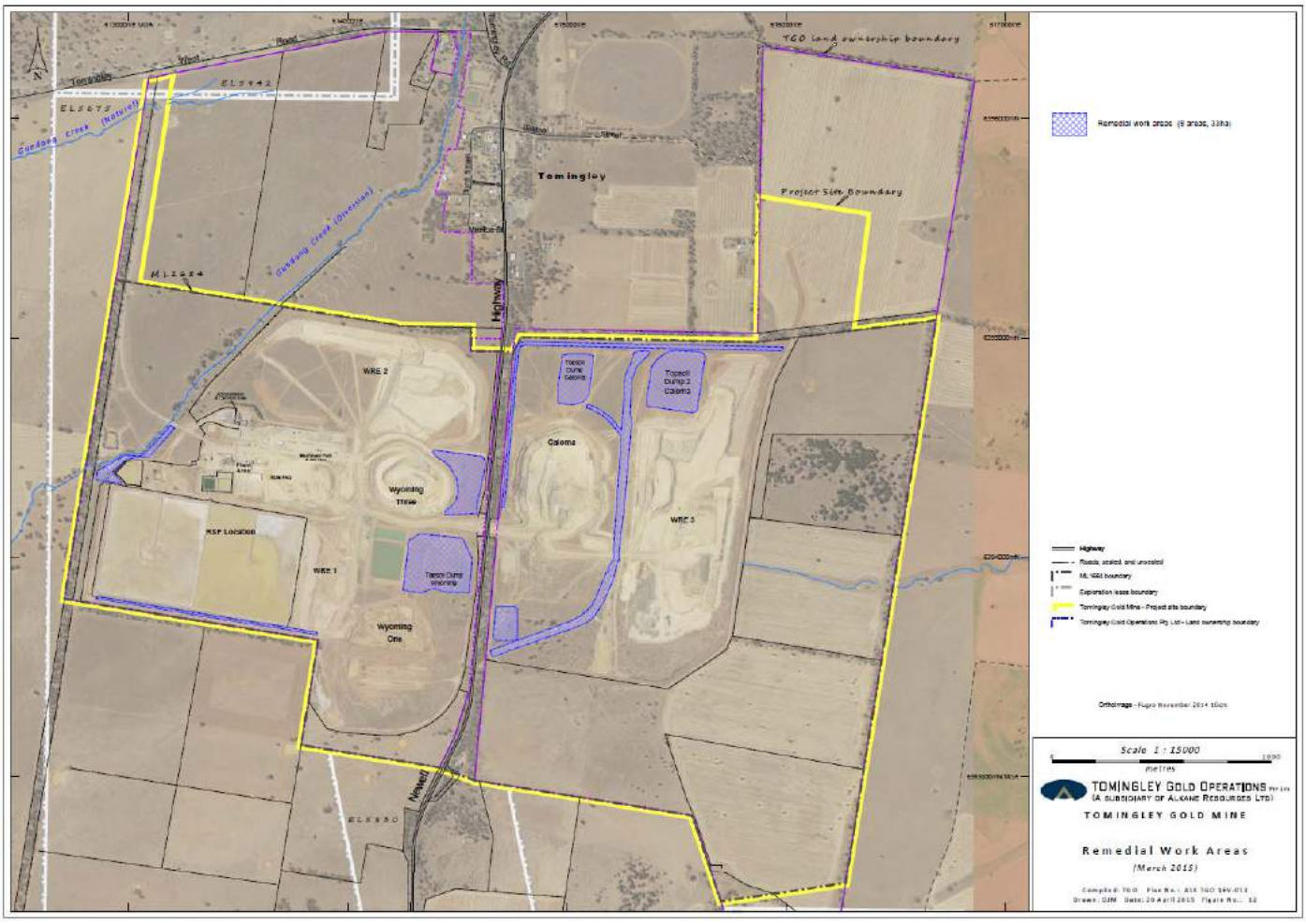


Figure 12: Location of remedial erosion and sediment control work during the reporting period

Figure 13: Earthworks trim of Caloma Drain

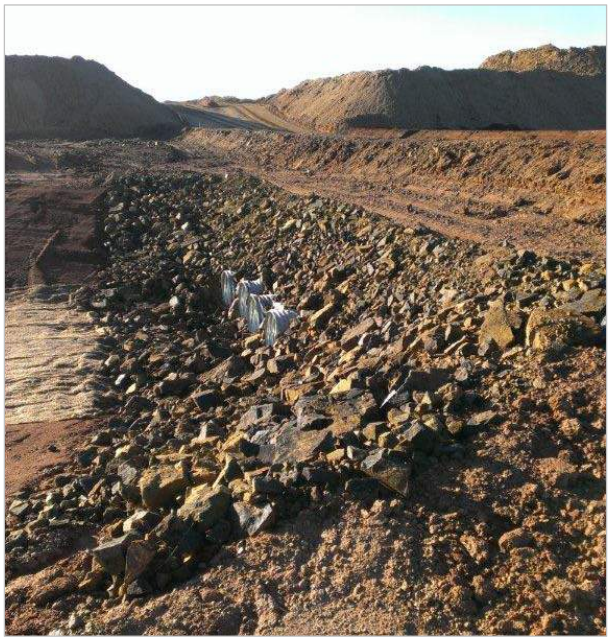


Figure 14: Rock armouring of culvert pipes

Figure 15: Topsoil placement and spreading in Caloma Drain

Figure 16: Hydroseeding of Caloma Drain

3.10.2 Performance

Sediment control performance is discussed as part of surface water performance in Section 3.8.2.

3.10.3 Incidents

Eight offsite discharges of sediment laden water occurred during the reporting period. These incidents are discussed as part of surface water incidents in Section 3.8.3.

3.10.4 Improvements

Although the remedial works package largely was completed during the 2014 reporting period, the stabilisation and/or revegetation treatment of earthworks batters and site drains will continue in the next reporting period. Priorities for treatment in 2015 will include further sections of the Gundong Creek levee bund, the drains upstream of Sediment Basin 1 and Sediment Basin 2, and the RSF embankment, as the embankment raising project progresses.

3.11 Biodiversity

3.11.1 Management

The TGO Biodiversity Management Plan (BMP), completed in the previous reporting period, was revised in 2014. The BMP outlines the management activities required to conserve and enhance the biodiveristy values of the mine site, and surrounding offset land, during the TGO mine life. The key biodiversity commitments, as outlined in the BMP, include:

- Protection of the Grey-Crowned Babbler and their nests;
- Maximising the protection of remnant inland Grey Box Woodland and Fuzzy Box Woodland EEC;
- Minimising the impact to tree dependent microbats;
- Minimising the impact to nesting fauna during tree clearing; and
- Preventing cyanide poisoning of fauna.

Habitat protection, conservation and enhancement is a key component of the BMP. A bioversity assessment of the TGO mine site area was conducted as part of the project environmental assessment, to identify high value fauna and vegetation species, habitat features and vegetation communities. The environmental assessment estimated that approximately 82.5 % of the mine site had been cleared for agricultural activity purposes prior to construction.

Despite this, some clearing of native vegetation was required during mine construction. Although the majority of clearing was completed during the construction phase of project in previous reporting period, some trees required felling during the 2014 reporting period. Where vegetation was cleared, tree clearing protocols were adhered to, consisting of:

- Pre-clearing surveys immediately ahead of clearing;
- A qualified fauna handler being present during felling, and
- Post-clearing surveys conducted immediately post felling.

Surveys targeting the identification of native fauna were also conducted across the site throughout the reporting period.

In addition to these fauna surveys, a scheduled biodiversity monitoring program has been implemented at TGO to assess vegetation community health and development. A preliminary biodiveristy monitoring program was partially implemented during the previous reporting period. As part of the 2014 BMP revision, the proposed monitoring program was revised, and monitoring sites were re-located to ensure better coverage of remnant vegetation communities and proposed vegetation extension/enhancement areas. During the reporting period, the following monitoring and survey activities were completed.

- The first year of the revised biodiversity monitoring was completed in August.
- A comparative photographic survey of vegetation condition within the Gundong Creek riparian corridor was completed over the first quarter of 2014.
- A bat survey was completed in October/November in the souhwest part of the site.

A summary of observations and conclusions from biodiversity monitoring and surveys conducted during the reporting period in presented in Section 3.11.2.

Other measures to reduce and/or monitor biodiversity impacts from TGO operations include fauna reporting, and RSF management. The site induction for new mine site workers communicates the requirement of reporting native wildlife deaths or injuries, and siting of protected fauna such as the Grey-Crowned Babbler. Grey-Crowned Babbler sitings are recorded, and discussed in Section 3.11.2.

To minimise fauna deaths resulting from site operations, TGO has implemented measures to reduce the potential for interaction between native fauna and potentially cyanide-contaminated water in the RSF. Such measures were continued through the reporting period, and include:

- construction of animal-proof chain-link fencing around the RSF and process water dam;
- daily sampling and monitoring of WAD cyanide levels in RSF residue;
- management of RSF decant water to minimise appeal to native avifauna; amd
- regular inspection of the RSF for fauna deaths.

3.11.2 Biodiversity Offset Management Program

A Biodiversity Offset Strategy has also been developed, which delineates biodiversity offset areas to be established at TGO, and outlines the management actions proposed to protect and enhance remnant vegetation communities.

The key measure to secure the offset sites in perpetuity is the development and approval of a conservation property vegetation plan (PVP) under the *Native Vegetation Act 2003*. Initial works towards developing a PVP were completed during the project environmental assessment phase and the previous reporting period. In alignment with the 2014 revision of the TGO BMP, the proposed offset strategy was modified in consultation with regulators during this reporting period.

The re-alignment of the proposed offset area was due community bushfire concerns and the presence of rural infrastructure (stockyards and feed silos) within the proposed offset area. A vegetation corridor on the southern boundary was also deemed unsuitable as offset due to the proximity to an open cut pit. This corridor will instead be re-established as part of the post-mining rehabilitation plan. The modified PVP application was finalised and submitted to government in November 2014, and acceptance of the proposed modifications was indicated by Local Land Sercices (LLS) in Decmber 2014.

Offset protection and enhancement commenced during the previous reporting year, and was continued during the 2014 with the planting of approximately 4000 tubestock trees and shrubs in offset corridors on, and to the immediate north of, the TGO mine site during September. The tubestock seedling mix reflected the constituent species of the protected *Fuzzy Box* and *Inland Grey Box* Endangered Ecological Communities (EEC). The planted tubestock were provided periodic watering to assist with survival during the dry weather that dominated the last quarter of the reporting year. Biodiversity planting areas for the reporting period are shown on Figure 17.

Additional signage and fencing was established to protect biodiversity offset areas, and an external contractor engaged to undertake boxthorn eradication within offset areas. No feral animal control was conducted at TGO during 2014.

3.11.3 Performance

Habitat trees were cleared for the Newell Highway underpass construction and Tomingley West Road upgrade early in the reporting period. Several smaller individual tees, of lesser habitat value, were also felled around the site for construction projects. Tree felling was observed by TGO environmental staff, in accordance with the TGO BMP. During clearing for the underpass, one brush-tailed possum was observed to vacate a habitat tree voluntarily.

TGO biodiversity monitoring is based Landscape Function Analyses (LFA) and ecosystem diversity / habitat value measurements adapted from the Biometric methodology. Ten monitoring sites were established in August 2014, consisting of six remnant woodlands sites, two EEC woodland revegetation sites and two riparian woodland sites along Gundong Creek.

The 2014 monitoring observed that in the revegatation sites and the southern creek site (which were old cropping paddocks seeded with local woodland species) revegetation treatment (scalping, cultivation, ripping and direct seeding) has resulted in rows of bare soil with some minor areas of erosion. However, vegetation has been colonising the exposed soils and is expected to continue. Tree and shrub seedling densities were low and, although scattered trees and shrubs were beginning to emerge, additional planting may be required to improve stem density targets. Bare and eroding areas were observed along the banks of Gundong Creek, due to a long disturbance history.

The sites in Belah woodland in the east of the TGO site (which have also suffered a heavy grazing history) tended to lack shrubs and juvenile trees, with predominantly bare and eroding inter-gilgai ridges, and little to no protective groundcover. The exclusion of grazing may be sufficient to allow natural regeneration of this area.

Most of the more disturbed monitoring sites do not meet floristic diversity targets. While some sites were excessively weedy, weed abundance is likely to reduce as the native vegetation communities develop. Despite recent treatment, boxthorn was also observed to require further control effort.

During the October bat survey, 15 species of microbat were potentially recorded. Three species listed as vulnerable under the NSW *Threatened Species Conservation Act 1995* (TSC Act) were confidently identified, with a further two potentially identified.

An inspection of the September tubestock plantings was completed in December 2014. The inspection indicated a relatively high level of plant survival and growth, given the dry weather late in the reporting year. Tubestock development will continue to be assessed as part of the TGO biodiveristy monitoring program.

As discussed in Section 3.8.3, two deceased ducks were recovered from the RSF during the reporting period.

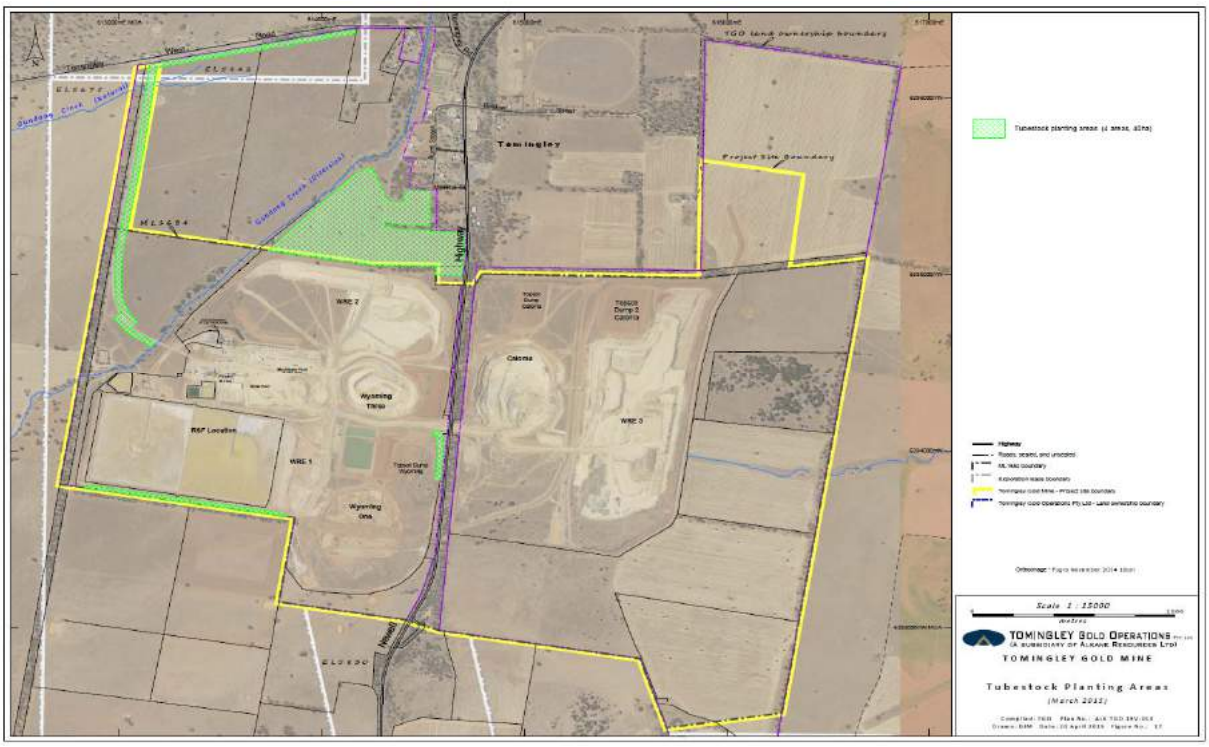


Figure 17: Location of tubestock planting during reporting period.

3.11.4 Incidents

With the exception of the deaths listed in Section 3.11.2, no biodivserity related incidents occurred during the reporting period.

3.11.5 Improvements

During the next reporting period, TGO will continue to implement the biodiversity conservation and enhancement measures outlined in the BMP. The biodiveristy monitoring program continue, with fauna and vegetation monitoring scheduled for spring 2015.

Once LLS approval of the PVP is received in the next reporting period, works will commence on installing exclusion fencing and signage for the newly established offset areas and corridors. Management actions, such as livestock exclusion and feral animal/weed control, will be expanded in scope to cover the newly established offset areas. Biodiversity enhancement tubestock planting, concentrating on backfilling gaps in existing corridors, will also continue in the next reporting period.

It is expected that rehabilitation of waste rock emplacements will commence in 2015, as discussed further in Section 5. Although not a part of the offset management program, the vegetation that develops from these rehabilitation works will increase longterm site biodiversity values, as part of the post-mining native vegetation corridor network.

3.12 Cultural heritage

3.12.1 Management

A Cultural Heritage Management Plan (CHMP) for TGO was prepared during the 2013 reporting year. The plan, which outlines measures to manage Aboriginal and Non-Aboriginal heritage sites at TGO, was reviewed during the 2014 reporting year, with no changes made. The CHMP was developed from a previous assessment, which identified 60 Aboriginal sites and eight Non-Aboriginal heritage features.

The assessment and management of culturally significant sites was completed during the assessment and construction phases of the project, with protective measures (such as signage and fencing) implemented during 2013 to prevent access to cultural heritage sites. A temporary keeping place was also constructed to store culturally significant trees requiring relocation.

Communication of heritage management and reporting requirements is presented to new site workers as part of the site induction process, with particular emphasis on ceasing work and reporting to site management, should aboriginal items be discovered during site operations.

As recorded heritage sites are located away from site operational areas, and no new sites or items were identified during the reporting year, management of the existing sites mainly consisted of periodic inspection and local site maintenance.

3.12.2 Performance

With all existing or relocated sites adequately maintained, no active cultural heritage management occurred during the reporting period.

3.12.3 Incidents

No cultural heritage incidents were recorded during reporting period.

3.12.4 Improvements

No improvements to the management of cultural heritage sites and items is proposed in the next reporting period.

3.13 Contaminated Land

3.13.1 Management

As TGO is a new mine site, having just completed construction and transitioned to operations in early 2014, risk of site contamination is relatively low. The contamination assessment completed as part of the project environmental assessment, also determined risk of land contamination onsite to be very low.

At this stage of the operation, the safe and responsible storage and handling of hazardous materials (as discussed in Section 2.8) is the key strategy to preventing, and therefore managing, land contamination.

The construction of new purpose-designed and constructed vehicle washdown and re-fuelling facilities, which were largely completed during reporting period, and will be commissioned early in the next reporting period will also assist greatly in the prevention of land contamination.

3.13.2 Performance

With no contamination inspections or assessments conducted during year, no contaminated sites were identified at TGO during the reporting period.

3.13.3 Incidents

During the reporting period, three minor oil spills were reported at TGO, including:

- 12/2/2014 - hydraulic hose failure in contract water truck;
- 03/4/2014 - hydraulic hose damage on grader; and
- 12/2/2014 - hydraulic hose jammed on rock breaker.

No major spill incidents were reported.

A failure of the processing mill late in the reporting year resulted in an inundation of the immediate area with raw ore slurry; however, the area was surrounded by a protective bund and the material was contained. The potential for localised contamination from this event is believed to be minor.

3.13.4 Improvements

A review of the bunding arrangements surrounding the ball mill is to be carried out. No other improvements to contaminated site management at TGO is proposed for the next reporting period.

3.14 Public Safety & Traffic

3.14.1 Management

A Traffic Management Plan has been developed for TGO, which specifies measures to minimise risks associated with vehicular access to the mine site, and interaction between and general traffic.

Two major traffic safety projects, the Tomingley West Road upgrade and Newell Highway heavy vehicle underpass costruction, were completed during the reporting period generally in accordance with specifications presented in the project environmental assessment.

The Tomingley West Road project was delayed due to weather conditions, and was completed by mid-2014. An amendment of PA 09_0155 was granted by DP&E to allow for the construction delay. The upgrade project consisted of widening the existing pavement road to a double lane sealed road, with pavement strengthened to be capable of taking road trains.

The Newell Highway underpass was completed by mid-2014 and involved the excavation and construction of a single lane heavy vehicle underpass to allow the passage of haul trucks between the eastern and western sides of the TGO mine site without interacting with traffic using the Newell Highway. The underpass was constructed in accordance with a Works Authorisation Deed signed with NSW RMS in May 2011.

At the site level, the realignment and line marking of the TGO light vehicle car park was completed during the reporting period to improve traffic flow and reduce the risk of light vehicle/ pedestrian interaction associated with such areas.

As a security and public safety measure, the construction of a chain-link fence around the site entrance was completed during the reporting year. The project was finalised with the installment of security gates for pedestrians and vehicles.

3.14.2 Performance

Construction of the Newell Highway underpass and Tomingley West Road upgrade was completed in accordance with the requirements of PA 09_0155. No offsite traffic complaints or incidents relating to mine traffic have been recorded since the completion of these two projects.

3.14.3 Incidents

Three complaints were received by TGO during the reporting period regarding traffic at, or near, the mine site. These complaints were investigated and adressed by either toolbox talk or temporary contractor stand-down.

3.14.4 Improvements

A project has been commenced to construct sight screens adjacent to the Newell Highway underpass, to remove the visual distraction to highway users. The project is well advanced and will be completed during the 2015 reporting year.

3.15 Fire

3.15.1 Management

As 82.5% of the TGO mine site had been cleared of woodland vegetation for agricultural purposes prior to mine construction, the majority of the mine is not situated in a fire-risk zone. However, bushfire is a significant risk in any rural Australiansetting, and TGO is conscious of the need to ensure adequate bushfire controls are maintained to minimise the potential bushfire hazard. Bushfire preparedness at TGO is based on the following potential ignition sources:

- Mining activities;
- Lightning;
- Offsite fires; and
- Transport corridors - main risk is motorists discarding of cigarette butts along Newell Highway.

A number of strategies are in place at TGO to minimize the risk of a bushfire occurring on TGO land, including:

- Mobile and fixed plant will be regularly inspected and maintained in good working order;
- Light vehicles and mobile plant will be fitted with appropriately sized and approved fire extinguishers and/or fire suppression systems;
- Access roads are maintained in good order, with remedial and maintenance work carried out as required;
- Firebreaks along boundary fences will be inspected before the start of the fire season, and maintainenance work carried out as required;
- Hazard reduction programs will be carried out in accordance with the RFS hazard reduction program;
- Regular inspections of the explosives magazine compound to ensure vegetation does not become a fire hazard;
- Hot work activities will, as far as practicable, be conducted and confined to designated hot work areas and a Hot Work Permit is required in high risk situations;
- Regular housekeeping inspections will be undertaken by mine management to ensure that risk controls remain in place and are effective;
- Workshops and offices have been installed with appropriate firefighting equipment and their location is indicated by signs compliant with relevant Australian Standards;
- Refueling is undertaken within designated fuel bays or within cleared areas of the mine site;
- TGO is a designated “No Smoking” area. Workers who smoke are able to do so at the entrance to the site on the Tomingley West Road. Management of TGO will remind workers who smoke of the risk of bushfires and how to appropriately dispose of their cigarette butts;
- A fire response trailer is maintained on site to provide immediate response to a bushfire.
- An Emergency Management Plan outlines the procedure for bushfire notification and response;
- If a bushfire emergency is identified, Emergency 000 and/or the RFS will be notified immediately.

3.15.2 Performance

No bushfires occurred during reporting period.

3.15.3 Incidents

No fires or fire risk incidents were recorded during the reporting period.

3.15.4 Improvements

The site improve its incident response capability through training and will assess the viability of setting up MOUs with emergency response groups around the area (e.g. with RFS)

3.16 Other Issues and Risks

A geochemical assessment of geological strata within the proposed TGO open cut pit locations identified spontanous heating and acid rock drainage as being very low risk. This potential impacts are, therefore, not being actively managed at TGO.

As TGO is currently an open cut only operation, impacts usually associated with underground operations, such as ground subsidence and operational ventilation are not considered to be risks warranting management.

4 Community

4.1 Consultation

The key strategy to ensure an effective passage of information between TGO and the surrounding community is the Community Consultative Committee (CCC). The CCC is a ten member committee established in early 2013 representing TGO, the local community, the Aboriginal community, as well as an independent chairperson. The CCC has decided to meet quarterly and, in 2014, met on the:

- 13 February;
- 14 May;
- 14 August; and
- 14 November.

At CCC meetings, members are updated by TGO personnel on the progress of current and proposed mining operations and projects. Community representatives are given the opportunity to raise concerns regarding the project and to offer advice regarding TGO's consultation with the community. CCC meeting minutes are available via the Alkane Resources website (www.alkane.com.au).

In April 2014, a new independent chairperson was approved by DP&E to chair the TGO CCC meetings.

In addition to the CCC, TGO utilised a number of methods of communication/consultation with the community in 2014, including:

- Making relevant information regarding mine approvals, operations and environmental monitoring available to the public on the Alkane Resources website;
- Distributing a community newsletter, to provide the Tomingley community with information on TGO operations;
- Providing a 24 hour community information line (and advertising the information line in the Narromine News, Peak Hill Times and Flat Chat in June 2014);
- Sending issue-specific letters to the residents of Tomingley regarding TGO's approach to sensitive issues such as property purchase; and
- Holding an issue-specific community meeting in January to address community concerns about mine blasting, which was about to commence.

4.2 Support

Over the life of the mine, TGO has committed to contribute:

- $430 000 to the Tomingley Gold Project - Community Fund
- $360 000 for road maintenance and
- $160 000 for Narromine Shire Council environmental expertise.

The Tomingley Gold Project Community Fund has been established to support projects within the Narromine Shire that promote the long term economic growth, community connectivity, education and training, or community infrustructure.

Allocation of funds is decided by a fund panel, consisting of two TGO representatives and two from Narromine Shire Council, based on annual applications from community members, groups or organisations.

In 2014, the community fund provided financial support to:

- Li'l Tacker Playgroup, Tomingley, for airconditioning;
- Mungery Amateur Picnic Race Club for 2014 Picnic Races;
- Narromine Agricultural (Show) Society Inc. for the Annual Show;
- Tomingley Sport and Recreation Ground Trust for the amenities block project; and
- Narromine Little Athletics Branch for starting blocks.

4.3 Complaints and enquiries

TGO manage complaints in accordance with the protocols and procedures contained in the EMS. During the reporting period, 53 complaints were received, compared to nine during the previous reporting period.

The majority of these complaints were received through the community information line or other Alkane/TGO phone lines, with five received by email or text message, five in person at the TGO office or complainant's residence, and one by letter.

The increase in complaints from last reporting period is largely due to the 35 noise complaints received since the transition to operations in early 2014. Figure 18 shows the number and type of complaints received during the reporting period, compared to the previous period.

TGO staff responded to all complainants and conducted investigations into specific concerns. Investigation outcomes consisted of corrective action, where required, and follow-up communication with the complainant. All enquiries and complaints have been closed out for the 2014 reporting period, with follow-up to noise and dust complaints being incorporated into ongoing investigations that will continue into the next reporting period.

A register of complaints and enquiries received from the commuinity is maintained by TGO. A modified version of this register (excluding personal details of complainants) is published on the Alkane Resources website.

A copy of the TGO community complaints register for the reporting period is included as Appendix H.

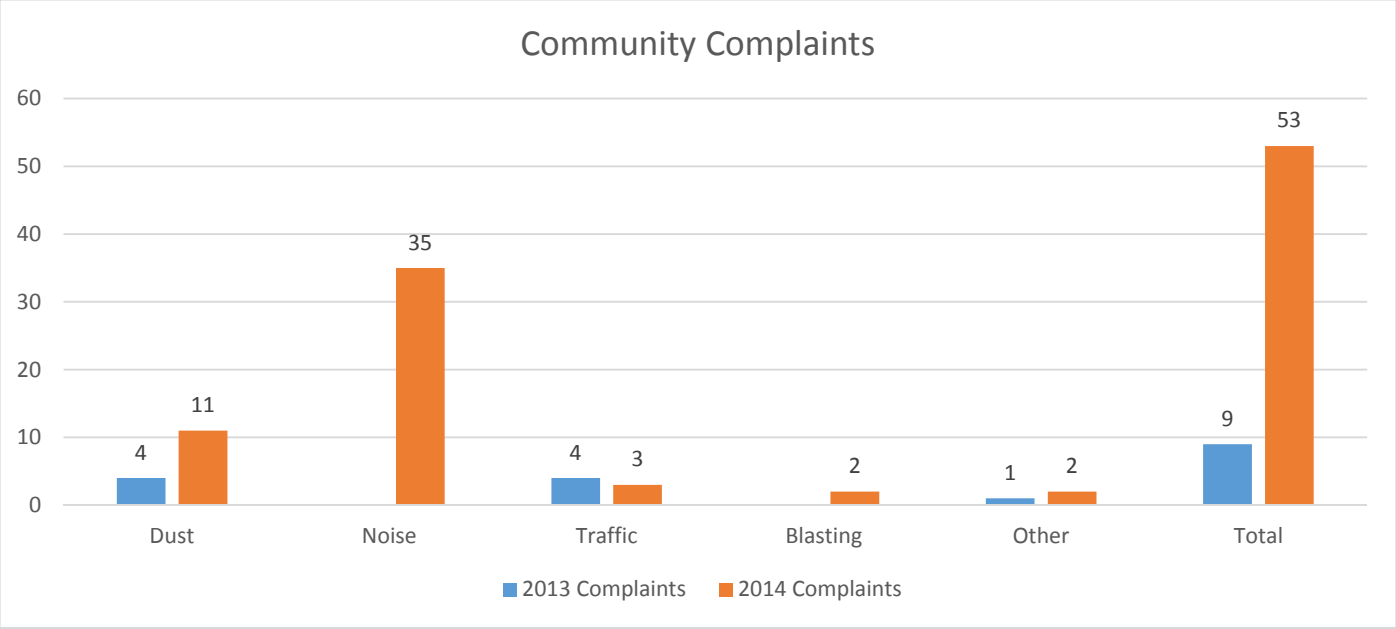


Figure 18: Summary of community complaints by type received in 2014 and previous reporting periods.

5 Rehabilitation

In 2014 TGO transitioned from was the first year of mining operations at TGO, all infrastructure was still in operational use, and no landforms had been completed no final land rehabilitation occurred at TGO during the reporting period.

5.1 Buildings and Infrastructure

The “MAAS” contractor area was decommisioned during the reporting period.

5.2 Topsoil Management

Topsoil stripped during 2014 was stockpiled in established topsoil dumps, and stored volumes entered into a stockpile register. A copy of the topsoil register is included in Table 16.

Table 16: Stockpiled topsoil volumes at TGO

Stockpile Number	Location	Stockpile Volumes (m^3)		Comments
		Start of period	End of period (5/10/14)	
1	East of Wyoming 3		84,726	
2	Northeast of Wyoming 1		170,686	
3	North of Caloma		102,528	
4	Northwest of WRE 3		178,808	
5	Southwest of WRE 2		24,913	
6	Southeast of WRE 2		25,239	

Topsoil stripping operations undertaken during the reporting period are discussed in Section 2. 2. Soil stripped and stockpiled at TGO is subject to the following design and management measures.

- Soil stockpiles have a maximum height of 5m, comprising a maximum of 3m of subsoil overlain by a maximum of 2m of topsoil.
- Stockpiles batter slope of 1:3 (V:H) or less.
- Test stockpile material (pH, EC, PSA, EAT) upon placement and apply ameliorants, if required.
- Plant cover crop of pasture grass species within one month of stockpile completion.
- Erect signposts around stockpile perimeters advising of the presence of the stockpiles.
- Prevent vehicular access on soil stockpiles unless required for stockpile management purposes.
- Implement a periodic weed inspection and management program.

Although no final land rehabilitation was completed during the reporting period, remedial stabilisation and revegetation works were completed along the length of Caloma Central Drain and other adjacent catchment areas (as discussed in Section 3.10). Topsoil was removed from topsoil dumps for use in these remedial works.

5.3 Rehabilitation of Disturbed Land

As land rehabilitation is completed in future reporting periods, it will be reported on in the following sections, based on Domains. Domains are land units within the mine site grouped by similar operational function (*Primary Domain*s), or similar rehabilitation objective (*Secondary Domains*). The 2014 MOP discusses all rehabilitation and mine closure planning in relation to the primary and secondary domains that comprise the TGO mine site. These domains are shown on Plan 3.

Rehabilitation is also planned and reported on in terms of Rehabilitation Phases:

1. Decommissioning
2. Landform Establishment
3. Growth Medium Development
4. Ecosytem and Land Use Establishment
5. Ecosytem and Land Use Development
6. Land Relinquishment

For the 2014 reporting year, all domains within TGO are considered to be within the operational phase of the mine life, and reporting by rehabilitation Phase is not applicable.

In future reporting periods, rehabilitation performance will be discussed in relation to the rehabilitation objectives for each domain. Specifically, rehabilitation performance for each domain will be assessed against the performance indicators and measures, and completion criteria presented in the MOP for each rehabilitation phase.

Activites completed during each reporting period that are not considered final rehabilitation, but are still contribute to good land management will also be discussed for each domain. Such activities may include:

- weed and fauna management;
- slashing, mulching, or vegetation thinning;
- fertiliser, ameleorant or organic supplement application;
- fencing, signage or access control;
- remedial erosion works; or
- temporary revegetation for dust and erosion control; or

Rehabilitation and land management activities are summarised in Table 17 and Table 18, respectively.

5.3.1 Domain 1: Infrastructure Area

All areas of this domain were operational during the reporting period.

5.3.1.1 Rehabilitation Activities

No rehabilitation activities were undertaken in this domain during the reporting period.

5.3.1.2 Rehabilitation Performance

Not applicable for this reporting period.

5.3.1.3 Other Maintenance Activities

Erosion control revegatation treatment (spray-mulching) was applied to the outside embankment batters of the process water dam. Stabilisation works were also condusted on the adjacent surface water drain, which reports to Sediment Basin 1.

Basic grounds maintenance and weed control was also conducted throughout the domain during the reporting period.

5.3.2 Domain 2: Residue Storage Facility

The RSF became operational, and remained active, during the reporting period.

5.3.2.1 Rehabilitation Activities

No rehabilitation activities were undertaken in this domain during the reporting period.

5.3.2.2 Rehabilitation Performance

Not applicable for this reporting period.

5.3.2.3 Other Maintenance Activities

During the reporting period, the outside embankment batters were subject to temporary erosion control revegetation treatment (spray-mulching). The fauna exclusion fence surrounding the RSF was also inspected and maintained.

5.3.3 Domain 3: Water Management Area

The drains, dams, dewatering pond and sediment basins that constitute this domain were commissioned or remained operational during the reporting period.

5.3.3.1 Rehabilitation Activities

No rehabilitation activities were undertaken in this domain during the reporting period.

5.3.3.2 Rehabilitation Performance

Not applicable for this reporting period.

5.3.3.3 Other Maintenance Activities

Significant remedial erosion control revegetation works were conducted on drains in this domain during the reporting period. More details on these works are presented in Section 3.10.

5.3.4 Domain 4: Waste Rock Emplacement

The three waste rock emplacements that constiute this domain were operational during the reporting period.

5.3.4.1 Rehabilitation Activities

No rehabilitation activities were undertaken in this domain during the reporting period.

5.3.4.2 Rehabilitation Performance

Not applicable for this reporting period.

5.3.4.3 Other Maintenance Activities

No maintenance activities were conducted in this domain during the reporting period.

5.3.5 Domain 5a: ROM Pad

The major component of this domain, The ROM Pad, was operational during the reporting period.

5.3.5.1 Rehabilitation Activities

No rehabilitation activities were undertaken in this domain during the reporting period.

5.3.5.2 Rehabilitation Performance

Not applicable for this reporting period.

5.3.5.3 Other Maintenance Activities

No maintenance activities were conducted in this domain during the reporting period.

5.3.6 Domain 5b: Soil Stockpiles

The four topsoil stockpiles that constitute this domain were operational during the reporting period.

5.3.6.1 Rehabilitation Activities

No rehabilitation activities were undertaken in this domain during the reporting period.

5.3.6.2 Rehabilitation Performance

Not applicable for this reporting period.

5.3.6.3 Other Maintenance Activities

During the reporting period, topsoil stockpiles were modified as either stripped topsoil material was emplaced, or stockiled material was removed for erosion control revegetation works. Following modification completion, stockpiles were regraded and spray-seeded to establish a temporary dust/erosion/weed control vegetation cover.

5.3.7 Domain 6: Open Cut Pits

The three open cut pits (Wyoming 1, Wyoming 2 and Caloma) that constitute this domain were operational during the reporting period.

5.3.7.1 Rehabilitation Activities

No rehabilitation activities were undertaken in this domain during the reporting period.

5.3.7.2 Rehabilitation Performance

Not applicable for this reporting period.

5.3.7.3 Other Maintenance Activities

No maintenance activities were conducted in this domain during the reporting period.

5.3.8 Domain 7: Rehabilitated Areas

Although this domain is not an operational mining area, it remained largely undisturbed during the reporting period. Some areas, to the north of Caloma pit, were disturbed during construction.

5.3.8.1 Rehabilitation Activities

No rehabilitation activities were undertaken in this domain during the reporting period.

5.3.8.2 Rehabilitation Performance

Not applicable for this reporting period.

5.3.8.3 Other Maintenance Activities

Those disturbed areas of the domain located adjacent to Caloma Central Drain, or reporting to the drain, were subject to temporary erosion control revegetation treatment during the reporting period. Boxthorn control spraying was also conducted throughout this domain.

5.3.9 Domain 9: Conservation and Biodiversity Offset Areas

This domain is not an operational mining area, and remained undisturbed during the reporting period.

5.3.9.1 Maintenance Activities

Biodiversity enhancement tubestock planting occurred in this domain during the reporting period. Revegetation areas included a corridor adjacent to the main site entrance road, and the open paddock between the TGO operational site, Tomingley village and Gundong Creek. Boxthorn control spraying was also conducted throughout this domain.

5.3.10 Domain 10: Rural Land

This domain is not an operational mining area, and remained undisturbed during the reporting period.

5.3.10.1 Other Maintenance Activities

Biodiversity enhancement tubestock planting occurred in this domain during the reporting period, along the the northern boundary adjacent to the Tomingley West Road. Boxthorn control spraying was also conducted throughout this domain.

Table 17: Rehabilitation Summary

		Area Affected / Rehabilitated (hectares)		
		2013 Report	To date 2014	Next AEMR (estimated)
A	**MINE LEASE AREA**			
A1	Mine Lease(s) Area	827	827	827
B	**DISTURBED AREAS**			
B1	Infrastructure area	50ha	50ha	50ha
B2	Active Mining Area (excluding items B3 – B5 below)	47.9	47.9	47.9
B3	Waste emplacements (WRE) (active/unshaped/in or out-of-pit)	118.2	118.2	121.2
B4	Tailings emplacements (RSF) (active/unshaped/uncapped)	49ha	49ha	49ha
B5	Shaped waste emplacement (awaits final vegetation)	0	0	49
ALL DISTURBED AREAS				
C	**REHABILITATION PROGRESS**			
C1	Total Area where rehabilitation has commenced	0	0	49
D	**REHABILITATION ON SLOPES**			
D1	10 to 18 degrees	0	0	49
D2	Greater than 18 degrees	0	0	0
E	**SURFACE OF REHABILITATED LAND**			
E1	Pasture and grasses	0	0	49
E2	Native systems/ecosystems			0
E3	Plantations and crops	0	0	0
E4	Other (include non-vegetative outcomes)	0	0	0

Table 18: Maintenance Activities on Rehabilitated Land

Treatment	Area Treatment (ha)	Comment/control strategies/ treatment detail
Boxthorn treatment	827ha	Spot Spraying across entire mining lease area.
Tubestock planting	40ha	
Remedial revegetation works	0	

5.4 Trials, Monitoring and Research

The biodiveristy monitoring program was revised and fully implemented during the reporting period, with ten monitoring sites established across remnant vegetation areas, and offset revegetation areas, on/near the TGO mine site. The first year of biodiversity monitoring, based on LFA measurements and ecosystem diversity measurements, was also completed during August 2014 (see Section 3.11.2). As areas of the TGO mine site are rehabilitated, the scope of this montoring program will be expanded to ensure monitoring covereage of rehabilitated areas.

5.5 Closure and Final Rehabilitation Planning

The process and objectives for mine closure and final rehabilitation remain laregly unchanged from the description provided in the project envionmental assessment and the 2014 MOP. During the reporting year, a geotechnical consultants were engaged to investigate and advice TGO on a preferred method for final rehabilitation of the waste rock dump outside slopes, to ensure longterm landform stability. The outcomes of this investigation will be presented in the next reporting period, and incorporated into the proposed rehabilitation methodology.

6 Activities proposed in next reporting period

With the transition from construction to operations completed in 2014, open cut mining and processing operations at TGO will continue in 2015.

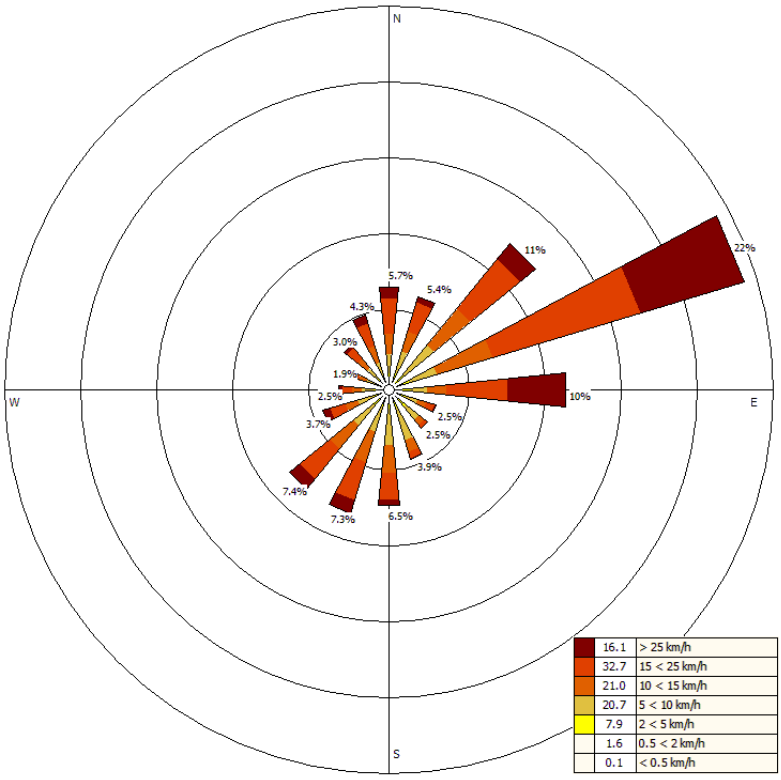
Environmental activities in 2015 will focus on reduction of offsite dust and noise impacts, management and monitoring of biodiversity, establishing biodiversity offset areas as per the PVP, completion of water management infrastructure, commencing WRE rehabilitation, and other activities as shown in Table 19.

Table 19: Activities proposed for 2015

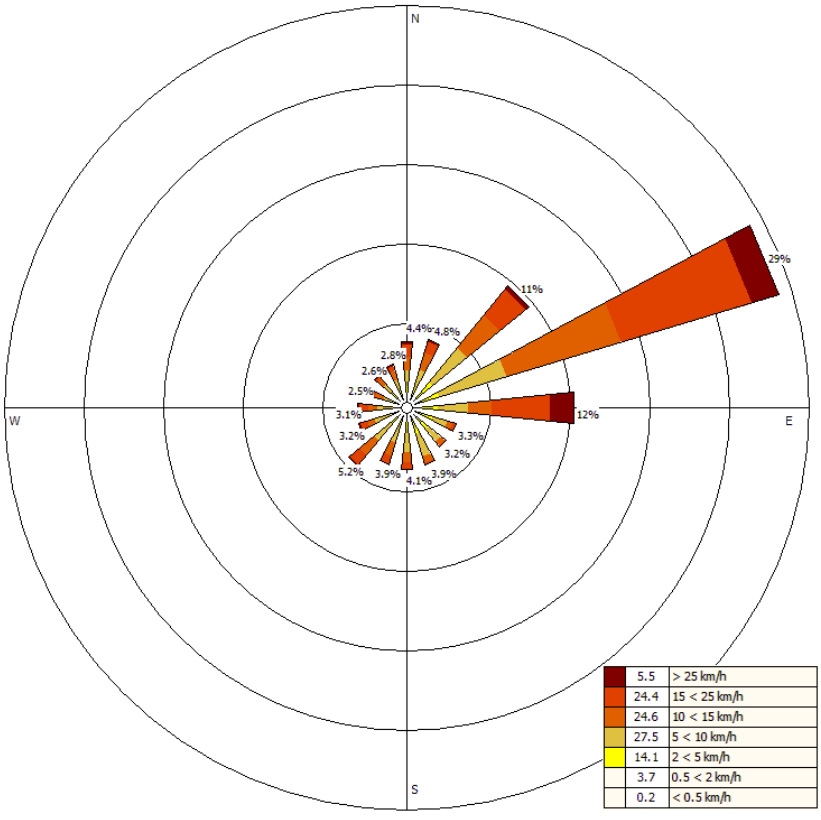
Proposed Activities	Location	Proposed Completion Date
Continued monitoring program for bats, frogs, dunnarts and grey-crowned babblers	Across site	November 2015
Control of Box Thorn	Across site	October 2015
Carry out tree and shrub planting in accordance with the biodiversity management plan	“Clarkes Block”	September 2015
Carry out LFA of biodiversity and rehabilitation areas.	Biodiversity and rehabilitation areas	September 2015
Conduct weed management and follow up planting where necessary	Biodiversity offset area	October 2015
Commence rehabilitation of the first tier of WRE2 and WRE3	Waste rock emplacements	May 2015
Finalise Surface Water Management and pit dewatering infrastructure	Across Site	June 2015
Soil stockpile inventory	Topsoil stockpiles	ongoing
Review site Management Plans	Across Site	August 2015 following completion of audit.

Appendix A

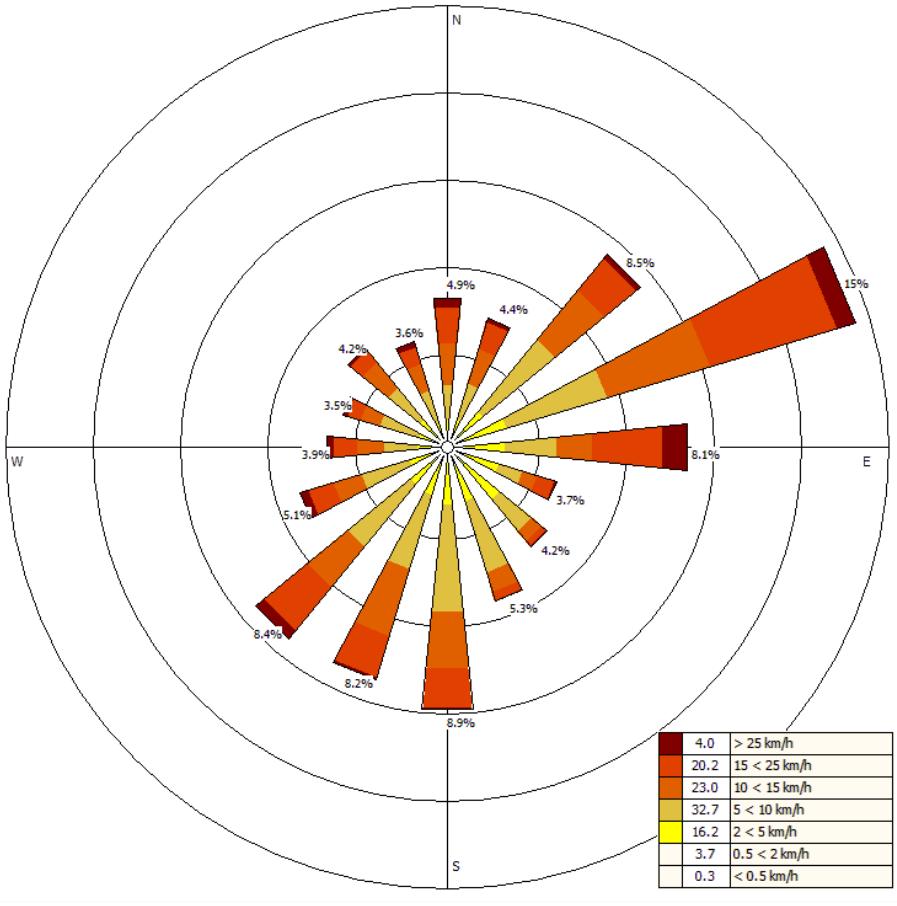
Meteorological Monitoring Results



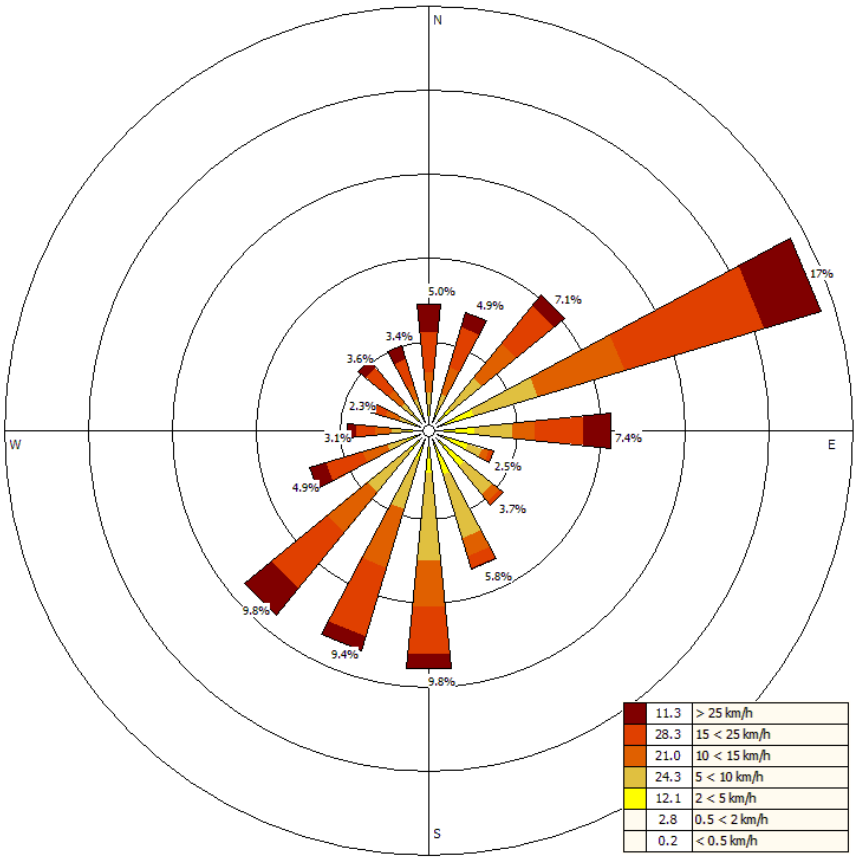
Summer Wind Rose 01 December 2013 to 28 February 2014



Autumn Wind Rose 01 March to 31 May 2014



Winter Wind Rose 01 June to 31 August 2014



Spring Wind Rose 01 September to 30 November 2014

TOMINGLEY
GOLD OPERATIONS PTY LTD
(A wholly owned subsidiary of Alkane Resources Ltd)
ABN 53 149 040 371

Appendix B

Air Quality Monitoring Results

Month	2014 TGO DDG Total Insoluble Matter (g/m²/month)																			
	DDG 1			DDG 2			DDG 3			DDG 4			DDG 5			DDG BP			DDG Truck Stop		
	2014	Mthly Change	*2013*	2014	Mthly Change	*2013*	2014	Mthly Change	*2013*	2014	Mthly Change	*2013*	2014	Mthly Change	*2013*	2014	Mthly Change	*2013*	2014	Mthly Change	*2013*
January	1.7	0.8	-	0.8	-26.2	-	1.6	0.5	-	6.4	3.9	-	2.1	1.4	-	3.2	1.6	-	2.1	0	-
February	2.2	0.5	-	1.7	0.9	-	2.8	1.2	-	2.1	-4.3	-	2.4	0.3	-	3.8	0.6	-	3	0.9	-
March	1.4	-0.8	-	2.3	0.6	-	1.2	-1.6	-	34.5	32.4	-	4.5	2.1	-	2	-1.8	-	3.6	0.6	-
April	1.4	0	-	1.3	-1	-	1.4	0.2	-	8.1	-26.4	-	0.8	-3.7	-	3.5	1.5	-	2.4	-1.2	-
May	0.7	-0.7	*1.1*	1.3	0	*12*	0.6	-0.8	0.3	9.1	1	1.8	0.9	0.1	0.6	2.4	-1.1	3.7	4.6	2.2	2.0
June	0.3	-0.4	*0.3*	0.6	-0.7	*3*	0.5	-0.1	0.1	26	16.9	0.7	1.3	0.4	0.1	2.3	-0.1	3.9	2.4	-2.2	0.7
July	0.6	0.3	-	0.4	-0.2	-	0.3	-0.2		1.3	-24.7	-	0.5	-0.8	-	2.8	0.5	-	1.3	-1.1	-
August	0.5	-0.1	*1*	0.7	0.3	*1*	0.4	0.1	0.5	2.5	1.2	1	1.1	0.6	0.5	3.8	1	3.5	2.2	0.9	2.5
September	1.3	0.8	*0.6*	1.3	0.6	*8*	1.2	0.8	0.3	2.6	0.1	1.2	1.7	0.6	0.8	2.6	-1.2	2	2.7	0.5	1.4
October	1.3	0	*0.5*	1.3	0	*10*	0.9	-0.3	0.6	4.3	1.7	1	1.2	-0.5	0.6	2.2	-0.4	2.2	1.9	-0.8	2.9
November	1.9	0.6	*2.1*	1.3	0	*130*	1.9	1	1.4	2.2	-2.1	3.3	1.6	0.4	1.3	2.5	0.3	3.4	2.5	0.6	1.4
December	1.6	-0.3	*0.9*	1.6	0.3	*27*	1.9	0	1.1	4.8	2.6	2.5	2.5	0.9	0.7	-	-	1.6	3.1	0.6	2.1
Annual Average	1.24			1.22			1.23			8.66			1.72			2.83			2.65		

2014 TGO RTA1 PM10 Mass Concentration (µg/m³)															
May		June		July		August		September		October		November		December	
		01-Jun-14	11.45	01-Jul-14	11.56	01-Aug-14	14.04	01-Sep-14	21.46	01-Oct-14	31.09	01-Nov-14	72.15	01-Dec-14	21.83
		02-Jun-14	6.39	02-Jul-14	13.37	02-Aug-14	11.46	02-Sep-14	23.71	02-Oct-14	31.31	02-Nov-14	53.91	02-Dec-14	12.15
		03-Jun-14	7.91	03-Jul-14	16.97	03-Aug-14	14.79	03-Sep-14	18.49	03-Oct-14	23.92	03-Nov-14	38.82	03-Dec-14	19.42
		04-Jun-14	9.53	04-Jul-14	17.15	04-Aug-14	0	04-Sep-14	20.75	04-Oct-14	20.52	04-Nov-14	47.4	04-Dec-14	16.65
		05-Jun-14	10.01	05-Jul-14	19.51	05-Aug-14	21.3	05-Sep-14	16.85	05-Oct-14	20.07	05-Nov-14	49.98	05-Dec-14	15.44
		06-Jun-14	9.9	06-Jul-14	14.24	06-Aug-14	21.6	06-Sep-14	10.76	06-Oct-14	14.46	06-Nov-14	62.13	06-Dec-14	14.01
		07-Jun-14	10.6	07-Jul-14	9.75	07-Aug-14	20.09	07-Sep-14	10.21	07-Oct-14	26.75	07-Nov-14	50.02	07-Dec-14	9.36
		08-Jun-14	11.26	08-Jul-14	12.71	08-Aug-14	22.82	08-Sep-14	10.53	08-Oct-14	16.28	08-Nov-14	28.73	08-Dec-14	14.54
		09-Jun-14	15.67	09-Jul-14	16.8	09-Aug-14	23.49	09-Sep-14	40.08	09-Oct-14	20.88	09-Nov-14	34.84	09-Dec-14	24.42
		10-Jun-14	16.41	10-Jul-14	19.22	10-Aug-14	39.18	10-Sep-14	41.76	10-Oct-14	28.68	10-Nov-14	63.53	10-Dec-14	27.28
		11-Jun-14	13.78	11-Jul-14	18.93	11-Aug-14	28.15	11-Sep-14	18.55	11-Oct-14	27.42	11-Nov-14	71.98	11-Dec-14	0
12-May-14	12.31	12-Jun-14	18.11	12-Jul-14	18.34	12-Aug-14	22.53	12-Sep-14	22.19	12-Oct-14	21.61	12-Nov-14	46.7	12-Dec-14	15.25
13-May-14	14.9	13-Jun-14	18.92	13-Jul-14	15.34	13-Aug-14	16.77	13-Sep-14	26.96	13-Oct-14	24	13-Nov-14	35.26	13-Dec-14	14.24
14-May-14	14.87	14-Jun-14	15.52	14-Jul-14	15.97	14-Aug-14	17.98	14-Sep-14	26.69	14-Oct-14	23.63	14-Nov-14	42.97	14-Dec-14	16.78
15-May-14	17.5	15-Jun-14	9.28	15-Jul-14	15.62	15-Aug-14	19.02	15-Sep-14	16.07	15-Oct-14	19.95	15-Nov-14	71.27	15-Dec-14	22.15
16-May-14	16.28	16-Jun-14	9.65	16-Jul-14	15.91	16-Aug-14	16.54	16-Sep-14	23.85	16-Oct-14	28.06	16-Nov-14	101.09	16-Dec-14	37.01
17-May-14	19.46	17-Jun-14	13.84	17-Jul-14	10.64	17-Aug-14	4.77	17-Sep-14	22.79	17-Oct-14	29.41	17-Nov-14	10.9	17-Dec-14	60.94
18-May-14	14.55	18-Jun-14	14.83	18-Jul-14	10.66	18-Aug-14	7.64	18-Sep-14	22.28	18-Oct-14	16.71	18-Nov-14	32.97	18-Dec-14	56.72
19-May-14	15.72	19-Jun-14	15.21	19-Jul-14	9.37	19-Aug-14	8.21	19-Sep-14	23.53	19-Oct-14	16.05	19-Nov-14	36.06	19-Dec-14	63.78
20-May-14	20.35	20-Jun-14	14.76	20-Jul-14	12.85	20-Aug-14	11.58	20-Sep-14	24.08	20-Oct-14	22.58	20-Nov-14	35.96	20-Dec-14	62.81
21-May-14	22.99	21-Jun-14	14.4	21-Jul-14	15.04	21-Aug-14	11.58	21-Sep-14	28.52	21-Oct-14	23.8	21-Nov-14	48.3	21-Dec-14	36.74
22-May-14	22.31	22-Jun-14	12.81	22-Jul-14	16.13	22-Aug-14	9.11	22-Sep-14	24.69	22-Oct-14	23.18	22-Nov-14	51.78	22-Dec-14	30.63
23-May-14	19.68	23-Jun-14	13.08	23-Jul-14	15.46	23-Aug-14	12.03	23-Sep-14	18.96	23-Oct-14	27.61	23-Nov-14	55.94	23-Dec-14	28.36
24-May-14	19.68	24-Jun-14	10.46	24-Jul-14	14.88	24-Aug-14	14.25	24-Sep-14	32.31	24-Oct-14	28.96	24-Nov-14	63.68	24-Dec-14	12.2
25-May-14	21.03	25-Jun-14	14.29	25-Jul-14	16.04	25-Aug-14	21.69	25-Sep-14	30.21	25-Oct-14	43.84	25-Nov-14	41.87	25-Dec-14	16.58
26-May-14	20.04	26-Jun-14	16.59	26-Jul-14	15.99	26-Aug-14	23.25	26-Sep-14	11.29	26-Oct-14	53.2	26-Nov-14	31.5	26-Dec-14	18.96
27-May-14	48.13	27-Jun-14	18.39	27-Jul-14	18.11	27-Aug-14	16.03	27-Sep-14	12.69	27-Oct-14	61.64	27-Nov-14	49.06	27-Dec-14	19.88
28-May-14	10.85	28-Jun-14	20.05	28-Jul-14	14.19	28-Aug-14	14.96	28-Sep-14	17.56	28-Oct-14	70.64	28-Nov-14	41	28-Dec-14	16.57
29-May-14	10.9	29-Jun-14	13.81	29-Jul-14	17.27	29-Aug-14	17.86	29-Sep-14	21.01	29-Oct-14	41.13	29-Nov-14	20.85	29-Dec-14	9.98
30-May-14	13.21	30-Jun-14	11.29	30-Jul-14	19.85	30-Aug-14	22.37	30-Sep-14	20.47	30-Oct-14	28.74	30-Nov-14	22.27	30-Dec-14	54.95
31-May-14	12.21			31-Jul-14	17.42	31-Aug-14	18.63			31-Oct-14	53.95				

2014 TGO HVAS1 Total Suspended Particulates (µg/m³)							
Qtr 1		Qtr 2		Qtr 3		Qtr 4	
07-Jan-14	123	02-Apr-14	27.1	06-Jul-14	19.8	04-Oct-14	44.2
13-Jan-14	78.5	08-Apr-14	19.7	12-Jul-14	22	10-Oct-14	76.1
19-Jan-14	66.5	14-Apr-14	31.1	18-Jul-14	18.7	16-Oct-14	88.8
25-Jan-14	26.6	20-Apr-14	40.6	24-Jul-14	30.8	22-Oct-14	46.1
31-Jan-14	49.1	30-Apr-14	55.9	30-Jul-14	33.7	28-Oct-14	127
06-Feb-14	199	07-May-14	29	05-Aug-14	51.7	03-Nov-14	94.4
12-Feb-14	164	15-May-14	45	11-Aug-14	45.1	09-Nov-14	91.4
18-Feb-14	50.1	21-May-14	11.1	17-Aug-14	invalid data	15-Nov-14	296
24-Feb-14	83.4	27-May-14	6.8	23-Aug-14	invalid data	21-Nov-14	137
02-Mar-14	11.8	02-Jun-14	HVAS fault	29-Aug-14	38	27-Nov-14	110
08-Mar-14	21.6	03-Jun-14	HVAS fault	04-Sep-14	66.8	03-Dec-14	46
14-Mar-14	50.2	12-Jun-14	HVAS fault	10-Sep-14	28.2	09-Dec-14	47
20-Mar-14	31.9	18-Jun-14	36	16-Sep-14	52.7	15-Dec-14	56.5
27-Mar-14	13.9	24-Jun-14	13.6	22-Sep-14	47.9	21-Dec-14	70.5
		30-Jun-14	25.7	28-Sep-14	51.6	27-Dec-14	31.5
						02-Jan-15	84.8
						Annual Average	**59.4**

Appendix C

Dust Review Report

Memorandum

16 December 2014

To	Tomingley Gold Operations		
Copy to			
From	James Locke	Tel	02 6393 6413
Subject	Tomingley Gold Operations -Review of Dust Exceedance October 2014	Job no.	21/24215

1 Introduction

Tomingley Gold Operations (TGO) conducts an air quality monitoring program within and beyond ML1684. The program utilises a network of:

- Five Dust Deposition Gauges (DDG) to determine the rate of dust deposition
- One High Volume air sampler (HiVol) to measure ambient concentrations of Total Suspended Particles (TSP). The HiVol is run for a 24-hour period every six days, and
- One Tapered Element Oscillating Microbalance (TEOM) for continuous direct mass measurements of particulates (Situated in the township of Tomingley and centred due north of site).

The monitoring program undertaken by TGO is implemented to assess the impact of dust in the local area, to understand the source contribution to the ambient dust load and to improve the management and mitigation of dust emissions associated with site activities. Site monitoring locations and utilities are attached as Appendices.

2 Background

GHD have been engaged to analyse site air quality exceedances under section 17 of project approval no. 09_0155, specifically the 'short term impact assessment criteria for particulate matter' as shown in Table 1.

Table 1 Short-term impact assessment criteria

Pollutant	***Averaging Period***	***[d]Criterion***
Total Suspended Particulate (TSP)	Annual	90 µg/m^3
Particulate matter <10µm (PM_{10})	24 hour	[a] 50 µg/m^3

[a] *Total impact (i.e. incremental increase in concentration due to the project plus background concentrations due to all other sources);*

[d] *Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire*

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incidents or any other activity agreed by the Director-General

3 Scope of work

GHD has prepared a memo for each measured exceedance that summarises the exceedance, weather conditions at the time of the exceedance, and conclusions as to the likely source of dust.

This review utilised data supplied from the TEOM and HiVol, including:

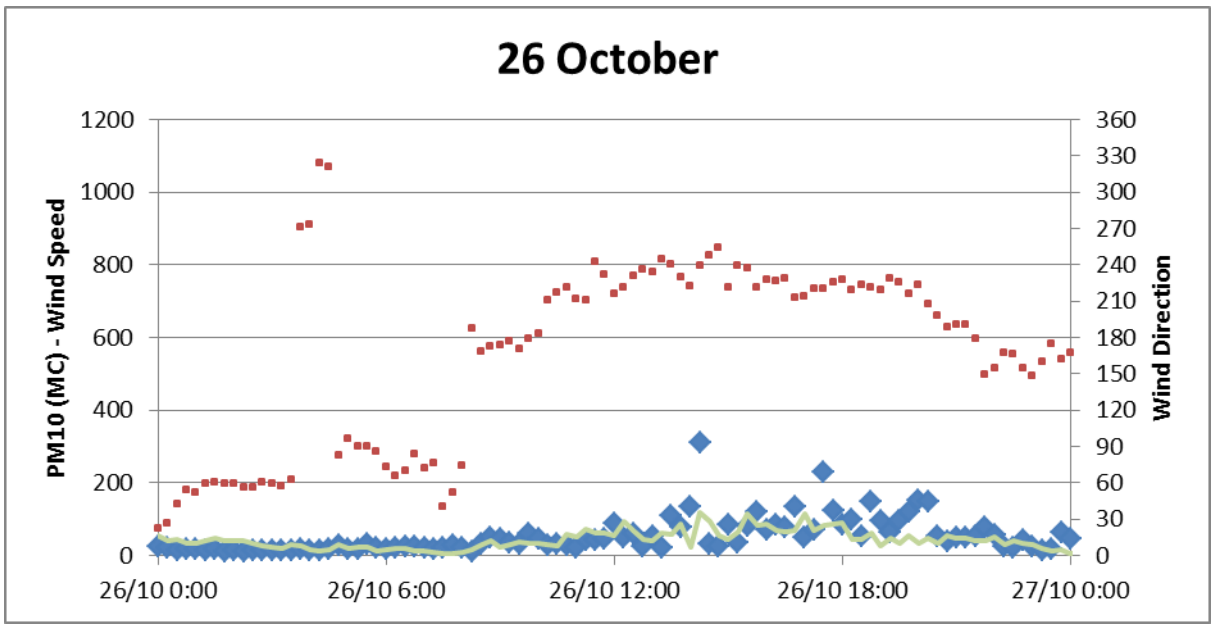
- PM_{10} and TSP concentration levels
- Wind speed
- Wind direction, and
- Rainfall.

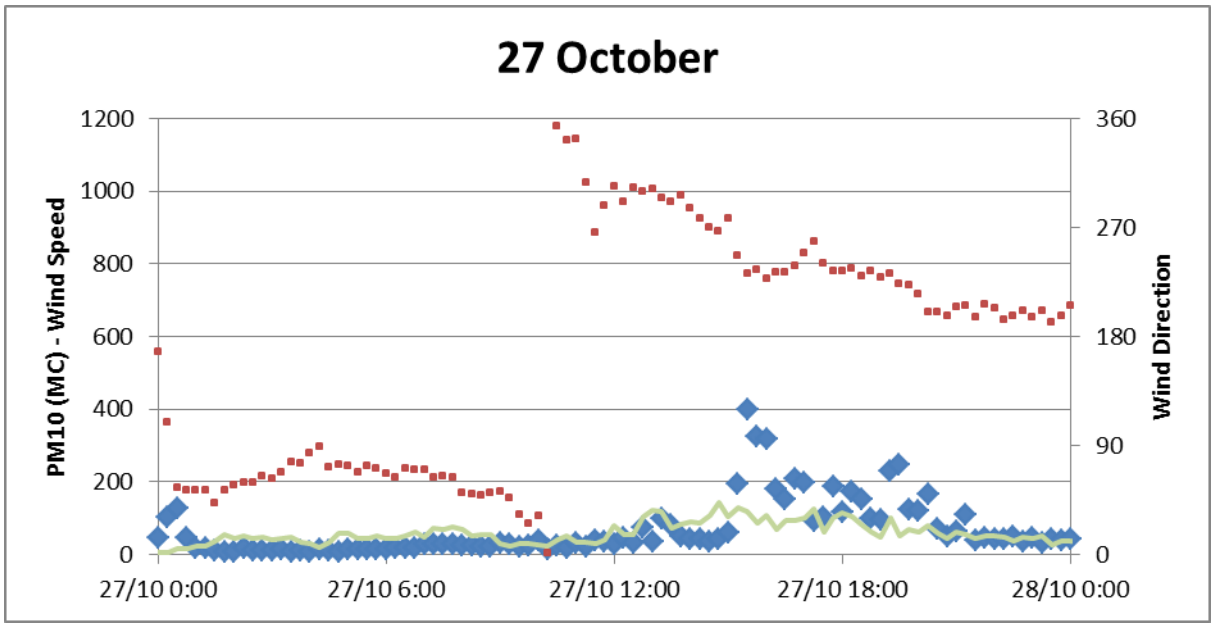
Site weather data was utilised to determine the likely contribution of dust from the mine site to the exceedances identified at the TEOM and HiVol. In the event of lack of data, regional weather can be utilised by triangulating the results of the Bureau of Meteorology (BoM) Sites for Dubbo, Narromine and Parkes.

4 Findings

Analysis of the TEOM data identified daily exceedances on the 26 and 27 October 2014, with recordings of 52 µg/m^3 and 67 µg/m^3 respectively. Further analysis showed hourly averages above 50 µg/m^3 for a concurrent period of 27 hours between 17:00 on the 26 October to 19:00 on the 27 October 2014. The hourly average peaked at 70.6 µg/m^3 between the hours of 12:00 and 13:00 on the 27 October. Daily (15 minute average) analysis data for the event is graphed in Figure 1 below. On both days, the highest readings and therefore the most contribution to the elevated daily value occurred when wind directions were from the south-west quadrant.

Figure 1 PM10 and Wind Characteristics (red dots for wind direction, green line for wind speed as km/hr) 26 – 27 October





Wind direction and wind speed for the time period is shown below in Figure 2 as a daily wind rose. Wind speed was predominantly gentle to moderate with only 8 % of wind considered fresh by the Beaufort Wind Force Scale. Wind direction for this period suggests a predominantly SSW wind for 18 % of the time period with secondary wind directions of SW (11 %) and ENE (21 %). Further investigation into the wind direction during this period suggests that the wind was stable at 210º (the range during 26 November mostly 180^{o} to 240^{o} during the highest PM_{10} levels) and backing from 30º to 210º (27 November but mostly near 240^{o} when highest PM_{10} levels and the strongest wind speeds). A surface pressure trough system ahead of a cold front over Bass Strait produced south-westerly winds over all of Victoria and most of southern and central NSW at this time.

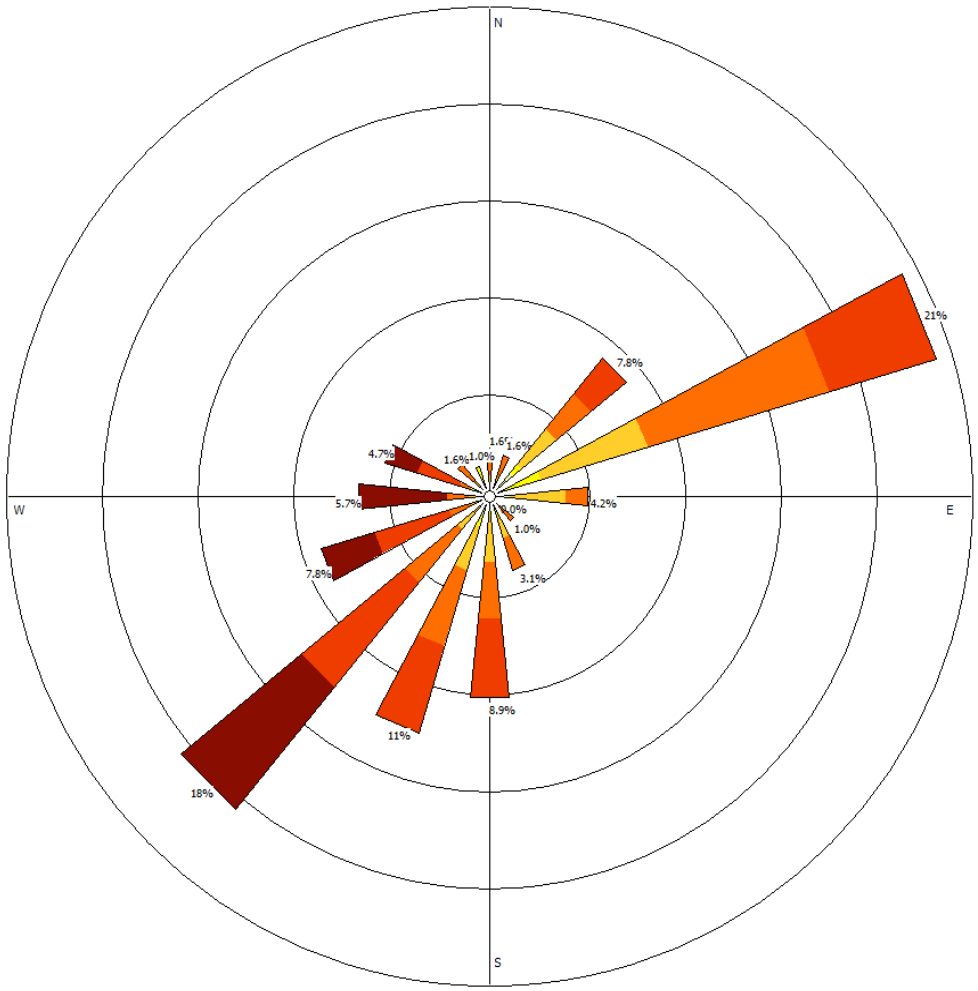
The 28 October aligned with the operation of the HiVol sampling program. The measured TSP concentration level for the 24-hours of 28 October was 127 µg/m^3. The relevant criterion for TSP concentration is 90 µg/m^3, based on an annual average. Therefore, assessment for compliance with TSP is not possible, however the elevated level aligns with the elevated PM_{10} concentrations measured by the TEOM during the previous two days.

No rain was reported during this period or during the immediate previous or subsequent days.

Memorandum

Figure 2 Wind Rose 26-27 October

Calm: 0.5%



	%	
	15.6	> 25 km/h
	27.1	15 < 25 km/h
	29.7	10 < 15 km/h
	19.3	5 < 10 km/h
	5.7	2 < 5 km/h
	2.1	0.5 < 2 km/h
	0.5	< 0.5 km/h

Time Period
12:00:00 AM 26/10/2014 - 12:00:00 AM 28/10/2014

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5 Conclusions

Wind speeds above 18-20 km/h are likely to cause dust lift off, which is likely to be a contributing factor to elevated dust levels off site. The wind direction indicated in Figure 2 coupled with elevated TEOM and HiVol results for the period of 26, 27 and 28 October 2014 would be consistent with dust generated at the mine site, although further investigation of regional dust data should be undertaken to confirm this. The dust deposition gauges would assist in this further analysis of longer term impacts and effectiveness of dust management practices. No community complaints were registered during this period.

It is recommended that additional watering on haul roads and unsealed areas be implemented during high winds from the south-western direction.

Regards

James Locke
Senior Environmental Consultant

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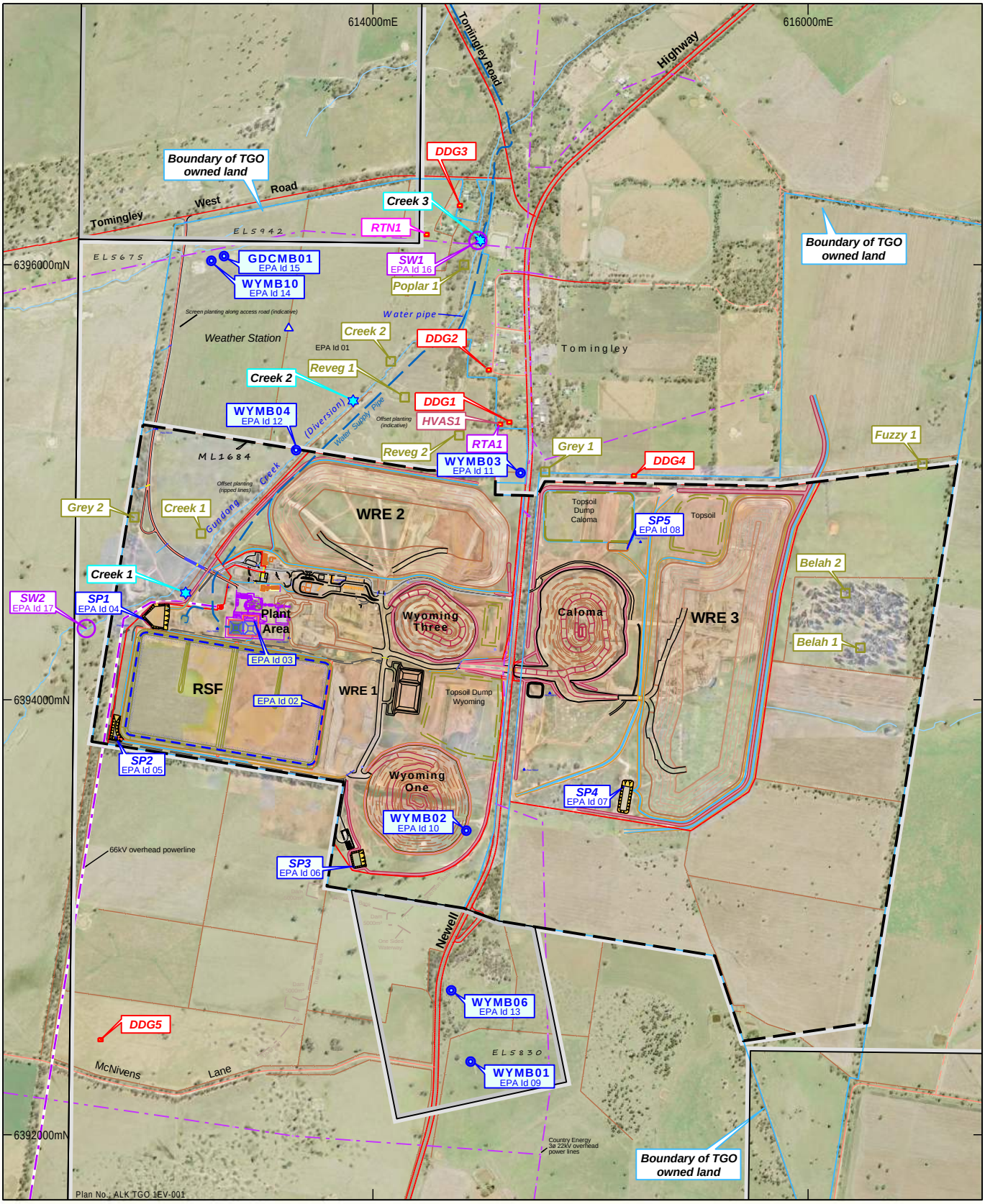
6 Appendices



SP — Sediment pond discharge location

DDG_ — Dust deposition gauge location

HVAS_ — High volume air sampler location

RTA_ — Real time air quality monitoring station

RTN_ — Real time noise monitoring station

SW2 — Surface water

WYMB06 — Groundwater bore

Creek 2 — Gundong Creek Diversion monitor / photo point

Belah 2 — Vegetation monitoring site

Additional EPA ID Locations

EPA Id 02 — Discharge of tailings to the RSF moves around the circumference.

EPA Id 03 — Discharge between the Process Sediment Pond and the Process Water Pond

Scale 1 : 25 000

0 1000 metres

TOMINGLEY GOLD OPERATIONS PTY LTD
(A SUBSIDIARY OF ALKANE RESOURCES LTD)

TOMINGLEY GOLD OPERATION

Environmental Monitoring Sites

Compliled: Alkane (MW) Plan No.: ALK TGO 1EV-001
Drafted: DJM Date: 27 August 2014 Figure No.:

Projection - MGA Zone 55
Datum (horizontal) - GDA94

Tomingley Gold Operations

Tomingley Gold Operations
November 2014 Dust monitoring report

January 2015

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Figure index

Appendices

1. Introduction

Tomingley Gold Operations (TGO) conducts an air quality monitoring program within and beyond ML1684. The program utilises a network of:

- Five Dust Deposition Gauges (DDG) to determine the rate of dust deposition;
- One High Volume air sampler (HiVol) to measure ambient concentrations of Total Suspended Particles (TSP). The HiVol is run for a 24-hour period every six days; and
- One Tapered Element Oscillating Microbalance (TEOM) for continuous direct mass measurements of particulates (Situated in the township of Tomingley and located generally north of site).

The monitoring program undertaken by TGO is implemented to assess the impact of dust in the local area, to understand the source contribution to the ambient dust load and to improve the management and mitigation of dust emissions associated with site activities. Site monitoring locations and utilities are attached in Appendix B.

1.1 Purpose of this report

GHD have been engaged to analyse site air quality exceedances under section 17 of project approval no. 09_0155, specifically the 'short term impact assessment criteria for particulate matter' as shown in Table 1.

Table 1 Dust impact assessment criteria

Pollutant	*Averaging Period*	*Criterion[d]* (µg/m^3)
Total Suspended Particulate (TSP)	Annual	90
Particulate matter <10µm (PM_{10})	24 hour	50[a]

[a] *Total impact (i.e. incremental increase in concentration due to the project plus background concentrations due to all other sources).*

[d] *Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General.*

1.2 Scope

GHD has examined the 5-minute data from the TEOM to identify events associated with high dust loads. A memo-report has then been produced for each measured exceedance (attached in Appendix A) that summarises the event, weather conditions at the time, and postulates as to the likely source of the dust. This applies primarily to the TEOM PM_{10} data as supplied and limited Hi-Vol data which aligns with days of elevated dust reading (note that no dust deposition data provided).

This review utilised data supplied from the TEOM, meteorological station and High Volume sampler, including:

- PM_{10} and TSP concentration levels
- Wind speed
- Wind direction, and

- Rainfall.

Site weather data was utilised to determine the likely contribution of dust from the mine site to the exceedances identified at the TEOM and Hi-Vol. In the event of lack of data, regional weather can be utilised by triangulating the results of the Bureau of Meteorology (BoM) Sites for Dubbo, Narromine and Parkes.

1.3 Limitations

This report: has been prepared by GHD for Tomingley Gold Operations and *may only be used and relied on by Tomingley Gold Operations for the purpose agreed between GHD and the Tomingley Gold Operations as set out in section 1.2 of this report.*

GHD otherwise disclaims responsibility to any person other than Tomingley Gold Operations arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Tomingley Gold Operations and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Meteorology

2.1 Wind Rose

The wind rose for the month of November 2014 is shown below in Figure 1. Winds from the east-northeast are the most dominant, consisting of 17 % of all incident winds. A high proportion of winds from this direction are above 15 km/h. Around 5 % of these winds are above 25 km/h (all wind directions with speeds above 25 km/hr are 14.6% of the time). Winds from the south (11 %), south-southwest (10%) and southwest (9.8%) are also prominent. These south component wind directions represent the winds most likely to cause dust impacts from the mine in the township of Tomingley. Very few winds occur from the northwest (Some strong) or southeast (very few strong) sectors.

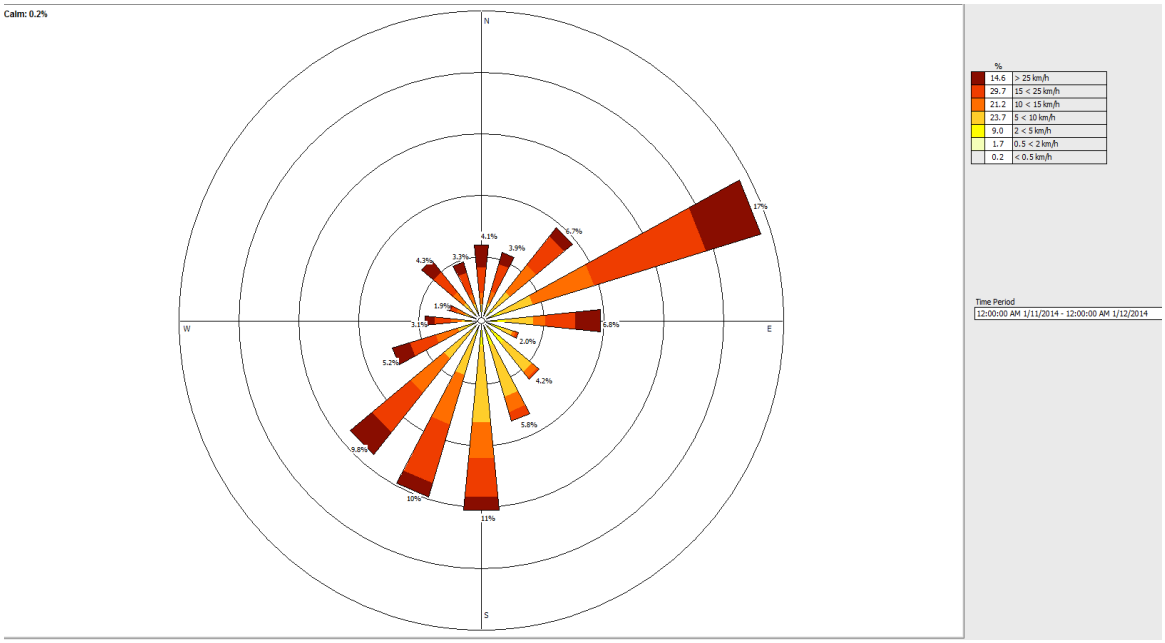


Figure 1 Monthly Wind Rose - November 2014

2.2 Rainfall

Rainfall can provide natural dust mitigation. Rainfall days are shown in Figure 2 below. Three days recorded rainfall above 4 mm, on 16 November, 25 November and 30 November. Total rainfall for November was 23.6 mm at the site in Tomingley. The long term November average rainfall for climatic weather station at Peak Hill (17 kilometres south of Tomingley) is 47.2 mm, indicating a dry November in 2014 at the site.

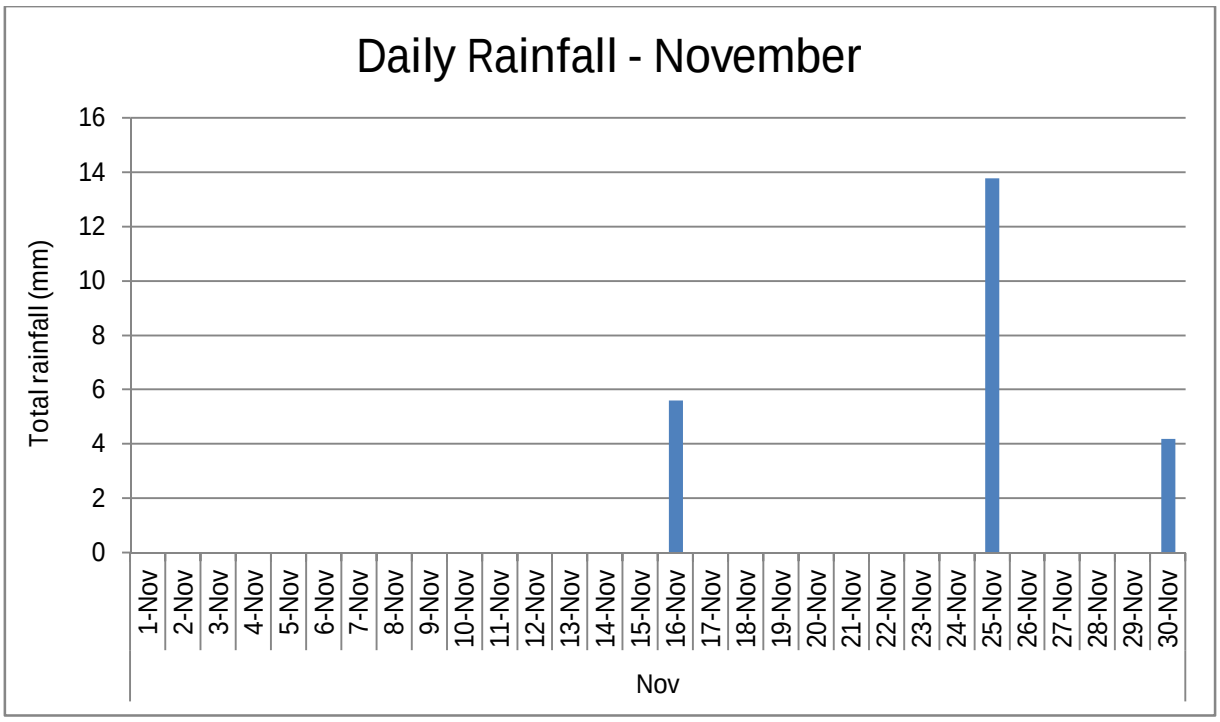


Figure 2 Daily rainfall events for November 2014

3. Results

3.1 Summary of TEOM data

The 5-minute data from the TEOM instrument was obtained from the instrument operators so as to calculate longer term averages. A summary of each recorded day of an exceedance of the 24 hour PM_{10} criteria is shown below in Table 2. In total, seven days recorded dust levels above the 50 µg/m^3 24-hour average, occurring during early and mid-November. 15 November recorded the highest 24 hour average PM_{10} at 161.4 µg/m^3. Hourly average maximums are also shown and were commonly around 150 – 200 µg/m^3 at some time during the peak days. However, on 15 November, the hourly maximum reached 758.5 µg/m^3. Further information of each exceedance day is presented in Appendix A.

Table 2 Exceedance during November 2014

Date	TEOM 24 hour average µg/m^3	Hourly maximum µg/m^3	Time(s) of highest dust levels
01 November	52.5	133.4	17-18
05 November	57.3	231.8	17-18
06 November	53.3	206.3	23-24
10 November	67.9	169.3	14-15
11 November	50.5	136.1	19-20
15 November	161.4	758.5	17-18
21 November	51.8	185.2	20-21
23 November	62.5	192.1	17-18

3.2 Summary of dust impacts

Dust levels at the TEOM generally increased when winds swung from the west to the south, placing the township (and TEOM) downwind of the mine. On five of the exceedance days (01, 05, 15, 21 and 23 November), dust levels increased above 50 µg/m^3 during these swings in the afternoon and later in the day. On some days, brief spikes in dust levels also occurred early morning (6, 15 and 19 November) and later in the morning (01, 05 and 27 November).

Directional pollution analysis

A directional pollution analysis can be used to indicate the prevailing wind directions and wind speeds that create the highest and average dust load for discrete weather conditions. The directional pollution analysis for November 2014 is shown in Figure 3. It can be seen that the highest wind speeds create the highest dust levels. Moreover, PM_{10} 15-minute averages above 100 µg/m^3 occur when the wind speed is above 30 km/hr. Wind directions from the S and SSW create the highest dust loads. Sources within this directional arc (from the TEOM) contribute the most to the high values that elevate the daily mean dust concentration. Particular dust mitigation measures, especially during the high wind days, should be targeted at the identified sources.

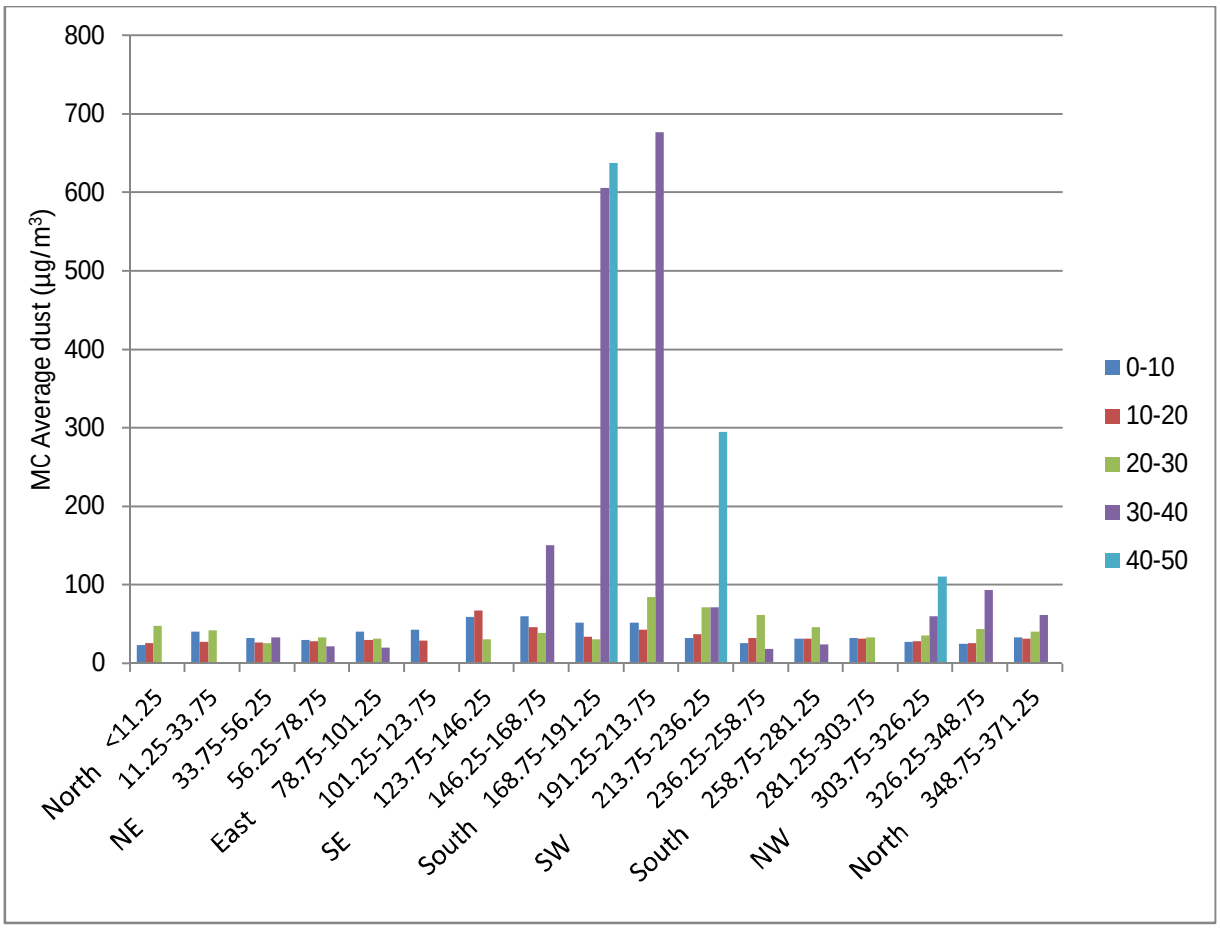


Figure 3 Averaged 15-minute PM_{10} mass concentrations as a function of wind direction and wind speed

4. Conclusion

Wind speeds above 30 km/h from the south-west sector have been shown to be the most likely wind condition to cause elevated dust impacts and have been shown to be a contributing factor to dust levels off site and above the assessment criteria. Periods of hot weather where no rainfall has occurred in the previous few days have the highest risk of dust impacts off site. It is recommended that additional watering on haul roads and unsealed areas be implemented during these periods when high winds speeds from the south or south-west are forecast. An alternative is the temporary cessation of the dustiest operations if the TEOM can be used to transmit an alarmed state to operational managers or supervisors. Numerous exceedances during November, including a major exceedance on 15 November, suggest the following actions need to be taken:

- Investigations of other potential sources of dust in the area;
- Dust management practices implemented to reduce dust generated from site

The dust deposition gauges would assist in this further analysis of longer term impacts and effectiveness of dust management practices. Metal content of the dust may then be analysed to help determine the origin of such dust.

Appendices

Appendix A – Exceedance Reports

This appendix provides an analysis of days where the 24 hour average criterion is exceeded, as noted in section 3 above. For each exceedance day, a plot of 15-minute averaged data is shown for PM_{10} concentration (given in blue), wind direction (given in red) and wind speed in km/h (given in green). A wind rose is also provided to show general meteorological trends for the day.

01 November 2014

01 November 2014 recorded aPM_{10} exceedance of 52 µg/m^3 (24 hour average). The hourly average peaked at 133 µg/m^3 between the hours of 17:00 and 18:00.

Wind direction and speed for 01 November 2014 is shown in Figure 4 below as a wind rose. Winds were predominantly from the north-northeast and the south-west sector for the day. A high proportion of total winds (69 %) were considered moderate to fresh by the Beaufort Wind Force Scale. A high proportion of winds from the southwest (occurring 18 % of the time) and south-southwest (occurring 14 % of the time) were strong, above 25 km/h, which have the greatest potential to increase dust impacts.

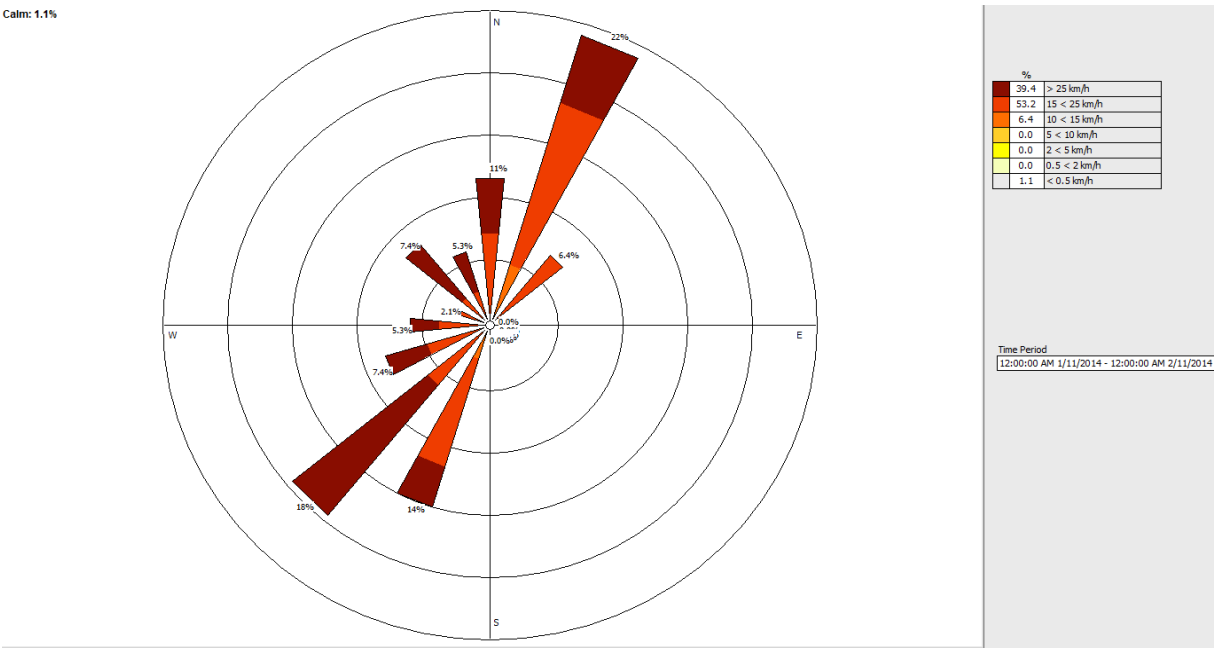


Figure 4 Wind Rose for 01 November 2014

Daily (15 minute average) analysis of PM_{10} as well as wind speed and direction is graphed in Figure 5. The highest recorded 15 minute concentration of PM_{10} for 01 November was 295 µg/m^3. A spike in PM_{10} levels is shown to occur in the late morning, when wind speeds picked up – and from the north, but a much higher peak occurs in the late afternoon. The latter occurred when the wind direction (shown in red) swings around from a westerly (270^o) to a southerly component (200^o) and wind speeds increase (shown in green). During this time, the township was downwind of the mine and as such mine activities may have caused dust impacts.

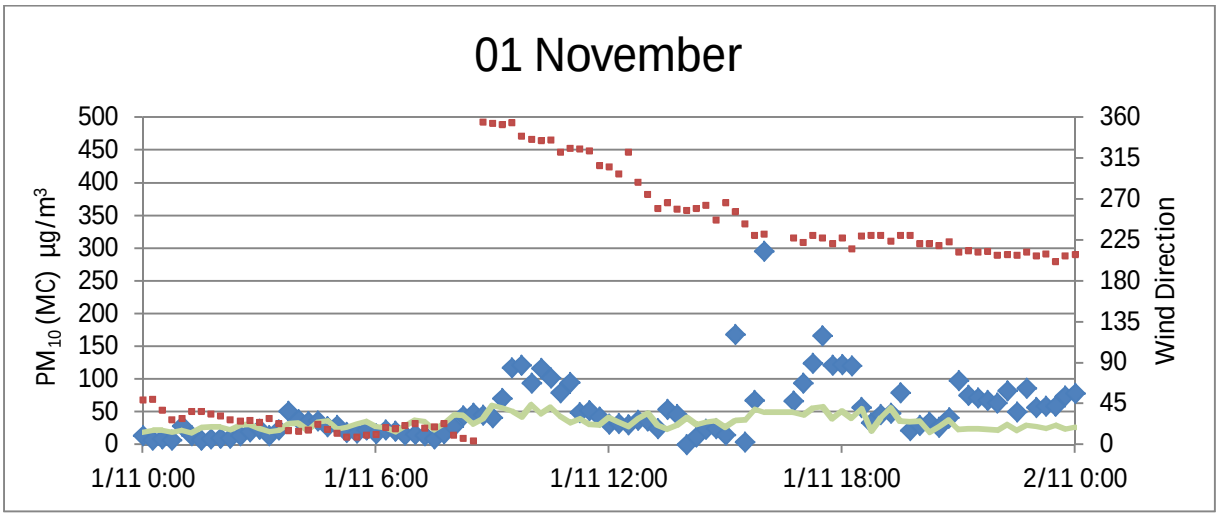


Figure 5 Dust impacts for 01 November 2014 (15 minute average)

05 November 2014

05 November 2014 recorded an exceedance of the PM_{10} criterion at 57 µg/m^3 (24 hour average). The hourly average peaked at 232 µg/m^3 between the hours of 17:00 and 18:00 on the 05 November.

the wind direction and speed for the day is shown below in Figure 6. Wind speed was predominantly moderate (33%), however secondary winds would be considered strong (25%) by the Beaufort Wind Force Scale. Wind direction for this period suggests a predominantly east-northeast wind for 21 % of the time period with secondary but stronger wind directions of south-southwest 12 %, these much stronger, and northeast 10 %. Whilst winds from the south-west sector were not dominant, a higher proportion of these incident winds were stronger and thus had the potential to create dust impacts from the mine.

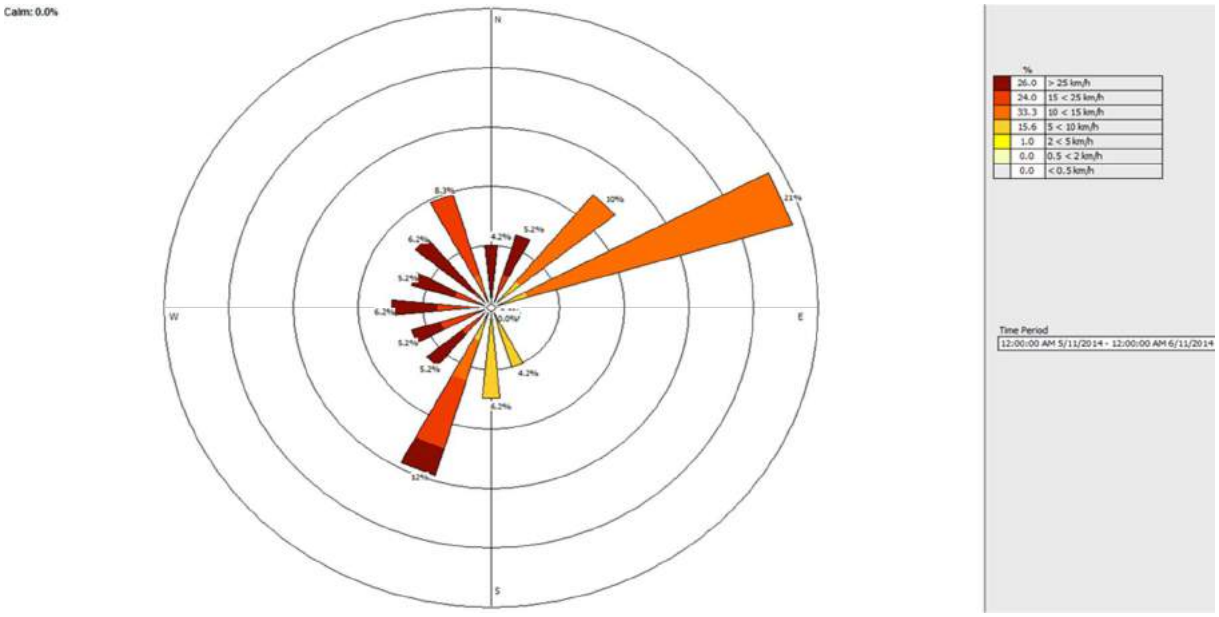


Figure 6 Wind rose for 05 November 2014

Daily (15 minute average) analysis of PM_{10} as well as wind speed and direction for the day is graphed in Figure 7 below. Dust impacts are shown to be highest towards late afternoon, corresponding with a change in wind direction from a westerly (~260^o) to just west of south (~220^o) and when wind speeds increase (above 20 km/hr). Another spike in dust impacts is shown at around 9 am, when the wind was from the north, and this is unlikely to be related to mine activities. Note that before 9am the wind was from the northeast and lighter (below 10 km/hr) and PM10 levels were consistently below 50

µg/m^3 - it is only when the wind speeds pick up from the north that the spike in PM_{10} occurs.

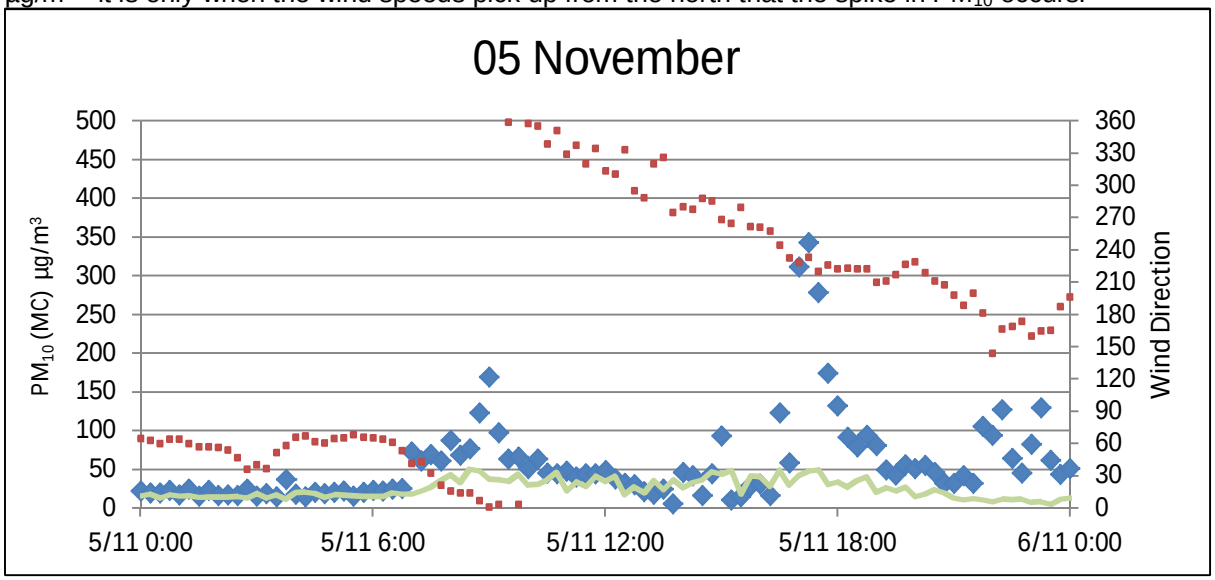


Figure 7 Dust levels for 05 November 2014 (15 minute averages)

06 November 2014

06 November 2014 recorded an exceedance the PM_{10} criterion at 55 µg/m^3 (24 hour average). The hourly average peaked at 206 µg/m^3 between the hours of 23:00 and 24:00 on the day.

Wind direction and wind speed for the time period is shown below in Figure 8. Predominate winds for this period was from the south-southwest (27%) and secondary winds from the south (22%) and southwest (18%). Wind speed ranged from light winds of 9 km/h to moderate winds of 24 km/h. Although the average wind speed is classed light at 10.8 km/h, the wind direction at times of dust peaks would be consistent with a site influence.

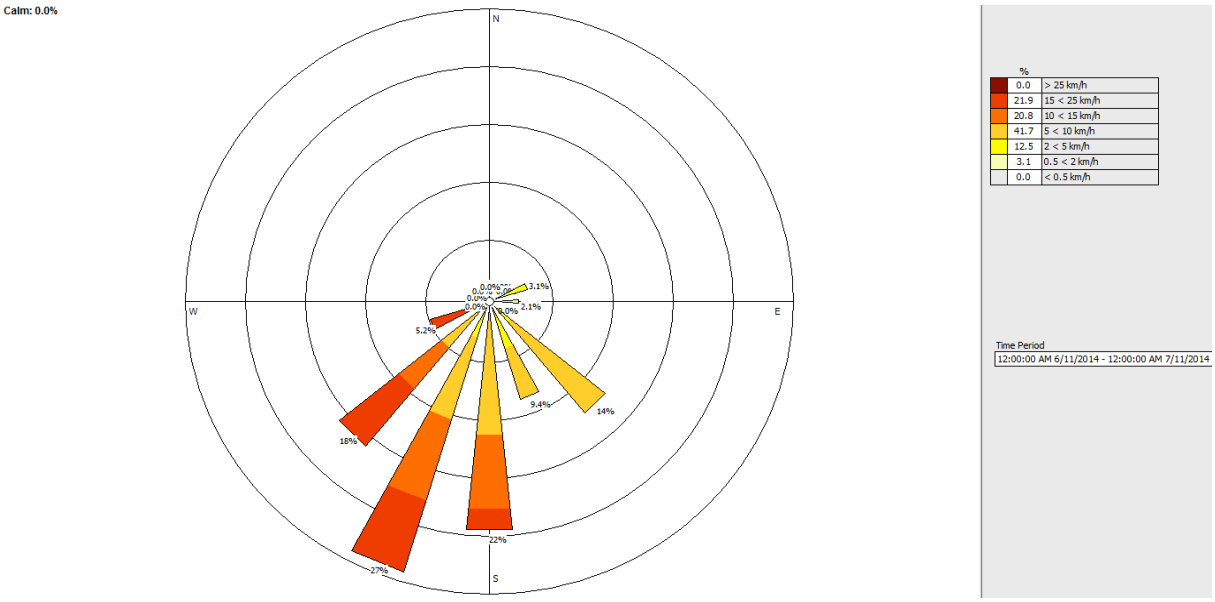


Figure 8 Wind rose for 06 November 2014

Daily (15 minute average) analysis data for the day is graphed in Figure 9 below. Spikes in PM_{10} levels occur throughout the day when wind speeds are low and wind direction changes to just east of south. In contrast, these light winds throughout the day produced lower PM_{10} averages when the wind was west of south. Despite predominantly light winds, the wind direction indicated in Figure 9 coupled with elevated TEOM results for the period of 6 November would be consistent with dust generated at the mine site activites east of the highway, although further investigation of regional dust data should be undertaken to confirm this as no community complaints were registered during this period.

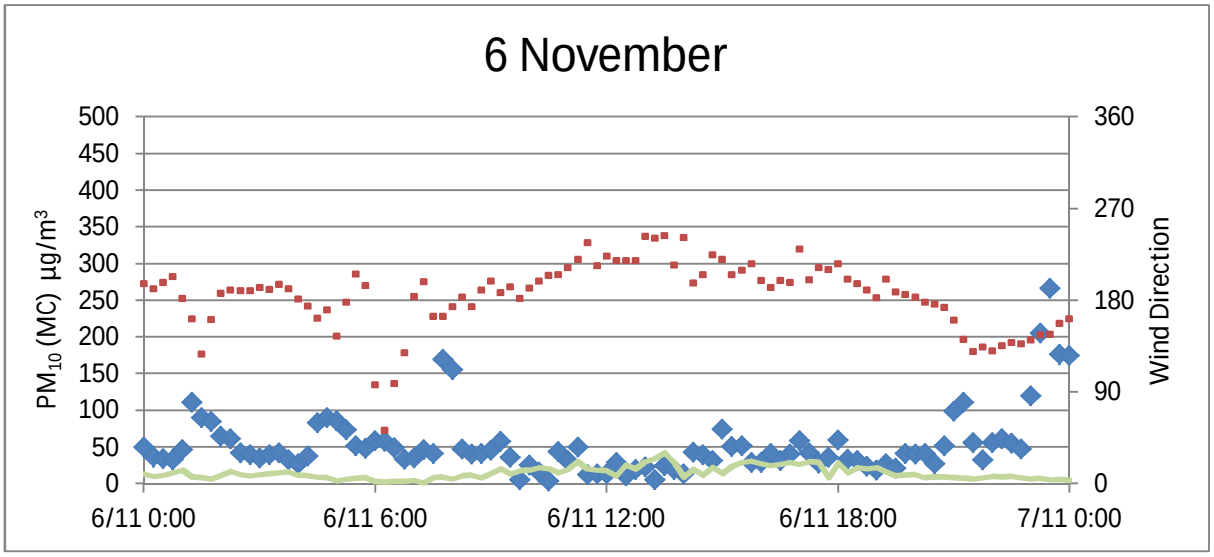


Figure 9 Dust levels for 06 November 2014 (15 minute average)

10 November 2014

10 November 2014 recorded an exceedance the PM_{10} criterion at 68 µg/m^3 (24 hour average). The hourly average peaked at 169 µg/m^3 between the hours of 14:00 and 15:00 on the day.

Wind direction and wind speed for 10 November 2014 is shown below in Figure 10. Winds speeds were light (72.9%) to moderate (27.1%). Dominant winds for this period were from the south (35 %), and the vast majority of winds on the day had a southerly component. This is consistent with site-generated dust impacts at the TEOM instrument.

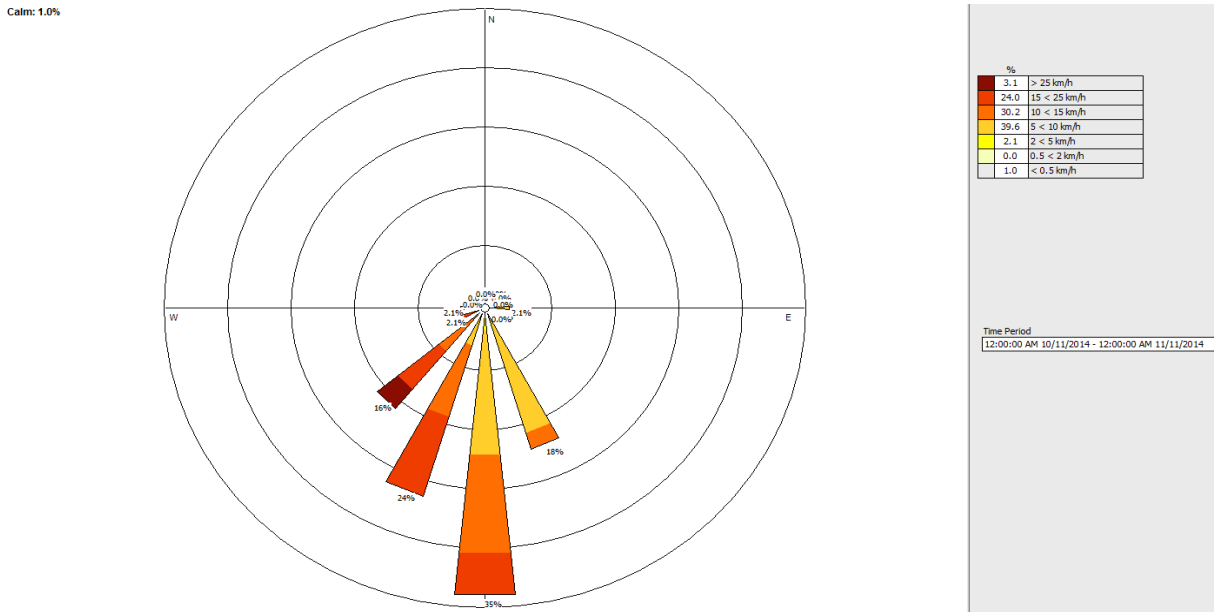


Figure 10 Wind rose 10 November 2014

Daily (15 minute average) analysis data for the event is graphed in Figure 11 below. The highest readings and therefore the most contribution to the elevated daily value occurred when wind directions were from the south-west quadrant when wind speeds were highest during daylight hours. Results from Figure 10 indicate that dust may have been generated at the mine site. However, further investigation of regional dust data should be undertaken as cereal harvesting around the region commenced around this time and wind speeds were not as high as other exceedance days. No community complaints were registered during this period.

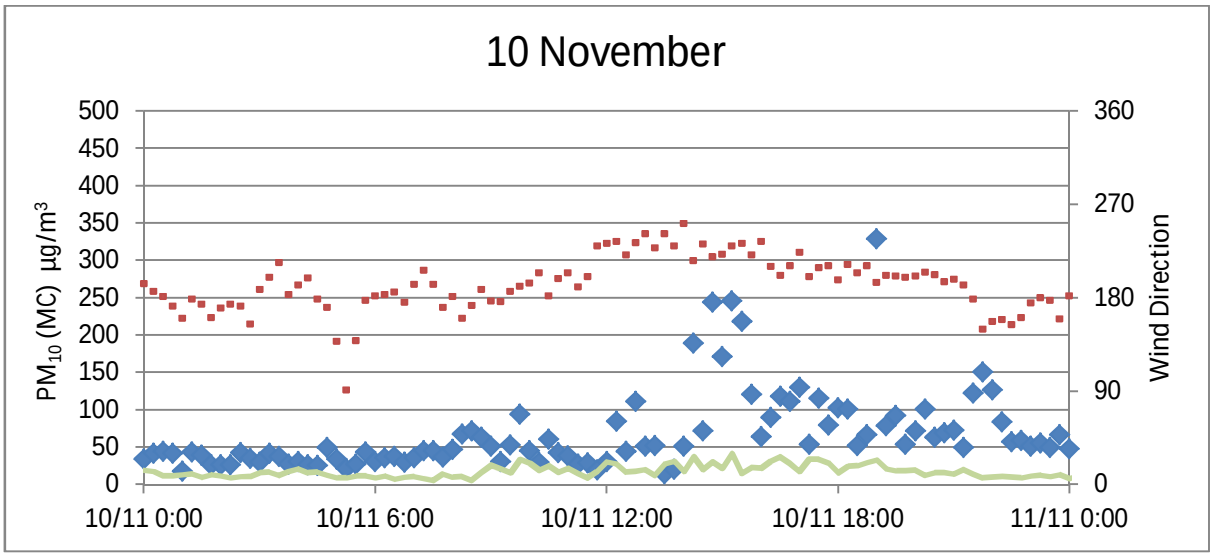


Figure 11 Dust levels for 10 November 2014 (15 minute average)

11 November 2014

11 November 2014 recorded an exceedance the PM_{10} criterion at 62 µg/m^3 (24 hour average). The hourly average peaked at 136 µg/m^3 between the hours of 19:00 and 20:00 on 11 November.

Wind direction and wind speed is shown below in Figure 12**.** Winds were predominantly from the east-northeast (17%) and south-south-west (15%). The south-west sector had a high proportion of winds, of which were of light to moderate speeds rather than the strongest winds out of the east-northeast.

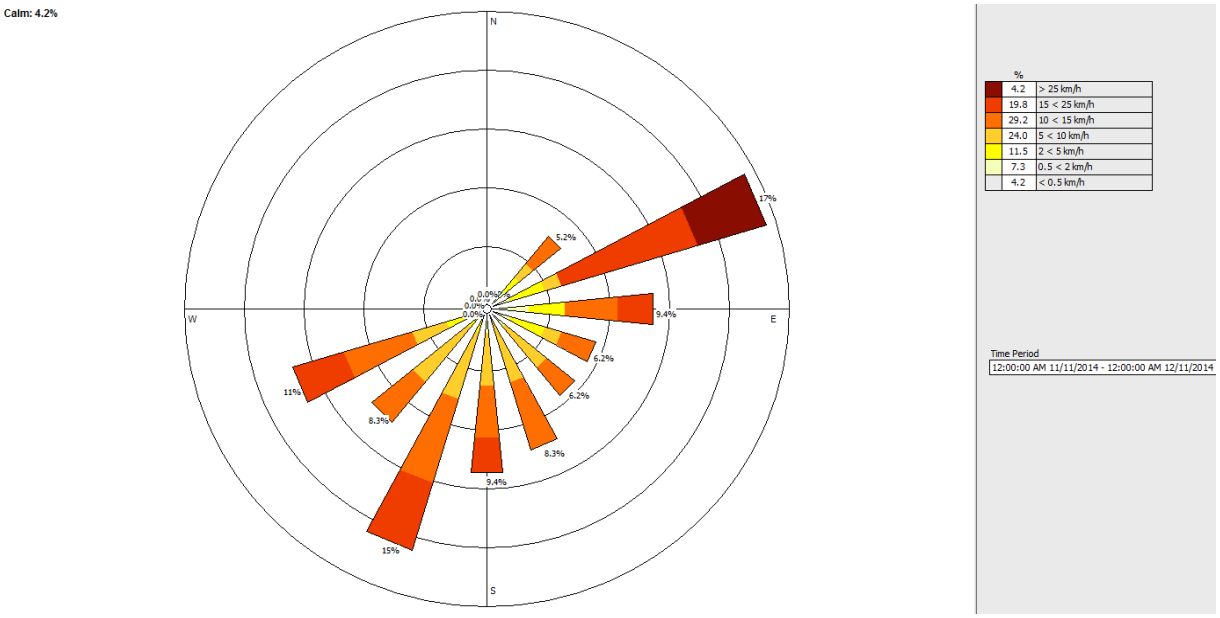


Figure 12 Wind rose for 11 November 2014

Daily (15 minute average) analysis data for the event is shown in Figure 13 below. Dust levels increased after 18:00 when winds changed to be consistently out of the south-westerly quadrant (180^o to 270^o), but still remained high when winds then changed to an easterly with higher speeds. High dust levels were also evident in the morning, when winds were light and constantly changing direction with an easterly component. Dust impacts corresponding with an easterly are unlikely to be due to site activities. the review of TEOM data, the predominantly light winds and regional activities suggest influences such as harvesting may have a contributing influence on elevated dust readings for this day. No community complaints were registered during this period.

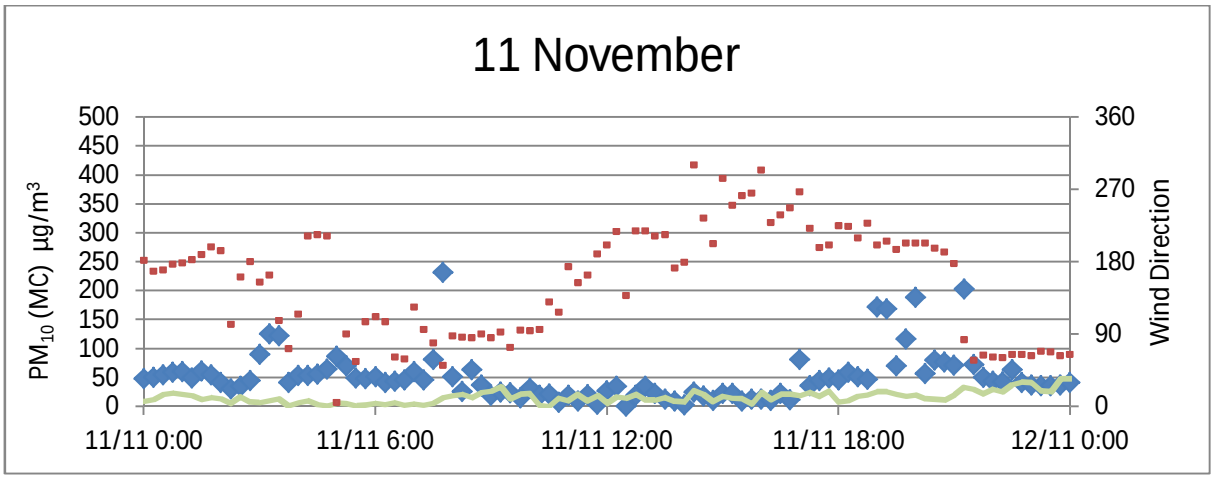


Figure 13 Dust levels for 11 November 2014 (15 minute averages)

15 November 2014

15 November 2014 recorded an exceedance the PM_{10} criterion at 161 µg/m^3 (24 hour average). The hourly average peaked at 759 µg/m^3 between the hours of 17:00 and 18:00 on 15 November.

Wind direction and wind speed for the time period is shown below in Figure 14. Wind speed was predominantly light to moderate (hourly average), with strong gusts causing over 20% of the wind speeds to be above 25 km/h. Wind direction for this period suggests a dominant south-southwest wind for 22 % of the time period and southerly for 19 % of the time.

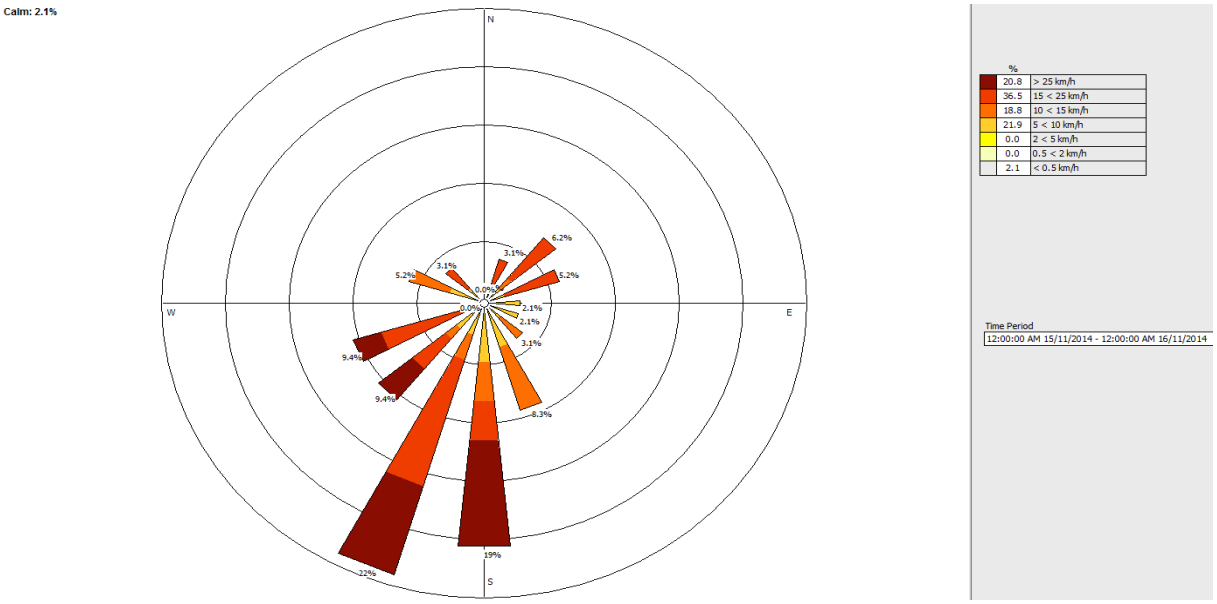


Figure 14 Wind rose for 15 November 2014

Daily (15 minute average) analysis data for the event is graphed in Figure 15 below. Extremely high values of PM_{10} were recorded in the late afternoon when winds were from the south-southwest (180^o to 210^o) and wind speeds increased. A secondary spike occurred in the early morning during southerly winds (~180^o) but with much slower speeds.

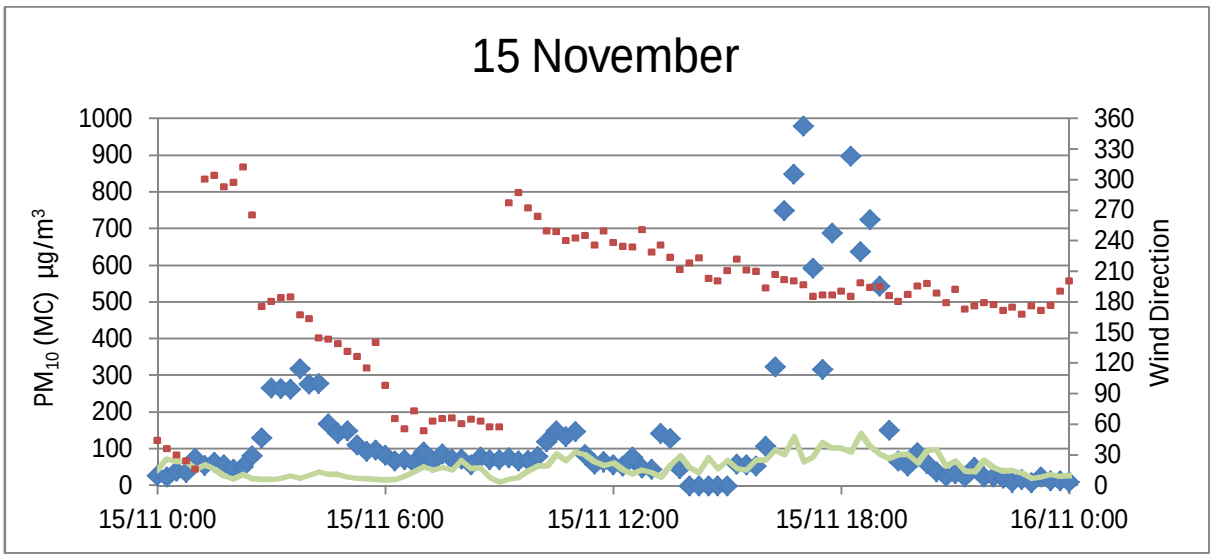


Figure 15 Dust levels for 15 November 2014

The 15 November daily event aligned with the operation of the TSP Hi-Vol sampling program. The measured TSP concentration level for the 24-hours of 15 November was 296 µg/m^3. The relevant criterion for TSP concentration is 90 µg/m^3, based on an annual average. Therefore,

assessment for compliance with TSP is not possible, however the elevated level aligns with the elevated PM_{10} concentrations measured by the TEOM during this time period.

Tomingley Gold Operations filed an internal incident investigation on the 15 November and undertook internal operational measures to reduce dust, including pulling up mine fleet, manning of two water carts and wetting down operational areas such as the ROM and hardstand areas.

The wind direction indicated in Figure 14 coupled with elevated TEOM and Hi-Vol results for the period 15 November 2014 would be consistent with dust generated at the mine site. Although TGO issued an internal investigation on the day, further investigation of regional dust data should be undertaken to confirm TGO as the sole source. This is because agricultural activities including cereal grain harvesting and cartage were being undertaking within the local area at this time and this could explain the high values before sunrise with just very light easterly component winds. The dust deposition gauges would assist in this further analysis of longer term impacts and effectiveness of dust management practices. Three community complaints were registered during this period.

It is recommended that additional watering on haul roads and unsealed areas be implemented during high winds from the south-western quadrant (see Figure 3).

21 November 2014

21 November 2014 recorded an exceedance the PM_{10} criterion at 52 µg/m^3 (24 hour average). The hourly average peaked at 185 µg/m^3 between the hours of 20:00 and 21:00.

Wind direction and wind speed for the time period is shown below in **Error! Reference source not found.** Wind was predominantly light as considered by the Beaufort Wind Force Scale. Wind direction for this period suggests a dominant southwesterly for 22 % of the time, with secondary wind directions of west-southwest (11 %) and south-southwest (11 %). High wind speeds above 25 km/h were evident from the west only.

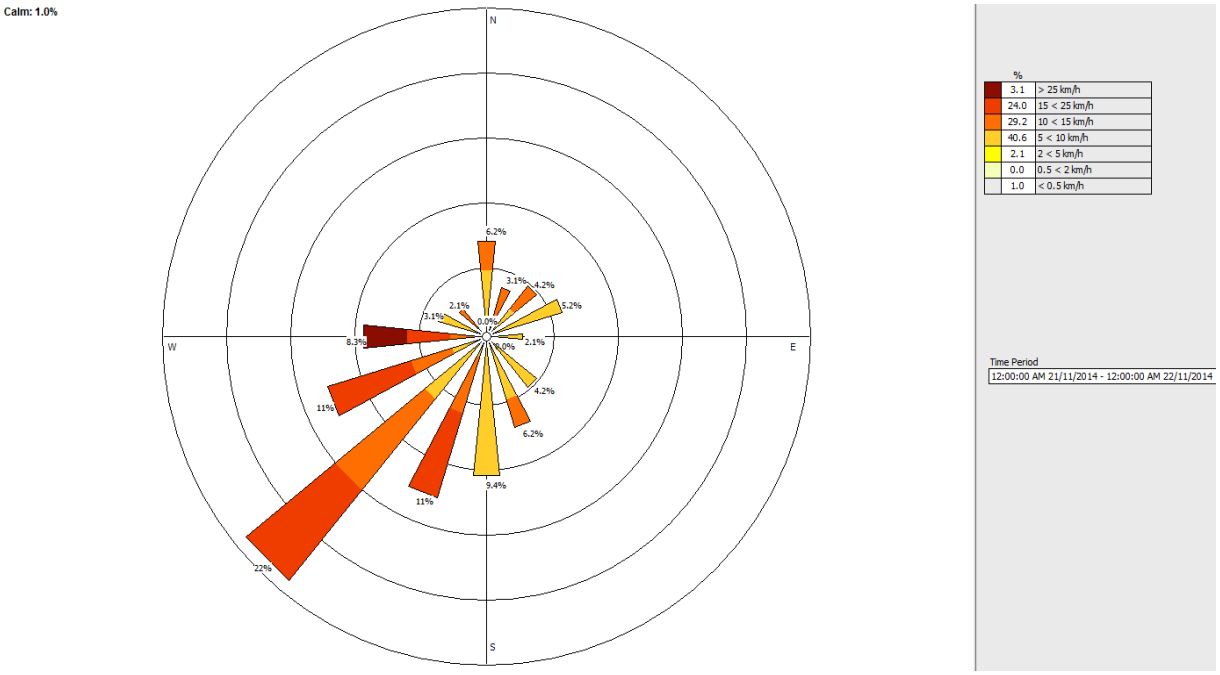


Figure 16 Wind rose for 21 November 2014

Daily (15 minute average) analysis data for the event is graphed in Figure 17 below. The highest readings and therefore the most contribution to the elevated daily value occurred when wind directions were from the south-west quadrant (180^o to 270^o).The wind speed spike and wind shift at 1:30 am resulted in high dust levels that persisted for an hour or so as the wind speed became light again. Between about 11:00 am and 6:00 pm the strongest southwest (215^o to 270^o) winds occurred but PM_{10} was consistently below 50 µg/m^3. The peak dust levels that occurred later in the evening corresponded with lighter winds from a more southerly direction (180^o to 210^o).

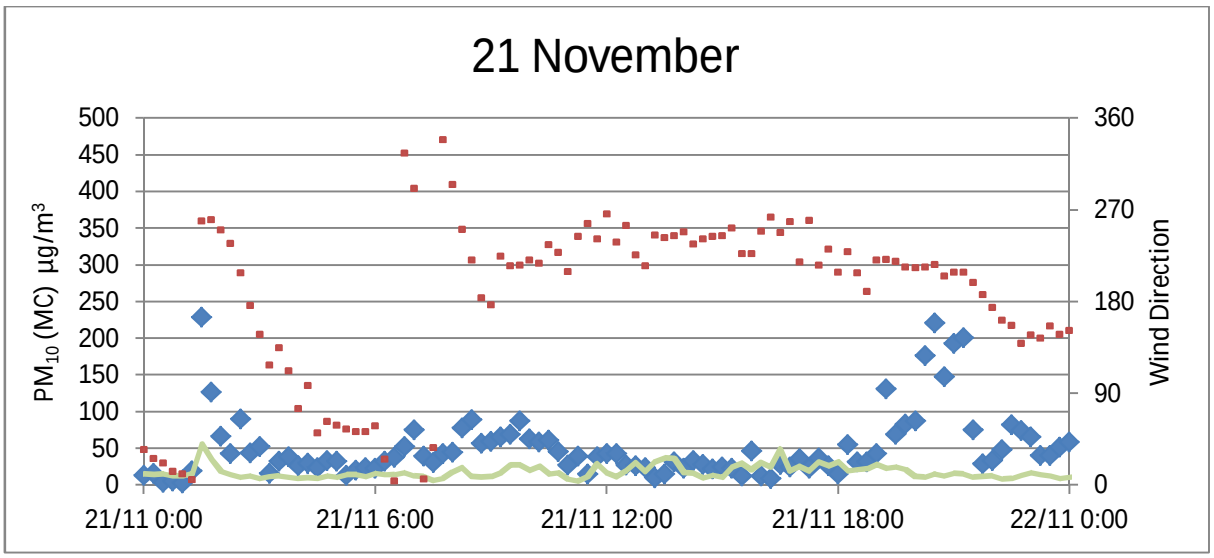


Figure 17 Dust analysis for 21 November 2014

The 21 November aligned with the operation of the Hi-Vol sampling program. The measured TSP concentration level for the 24-hours of 21 November was 70.5 µg/m^3. The relevant criterion for TSP concentration is 90 µg/m^3, based on an annual average. Therefore, assessment for compliance with TSP is not possible, however the elevated level aligns with the elevated PM_{10} concentrations measured by the TEOM.

The wind direction indicated in Figure 16 coupled with the dry environment, elevated TEOM and Hi-Vol results for the period of 21 November 2014 would be consistent with dust generated at the mine site, although further investigation of regional dust data should be undertaken to confirm this and to investigate the influence of the early morning spike in westerly wind component. The dust deposition gauges would assist in this further analysis of longer term impacts and effectiveness of dust management practices. No community complaints were registered during this period.

It is recommended that additional watering on haul roads and unsealed areas be implemented during high winds from the south-western direction and prolonged periods of dry weather.

23 November 2014

23 November 2014 recorded an exceedance the PM_{10} criterion at 63 µg/m^3 (24 hour average). The hourly average peaked at 192 µg/m^3 between the hours of 17:00 and 18:00.

Wind direction and wind speed for the time period is shown below in Figure 18 as a daily wind rose. Average wind speed was 17.9 km/h and considered light by the Beaufort Wind Force Scale. Wind direction for this period suggests a predominantly east-northeast wind for 22 % of the time period with a secondary wind direction of northwest (11 %).

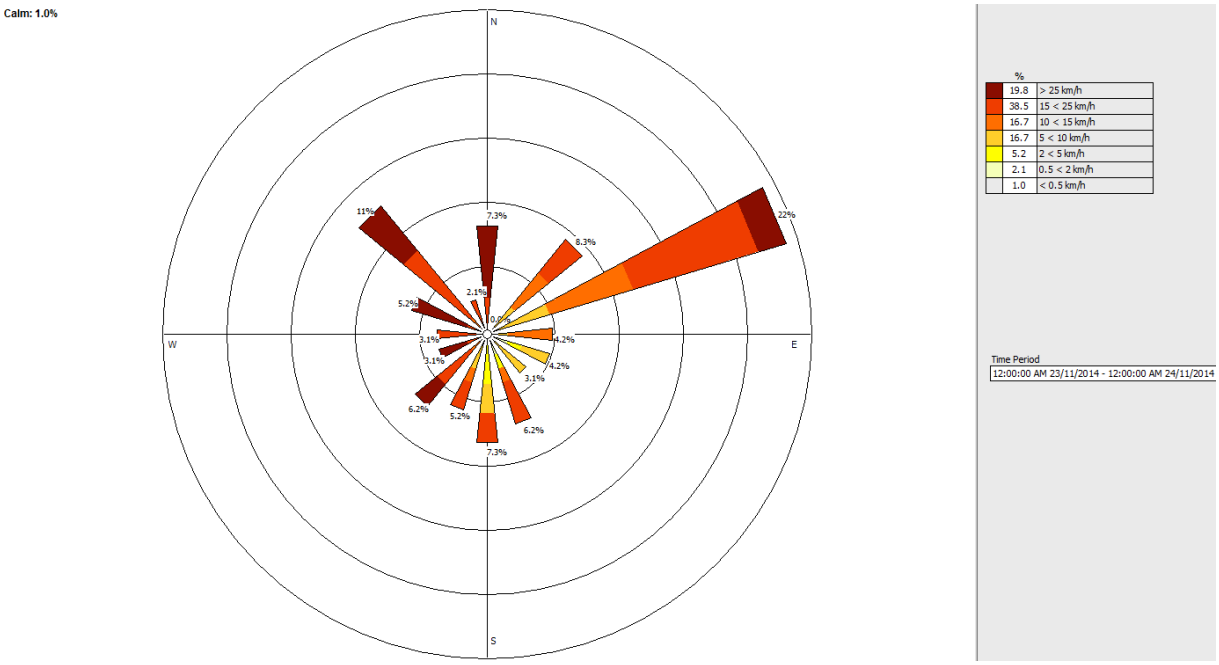


Figure 18 Wind rose for 23 November 2014

Daily (15 minute average) analysis data for the event is graphed in Figure 19 below. Dust levels increase significantly once the wind direction has a southerly component, evident with the spike in levels at 4:00 am and towards the evening and late night. Both moderate and light winds occur at these times but the highest peaks negatively correlate with wind speed. The wind direction indicated in Figure 19suggest that the elevated TEOM readings are the result of external environmental factors. The dust deposition gauges would assist in this further analysis of longer term impacts and effectiveness of dust management practices. One community complaint was registered during this period.

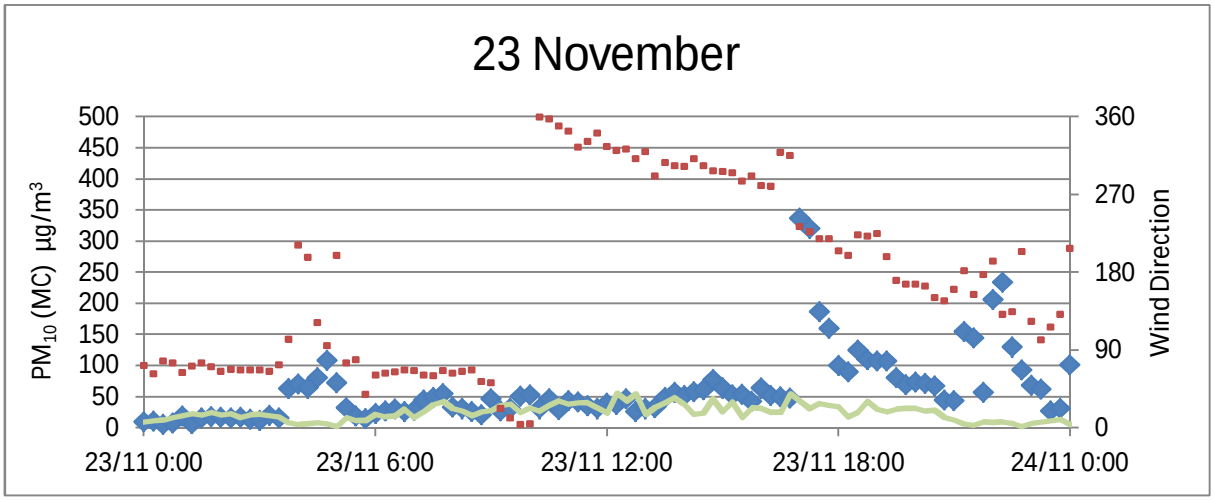
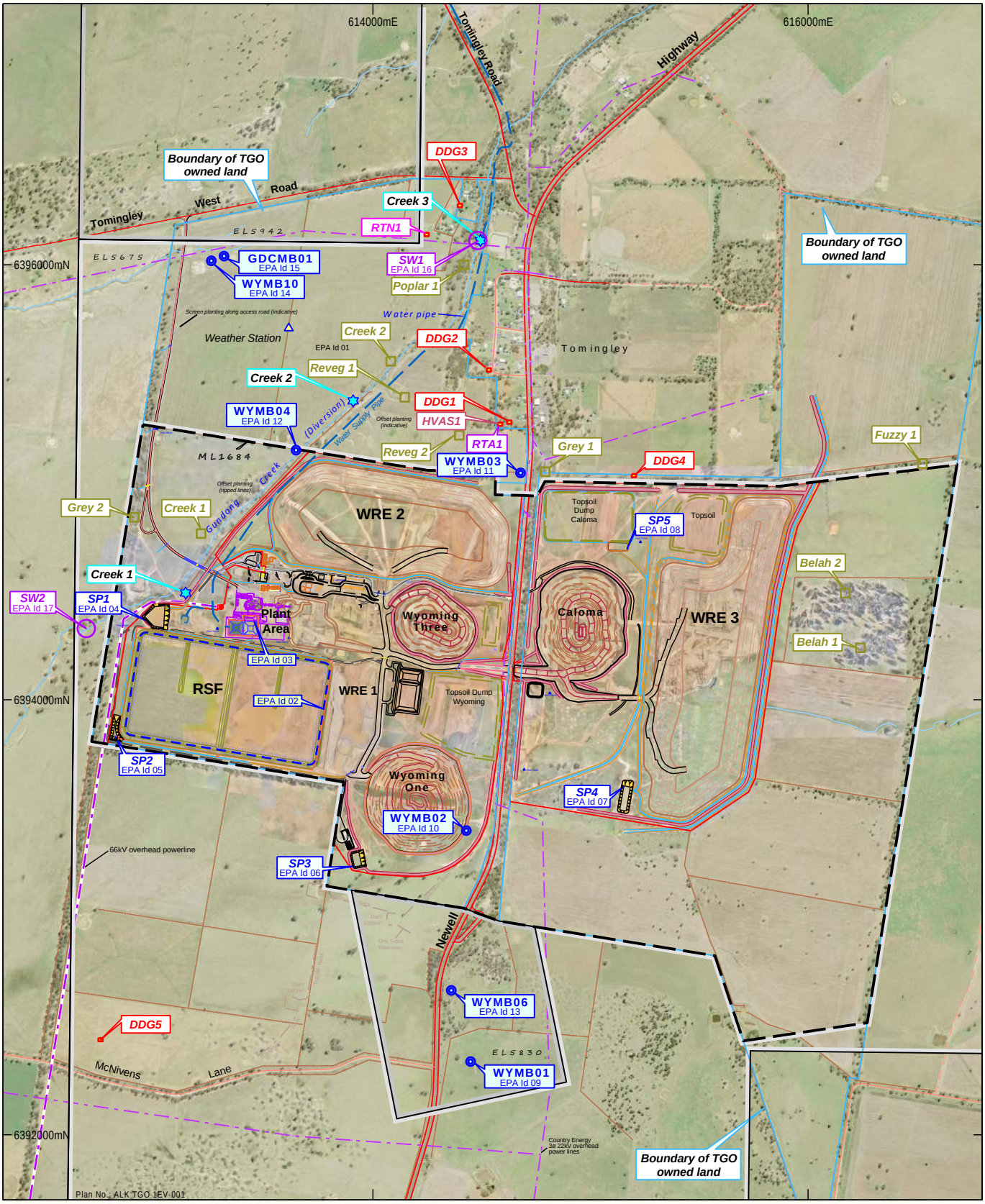


Figure 19 Dust analysis for 23 November 2014

Appendix B Monitoring Locations and Facilities



SP — Sediment pond discharge location

DDG_ — Dust deposition gauge location

HVAS_ — High volume air sampler location

RTA_ — Real time air quality monitoring station

RTN_ — Real time noise monitoring station

SW2 — Surface water

WYMB06 — Groundwater bore

Creek 2 — Gundong Creek Diversion monitor / photo point

Belah 2 — Vegetation monitoring site

Additional EPA ID Locations

EPA Id 02 — Discharge of tailings to the RSF moves around the circumference.

EPA Id 03 — Discharge between the Process Sediment Pond and the Process Water Pond

Scale 1 : 25 000

0 1000 metres

TOMINGLEY GOLD OPERATIONS PTY LTD
(A SUBSIDIARY OF ALKANE RESOURCES LTD)

TOMINGLEY GOLD OPERATION

Environmental Monitoring Sites

Compliled: Alkane (MW) Plan No.: ALK TGO 1EV-001
Drafted: DJM Date: 27 August 2014 Figure No.:

Projection - MGA Zone 55
Datum (horizontal) - GDA94

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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
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Tomingley Gold Operations

Tomingley Gold Operations
December 2014 Dust monitoring report

February 2015

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Appendices

1. Introduction

Tomingley Gold Operations (TGO) conducts an air quality monitoring program within and beyond ML1684. The program utilises a network of:

- Five Dust Deposition Gauges (DDG) to determine the rate of dust deposition;
- One High Volume air sampler (Hi-Vol) to measure ambient concentrations of Total Suspended Particles (TSP). The Hi-Vol is run for a 24-hour period every six days; and
- One Tapered Element Oscillating Microbalance (TEOM) for continuous direct mass measurements of particulates (Situated in the township of Tomingley and located generally north of site at the interface of operations and residences).

The monitoring program undertaken by TGO is implemented to assess the impact of dust in the local area, to understand the source contribution to the ambient dust load and to improve the management and mitigation of dust emissions associated with site activities. Site monitoring locations and utilities are attached in Appendix B.

1.1 Purpose of this report

GHD have been engaged to analyse site air quality exceedances under section 17 of project approval no. 09_0155, specifically the 'short term impact assessment criteria for particulate matter' as shown in Table 1.

Table 1 Dust impact assessment criteria

Pollutant	*Averaging Period*	*Criterion[d]* ($\mu g/m^3$)
Total Suspended Particulate (TSP)	Annual	90
Particulate matter <10µm (PM_{10})	24 hour	50[a]

[a] *Total impact (i.e. incremental increase in concentration due to the project plus background concentrations due to all other sources).*

[d] *Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General.*

1.2 Scope

GHD has examined the 5-minute data from the TEOM to identify events associated with high dust loads. A memo-report has then been produced for each measured exceedance (attached in Appendix A) that summarises the event, weather conditions at the time, and postulates as to the likely source of the dust. This applies primarily to the TEOM PM_{10} data as supplied and limited Hi-Vol data which aligns with days of elevated dust reading

This review utilised data supplied from the TEOM, meteorological station and Hi-Vol sampler, including:

- PM_{10} and TSP concentration levels
- Wind speed
- Wind direction, and
- Rainfall.

Site weather data was utilised to determine the likely contribution of dust from the mine site to the exceedances identified at the TEOM and Hi-Vol. In the event of lack of data, regional weather can be utilised by triangulating the results of the Bureau of Meteorology (BoM) Sites for Dubbo, Narromine and Parkes.

1.3 Limitations

This report: has been prepared by GHD for Tomingley Gold Operations and *may only be used and relied on by Tomingley Gold Operations for the purpose agreed between GHD and the Tomingley Gold Operations as set out in section 1.2 of this report.*

GHD otherwise disclaims responsibility to any person other than Tomingley Gold Operations arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Tomingley Gold Operations and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Meteorology

2.1 Wind Rose

The wind rose for the month of December 2014 is shown below in Figure 1. Winds from the east-northeast are the most dominant, consisting of 19 % of all incident winds. A high proportion of winds from this direction were above 15 km/h. Winds from the south (5.1 %), south-southwest (7.1 %) and southwest (5.9 %) were also prominent but occurred less frequently than in November. These southerly component wind directions represent the winds most likely to cause dust impacts from the mine in the township of Tomingley. Very few winds occurred from the west and northwest.

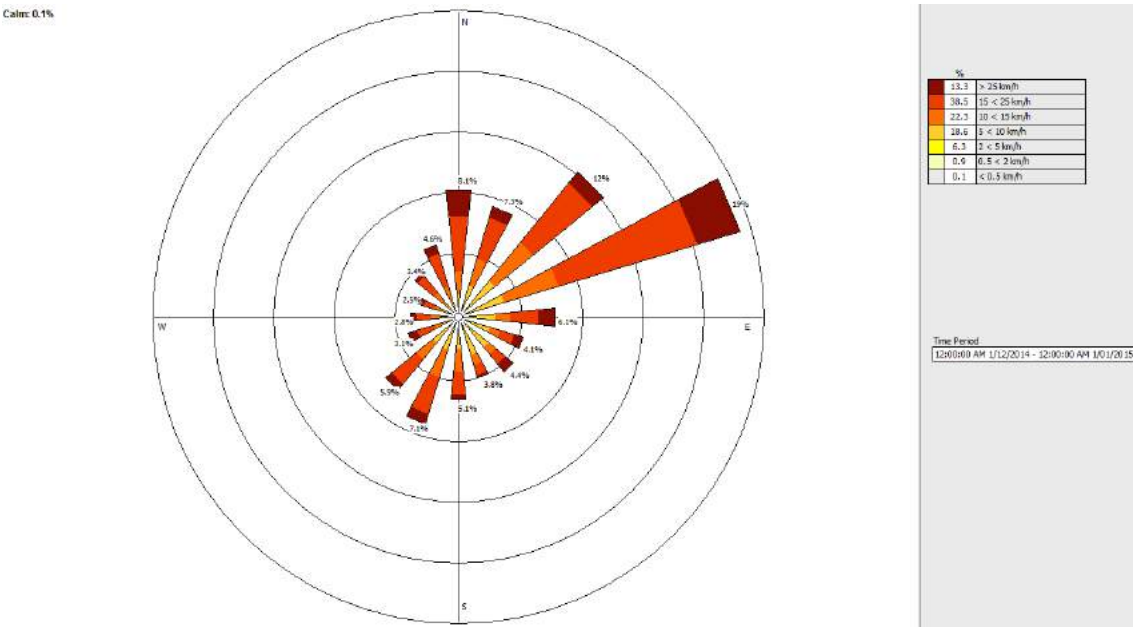


Figure 1 Monthly Wind Rose - December 2014

2.2 Rainfall

Rainfall can provide natural dust mitigation. Rainfall days are shown in Figure 2 below. 10 days recorded rainfall above 1 mm. Total rainfall for December was 65.6 mm at the site in Tomingley. The long-term December average rainfall for the climatic weather station at Peak Hill (17 km south of Tomingley) is 50.3 mm, indicating a wetter than usual December and reversing the trend of a dry, below average, November in 2014 at the site. The first week of the month had consistent rain events with a similar 'wet spell' leading up to Christmas day. These periods would have experienced less chance of wind erosion and dust blown away from operational areas.

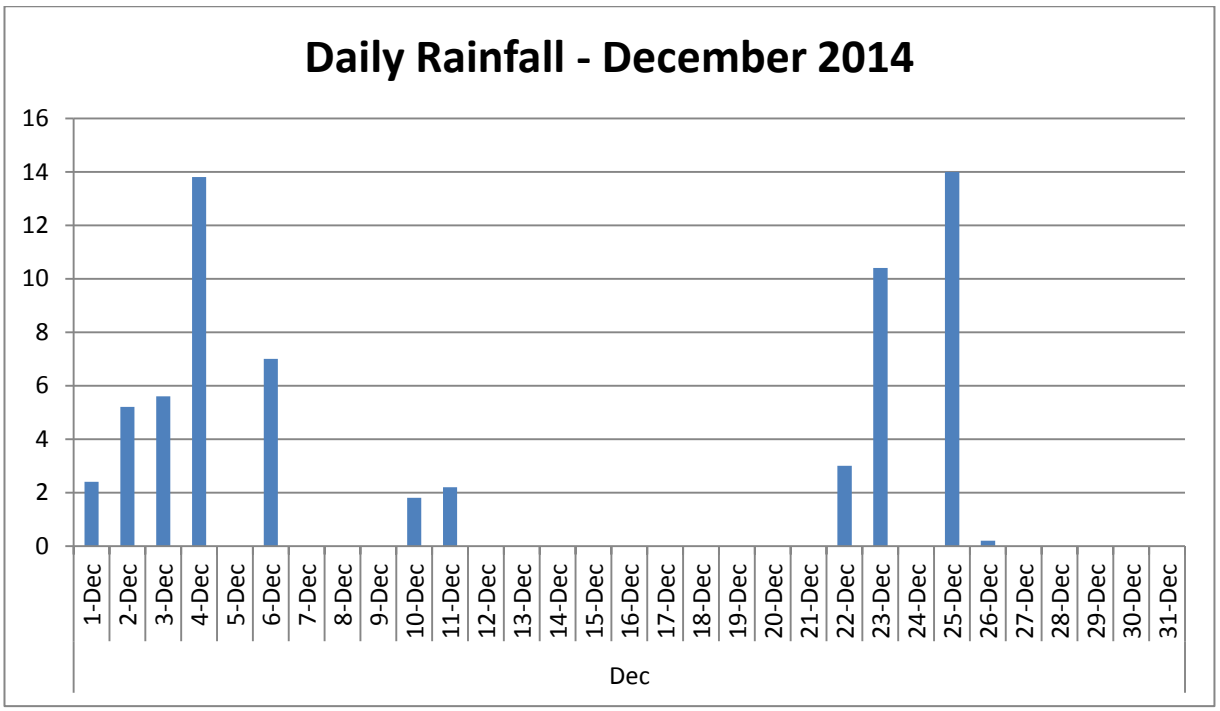


Figure 2 Daily rainfall events for December 2014

Dust impacts are more likely to occur when haul roads and stockpiles have dried out. This is more likely to occur during periods of hotter temperatures. Hourly temperatures are shown in Figure 3 below to show the periods of hot weather. As evident from Figure 3, a period of higher temperatures is evident from 14 December through to 17 December 2014 during the dry period shown in Figure 2 – the latter extending to just before Christmas.

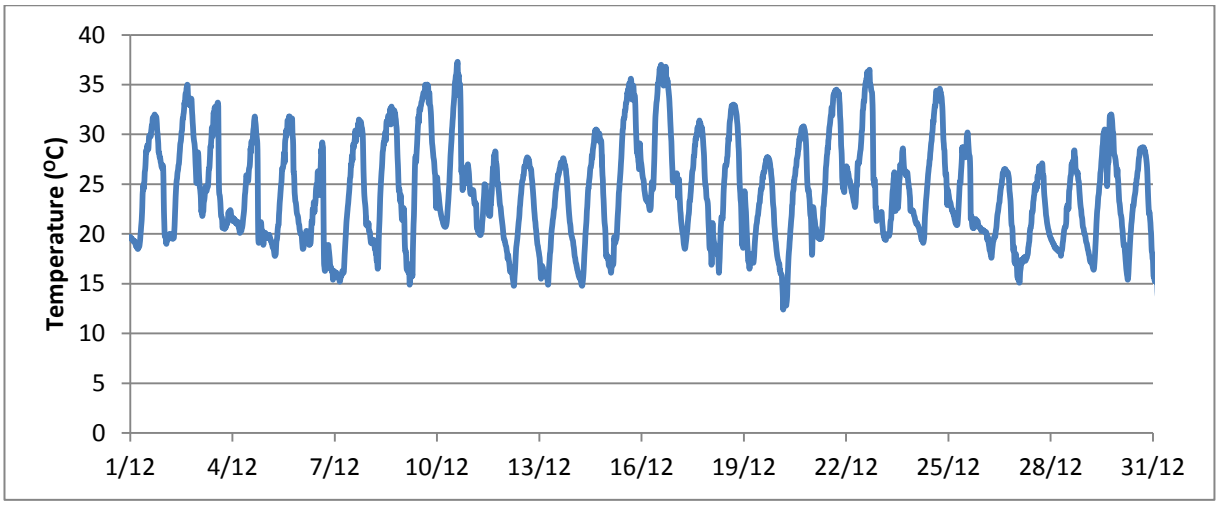


Figure 3 Daily temperature during December 2014

3. Results

3.1 Summary of TEOM data

The 5-minute data from the TEOM instrument was obtained from the instrument operators so as to calculate longer term averages. A summary of each recorded day of an exceedance of the 24 hour PM_{10} criteria is shown below in Table 2. In total, four days recorded dust levels above the 50 µg/m^3 24-hour average, with three of the days occurring in succession during mid-December – this corresponding to the dry period after the first week of rain days. The fourth event was also during a 'dry period', this time a few days after the last of the rain Christmas Day into Boxing Day. 19 December recorded the highest 24 hour average PM_{10} at 64.9 µg/m^3. Further information of each exceedance day is presented in Appendix A.

Table 2 Exceedances during December 2014

Date	TEOM 24 hour average µg/m^3	Hourly maximum µg/m^3	Time(s) of highest dust levels
17 December	60.7	317.3	02-03
18 December	56.2	125.7	19-20
19 December	64.9	245.5	19-20
30 December	52.1	190.1	0-1

3.2 Summary of dust impacts

Exceedances of the daily criterion in December all occurred after a streak of days without any rainfall. Rainfall provides natural mitigation of dust levels, and in periods where the ground dries out, mechanical watering of haul roads, hardstand infrastructure area and stockpiles may be required.

Elevated dust levels at the TEOM generally corresponded with southwest sector winds, which place the township (and TEOM) downwind of the mine. Frequent spikes in dust levels resulted in each of the four days exceeding the 24-hour criterion, with a prolonged period of slightly higher dust levels only occurring on 19 December due to an increase in wind speeds. Spikes occurred at a range of times throughout each day and as such are difficult to attribute to any one activity.

Directional pollution analysis

A directional pollution analysis can be used to indicate the prevailing wind directions and wind speeds that create the highest and average dust load for discrete weather conditions. The directional pollution analysis for December 2014 is shown in Figure 4. It can be seen that the highest wind speeds create the highest dust levels. In November 2014, a large increase in PM_{10} average was evident for winds above 30 km/h from the south, around to the southwest. A similar trend is repeated in December 2014 but with a more gradual increase in PM_{10} averages occurring from the southeast and increasing to a peak average from the south-southwest, and then decreasing again as the wind direction veers toward the west. An absence of wind speeds above 40 km/h from the south to southwest is also evident, which may explain why dust levels were lower than that of November. Sources within this directional arc (from the TEOM) contribute the most to the high values that elevate the daily mean dust concentration. Particular

dust mitigation measures, especially during the high wind days, should be targeted at the identified sources.

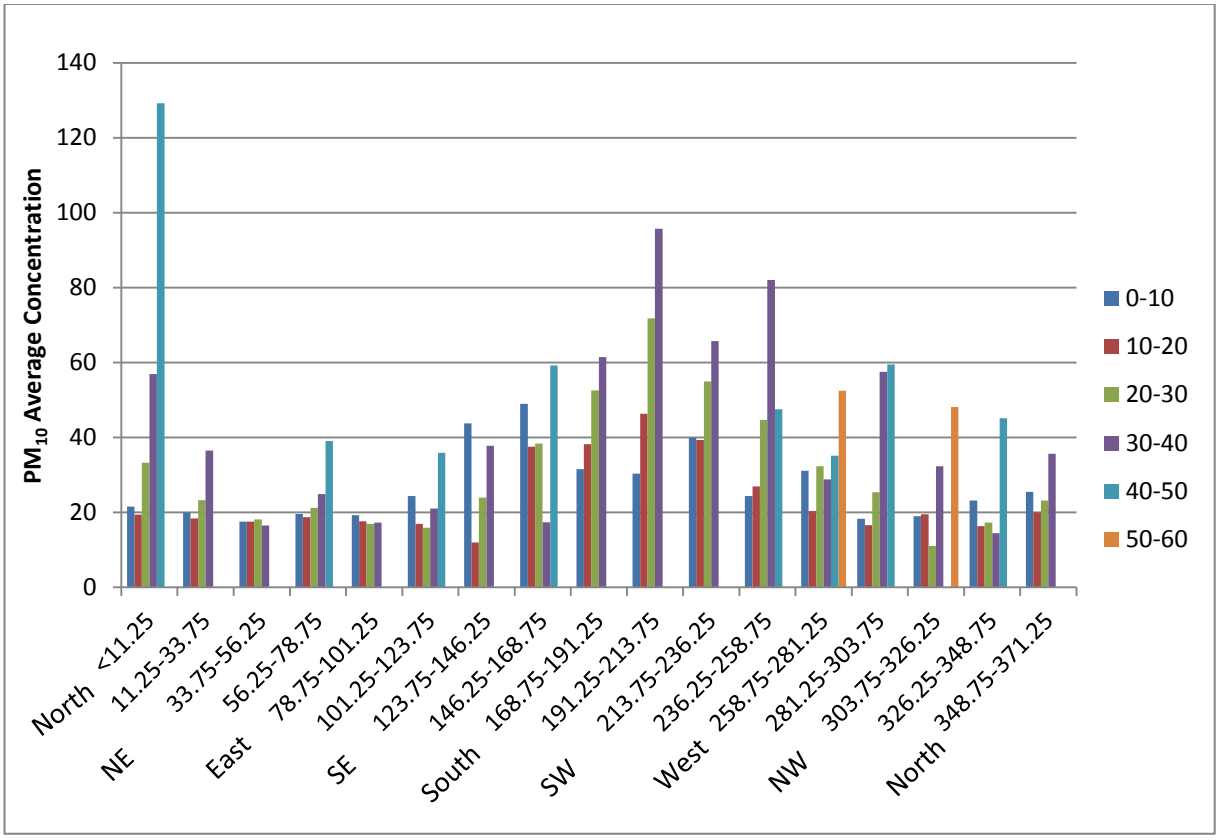


Figure 4 Averaged 15-minute PM_{10} mass concentrations as a function of wind direction and wind speed

4. Conclusion

Wind speeds above 30 km/h from the southwest sector have been shown to be the most likely wind condition to cause elevated dust impacts and have been shown to be a contributing factor to high dust levels off site and above the assessment criteria. This finding is consistent with the November period. Periods of hot weather where no rainfall has occurred in the previous few days were evident with the daily exceedances recorded during December, demonstrating that these periods have the highest risk of dust impacts off site.

It is recommended that additional watering on haul roads and unsealed areas be implemented during these periods when high winds speeds from the south or southwest are forecast. Targeting such dust mitigation practices at both Wyoming Three and Wyoming One may reduce dust impacts (refer to Appendix B). An alternative is the temporary cessation of the dustiest operations if the TEOM can be used to transmit an alarmed state to operational managers or supervisors. Reporting and dust mitigation could be improved with the following actions:

- Investigations of other potential sources of dust in the area; and
- Dust management practices implemented to reduce dust generated from site.

The dust deposition gauges would assist in this further analysis of longer term impacts and effectiveness of dust management practices. Metal content of the dust may then be analysed to help determine the origin of such dust.

Appendices

Appendix A – Exceedance Reports

This appendix provides an analysis of days where the 24 hour average criterion is exceeded, as noted in section 3 above. For each exceedance day, a plot of 15-minute averaged data is shown for PM_{10} concentration (given in blue), wind direction (given in red) and wind speed in km/h (given in green). A wind rose is also provided to show general meteorological trends for the day.

17-19 December 2015

This three day period in December 2014 recorded PM_{10} exceedances of 60.7, 56.2 and 64.9 µg/m^3 (24 hour average) respectively. The hourly average peaked at 317 µg/m^3 between the hours of 2:00 am and 3:00 am on 17 December 2014.

Wind direction and speed for 17 to 19 December 2014 is shown in Figure 5 below as a wind rose. Winds were predominantly from the southwest quadrant and southerly sector over this time, with winds from the south-southwest occurring 23 % of the time. A high proportion of these winds were above 25 km/h. Winds were virtually absent from the north.

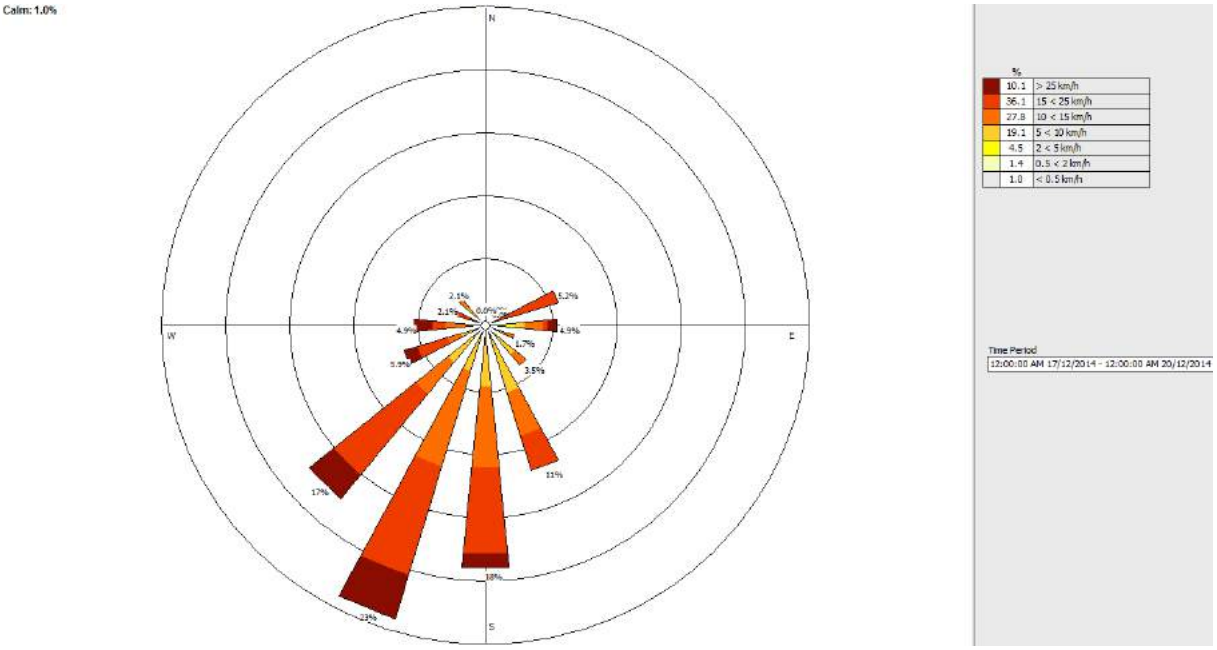


Figure 5 Wind rose for 17-19 December 2014

Daily (15 minute average) analysis of PM_{10} as well as wind speed and direction over the three day period is graphed in Figure 6. The highest recorded 15 minute concentration of PM_{10} occurred on 17 December, where PM_{10} levels reached 484 µg/m^3 during a large spike in levels in the early morning. Further spikes occurred in the early and late morning on 18 December, in the evening on 18 December, whilst 19 December had an extended period throughout the day where dust levels were high. The spike on 17 December in the early morning occurred during a sudden wind shift from the northwest quadrant (360^o to 270^o) to the south (180^o to 200^o), and dust levels decreased and were stable once southerly, and lighter, winds dominated for the rest of the day. Spikes on 18 December in the morning corresponded with freshening (increasing to ~20 km/hr) easterly winds (60^o to 80^o), while later in the day with south westerly (180^o to 270^o) winds. High dust levels on 19 December occurred during south-westerly (180^o to 270^o) winds – albeit these winds moderating from 3:00 pm until near calm by midnight. Whilst events on the morning of 18 December were unlikely to be associated with mine activities, all other high levels of dust over the three day period corresponded with south westerly winds, placing the township downwind of the mine's dust sources.

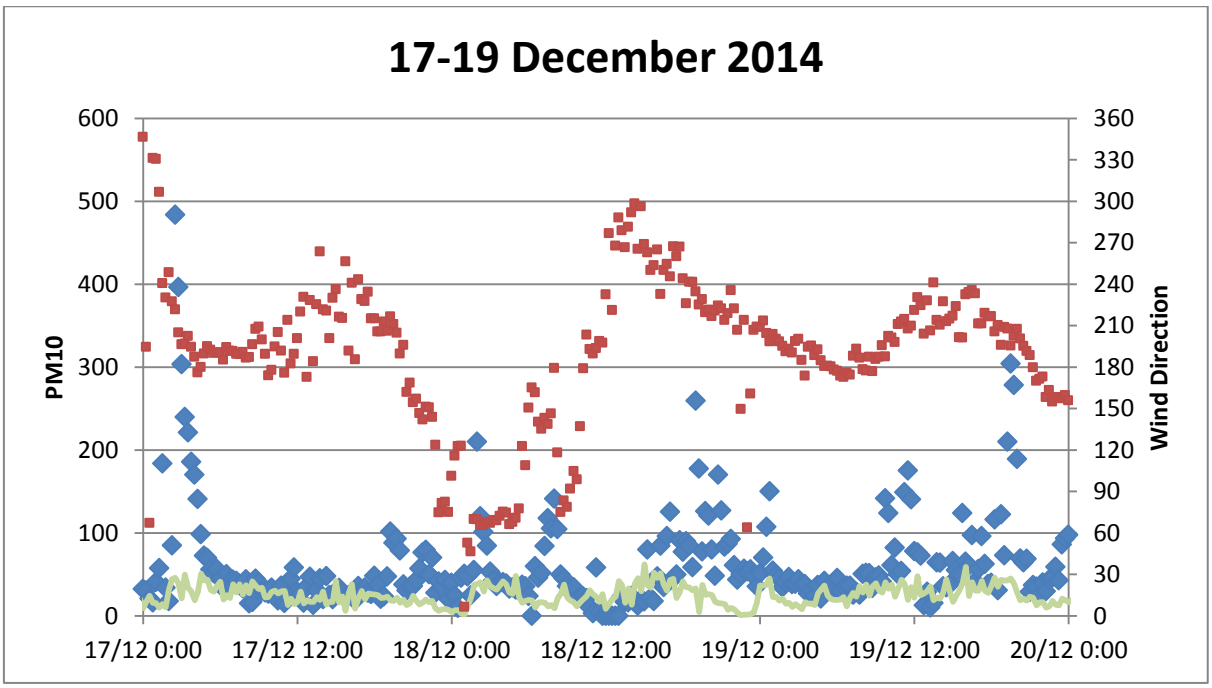


Figure 6 Dust impacts for 17 to 19 December 2014 (15 minute averages, µg/m³)

30 December 2014

30 December 2014 recorded a PM_{10} exceedance of 52.1 µg/m^3 (24 hour average). The hourly average peaked at 190 µg/m^3 between the hours of 0:00 and 1:00am.

Wind direction and speed for 30 December 2014 is shown in Figure 7 below as a wind rose. Winds were almost exclusively from the south west sector on this day, with 43 % of winds from the south-southwest, 27 % of winds from the south west, and a smaller component from the south. A high proportion of these winds were between 10 and 15 km/h.

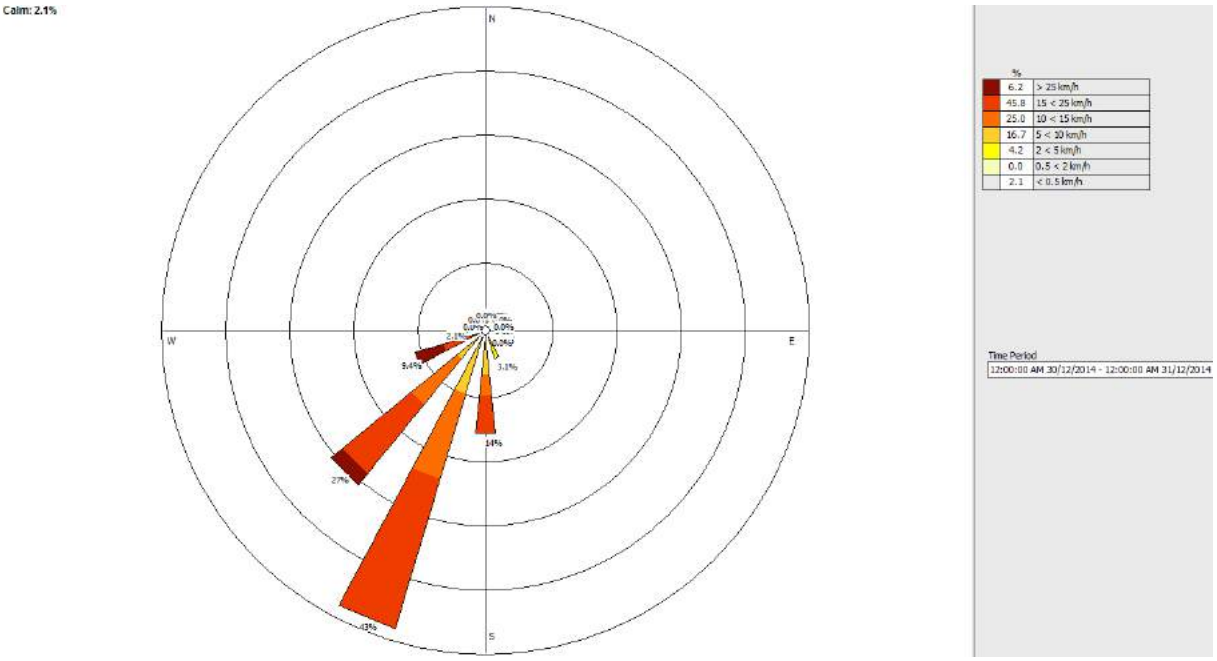


Figure 7 Wind rose for 30 December 2014

Daily (15 minute average) analysis of PM_{10} as well as wind speed and direction on 30 December is graphed in Figure 8. The highest recorded 15 minute concentration of PM_{10} occurred early in the morning, where PM_{10} levels reached 216 µg/m^3. PM_{10} levels for the remainder of the day were relatively low and constant, with a slight increase occurring around midday when winds switched from a southerly to southwesterly and increased in speed. However, the daily average would not have exceeded the criterion without the spike occurring in early morning. At this time, southerly winds (180^o to 205^o) meant that the township was downwind of the mine, although the usually problematic south westerly winds were not evident.

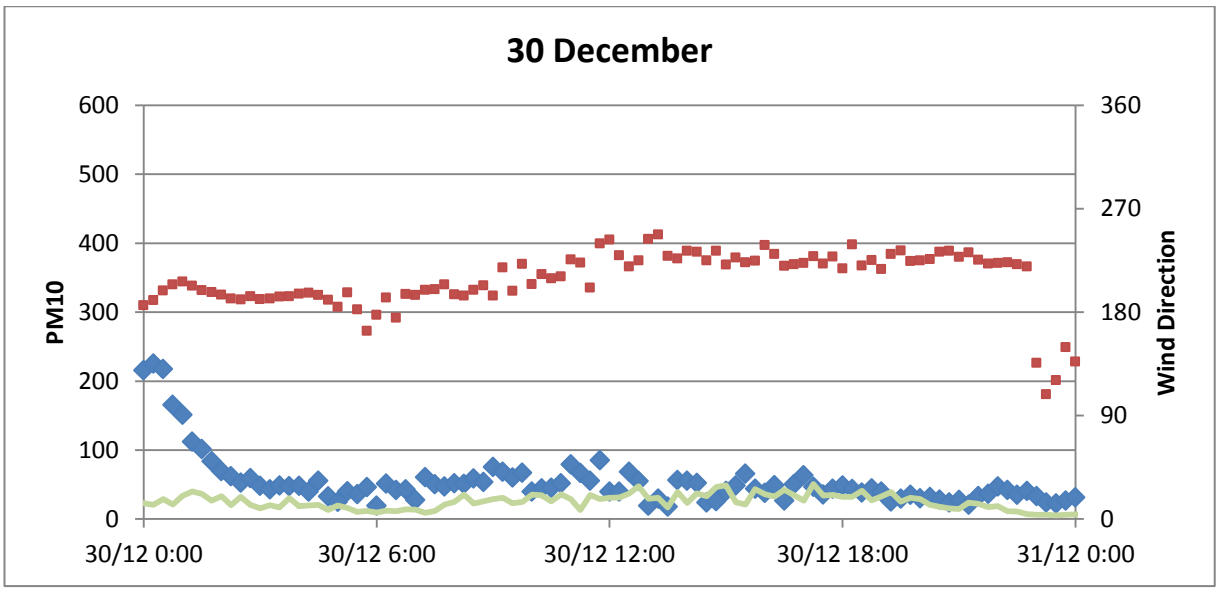
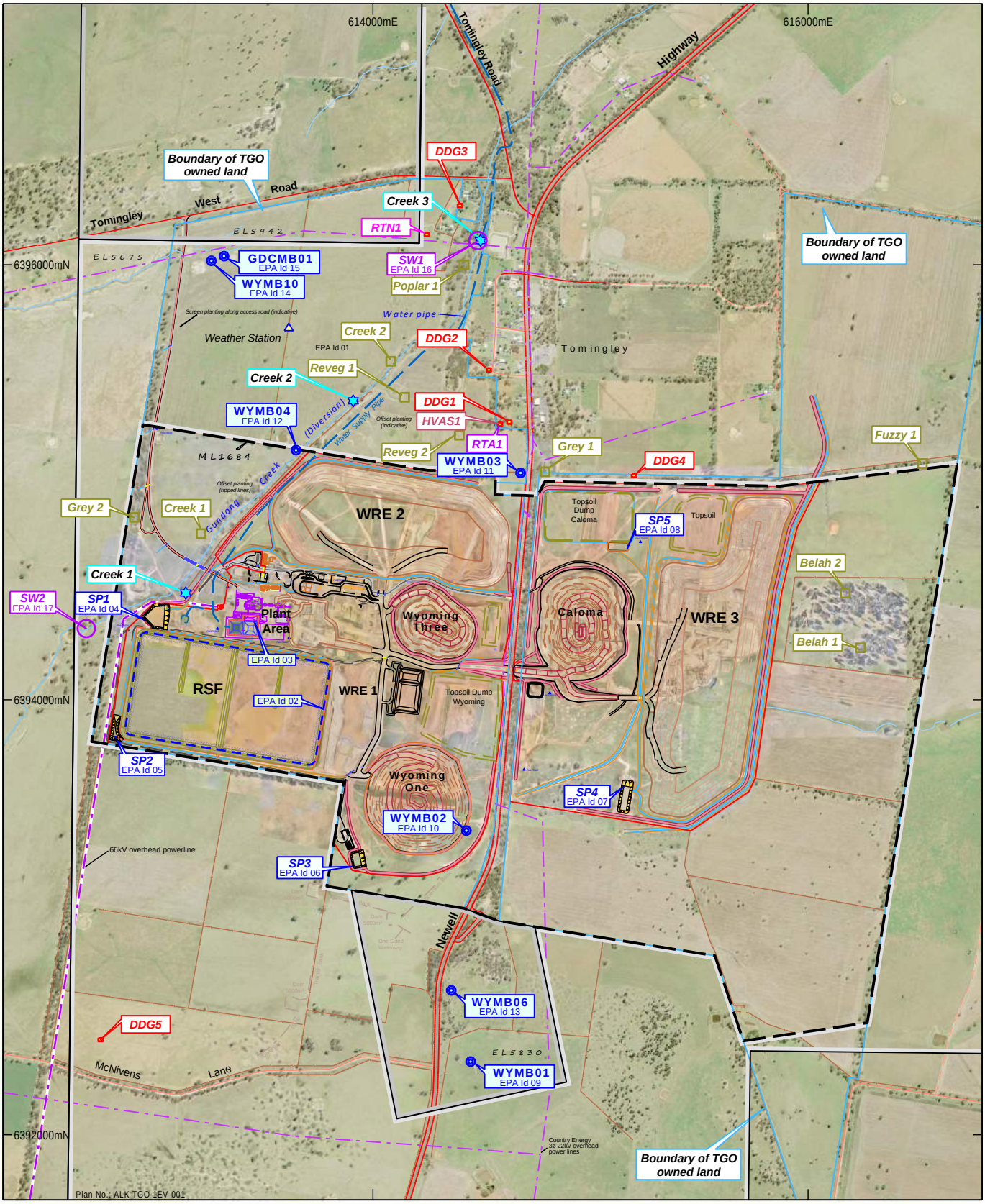


Figure 8 Dust impacts for 30 December 2014 (15 minute averages, µg/m^3)

Appendix B Monitoring Locations and Facilities



SP — Sediment pond discharge location

DDG_ — Dust deposition gauge location

HVAS_ — High volume air sampler location

RTA_ — Real time air quality monitoring station

RTN_ — Real time noise monitoring station

SW2 — Surface water

WYMB06 — Groundwater bore

Creek 2 — Gundong Creek Diversion monitor / photo point

Belah 2 — Vegetation monitoring site

Additional EPA ID Locations

EPA Id 02 — Discharge of tailings to the RSF moves around the circumference.

EPA Id 03 — Discharge between the Process Sediment Pond and the Process Water Pond

Scale 1 : 25 000

0 1000 metres

TOMINGLEY GOLD OPERATIONS PTY LTD
(A SUBSIDIARY OF ALKANE RESOURCES LTD)

TOMINGLEY GOLD OPERATION

Environmental Monitoring Sites

Compliled: Alkane (MW) Plan No.: ALK TGO 1EV-001
Drafted: DJM Date: 27 August 2014 Figure No.:

Projection - MGA Zone 55
Datum (horizontal) - GDA94

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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	J Locke	B Cook	*B Cook #*	B Cook	*B Cook #*	02/02/2015

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Appendix D

Noise Monitoring Results/Reports

2014 Continuous Real-time monitoring results – Daytime period

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	1/01 6:00:00 AM	1/01 10:00:00 PM	100%	58.7	58.7	22.5	45.5	36.4	27.4
Brooklands (Day)	2/01 6:00:00 AM	2/01 10:00:00 PM	100%	43.3	43.3	26.0	45.7	38.2	30.9
Brooklands (Day)	3/01 6:00:00 AM	3/01 10:00:00 PM	100%	49.2	49.2	24.8	51.1	43.4	30.5
Brooklands (Day)	4/01 6:00:00 AM	4/01 10:00:00 PM	100%	47.0	47.0	26.3	49.0	42.5	32.7
Brooklands (Day)	5/01 6:00:00 AM	5/01 10:00:00 PM	0%						
Brooklands (Day)	6/01 6:00:00 AM	6/01 10:00:00 PM	0%						
Brooklands (Day)	7/01 6:00:00 AM	7/01 10:00:00 PM	0%						
Brooklands (Day)	8/01 6:00:00 AM	8/01 10:00:00 PM	0%						
Brooklands (Day)	9/01 6:00:00 AM	9/01 10:00:00 PM	0%						
Brooklands (Day)	10/01 6:00:00 AM	10/01 10:00:00 PM	69%	80.7	80.7	26.2	45.2	38.9	29.8
Brooklands (Day)	11/01 6:00:00 AM	11/01 10:00:00 PM	100%	41.1	41.1	24.9	43.0	36.2	30.8
Brooklands (Day)	12/01 6:00:00 AM	12/01 10:00:00 PM	100%	50.8	50.8	24.6	44.9	38.6	30.8
Brooklands (Day)	13/01 6:00:00 AM	13/01 10:00:00 PM	100%	46.0	46.0	23.9	49.3	41.1	30.8
Brooklands (Day)	14/01 6:00:00 AM	14/01 10:00:00 PM	100%	45.0	45.0	25.6	48.5	42.0	31.8
Brooklands (Day)	15/01 6:00:00 AM	15/01 10:00:00 PM	100%	41.7	41.7	22.4	45.3	37.3	28.5
Brooklands (Day)	16/01 6:00:00 AM	16/01 10:00:00 PM	100%	42.0	42.0	23.1	45.1	37.0	27.5
Brooklands (Day)	17/01 6:00:00 AM	17/01 10:00:00 PM	100%	42.8	42.8	22.5	46.3	38.4	28.8
Brooklands (Day)	18/01 6:00:00 AM	18/01 10:00:00 PM	100%	41.6	41.6	22.6	45.1	36.7	27.6
Brooklands (Day)	19/01 6:00:00 AM	19/01 10:00:00 PM	100%	41.3	41.3	24.7	44.0	36.9	29.0
Brooklands (Day)	20/01 6:00:00 AM	20/01 10:00:00 PM	100%	44.1	44.1	27.1	46.6	39.9	31.6
Brooklands (Day)	21/01 6:00:00 AM	21/01 10:00:00 PM	94%	44.4	44.4	29.8	47.3	40.8	34.2
Brooklands (Day)	22/01 6:00:00 AM	22/01 10:00:00 PM	100%	50.1	50.1	33.0	52.4	47.0	41.1
Brooklands (Day)	23/01 6:00:00 AM	23/01 10:00:00 PM	100%	52.9	52.9	24.5	55.4	47.1	36.0
Brooklands (Day)	24/01 6:00:00 AM	24/01 10:00:00 PM	100%	48.4	48.4	28.7	49.8	42.5	34.2
Brooklands (Day)	25/01 6:00:00 AM	25/01 10:00:00 PM	100%	43.9	43.9	29.8	45.5	40.4	34.9
Brooklands (Day)	26/01 6:00:00 AM	26/01 10:00:00 PM	100%	47.2	47.2	27.4	49.5	43.8	35.0
Brooklands (Day)	27/01 6:00:00 AM	27/01 10:00:00 PM	100%	44.6	44.6	22.8	47.1	39.2	30.4
Brooklands (Day)	28/01 6:00:00 AM	28/01 10:00:00 PM	100%	43.4	43.4	23.5	46.8	40.5	31.6
Brooklands (Day)	29/01 6:00:00 AM	29/01 10:00:00 PM	100%	42.5	42.5	26.0	46.2	38.7	31.7

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	30/01 6:00:00 AM	30/01 10:00:00 PM	100%	44.8	44.8	21.9	48.0	42.3	32.7
Brooklands (Day)	31/01 6:00:00 AM	31/01 10:00:00 PM	100%	44.0	44.0	22.2	46.7	38.0	27.1
Brooklands (Day)	1/02 6:00:00 AM	1/02 10:00:00 PM	100%	40.3	40.3	22.9	44.5	36.0	28.8
Brooklands (Day)	2/02 6:00:00 AM	2/02 10:00:00 PM	100%	40.3	40.3	21.6	44.0	35.6	26.4
Brooklands (Day)	3/02 6:00:00 AM	3/02 10:00:00 PM	100%	45.0	45.0	22.4	48.3	41.7	27.8
Brooklands (Day)	4/02 6:00:00 AM	4/02 10:00:00 PM	100%	52.4	52.4	30.0	54.8	45.4	37.2
Brooklands (Day)	5/02 6:00:00 AM	5/02 10:00:00 PM	100%	48.5	48.5	26.6	51.6	45.4	36.7
Brooklands (Day)	6/02 6:00:00 AM	6/02 10:00:00 PM	100%	46.0	46.0	23.9	49.5	42.4	33.4
Brooklands (Day)	7/02 6:00:00 AM	7/02 10:00:00 PM	95%	43.5	43.5	22.7	47.8	38.4	30.0
Brooklands (Day)	8/02 6:00:00 AM	8/02 10:00:00 PM	100%	42.9	42.9	22.9	46.5	39.7	29.7
Brooklands (Day)	9/02 6:00:00 AM	9/02 10:00:00 PM	100%	40.2	40.2	21.5	43.6	35.4	25.8
Brooklands (Day)	10/02 6:00:00 AM	10/02 10:00:00 PM	100%	39.9	39.9	26.7	43.6	36.1	30.5
Brooklands (Day)	11/02 6:00:00 AM	11/02 10:00:00 PM	100%	45.0	45.0	26.5	48.8	40.3	32.2
Brooklands (Day)	12/02 6:00:00 AM	12/02 10:00:00 PM	100%	46.6	46.6	25.6	50.2	40.6	32.1
Brooklands (Day)	13/02 6:00:00 AM	13/02 10:00:00 PM	100%	46.2	46.2	28.4	49.6	42.0	35.2
Brooklands (Day)	14/02 6:00:00 AM	14/02 10:00:00 PM	100%	45.3	45.3	25.0	47.7	41.4	30.9
Brooklands (Day)	15/02 6:00:00 AM	15/02 10:00:00 PM	100%	51.4	51.4	28.7	53.1	45.6	35.4
Brooklands (Day)	16/02 6:00:00 AM	16/02 10:00:00 PM	100%	41.5	41.5	28.0	43.4	38.3	32.5
Brooklands (Day)	17/02 6:00:00 AM	17/02 10:00:00 PM	58%	45.2	45.2	30.4	47.6	41.9	35.3
Brooklands (Day)	18/02 6:00:00 AM	18/02 10:00:00 PM	100%	45.7	45.7	23.4	48.1	39.8	29.9
Brooklands (Day)	19/02 6:00:00 AM	19/02 10:00:00 PM	100%	47.7	47.7	28.5	51.0	44.2	35.3
Brooklands (Day)	20/02 6:00:00 AM	20/02 10:00:00 PM	100%	42.5	42.5	32.3	44.6	40.8	36.8
Brooklands (Day)	21/02 6:00:00 AM	21/02 10:00:00 PM	100%	46.4	46.4	32.6	47.8	42.2	37.7
Brooklands (Day)	22/02 6:00:00 AM	22/02 10:00:00 PM	100%	44.7	44.7	28.7	47.1	40.7	34.6
Brooklands (Day)	23/02 6:00:00 AM	23/02 10:00:00 PM	100%	45.3	45.3	26.2	48.5	42.0	33.8
Brooklands (Day)	24/02 6:00:00 AM	24/02 10:00:00 PM	100%	46.6	46.6	22.8	47.1	38.7	30.7
Brooklands (Day)	25/02 6:00:00 AM	25/02 10:00:00 PM	100%	48.2	48.2	24.0	49.5	43.4	32.6
Brooklands (Day)	26/02 6:00:00 AM	26/02 10:00:00 PM	100%	49.4	49.4	24.1	48.2	43.6	35.0
Brooklands (Day)	27/02 6:00:00 AM	27/02 10:00:00 PM	100%	45.0	45.0	24.3	48.5	40.9	31.4
Brooklands (Day)	28/02 6:00:00 AM	28/02 10:00:00 PM	100%	48.9	48.9	33.8	51.0	46.0	39.9
Brooklands (Day)	1/03 6:00:00 AM	1/03 10:00:00 PM	100%	55.6	55.6	32.9	51.8	46.1	38.5
Brooklands (Day)	2/03 6:00:00 AM	2/03 10:00:00 PM	100%	46.0	46.0	30.1	49.2	43.7	37.8
Brooklands (Day)	3/03 6:00:00 AM	3/03 10:00:00 PM	100%	47.4	47.4	26.1	50.4	44.3	36.1
Brooklands (Day)	4/03 6:00:00 AM	4/03 10:00:00 PM	100%	45.3	45.3	22.9	49.1	41.4	31.9
Brooklands (Day)	5/03 6:00:00 AM	5/03 10:00:00 PM	100%	43.9	43.9	28.2	47.7	40.4	32.8
Brooklands (Day)	6/03 6:00:00 AM	6/03 10:00:00 PM	100%	61.0	61.0	27.4	50.1	42.5	32.2

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	7/03 6:00:00 AM	7/03 10:00:00 PM	100%	44.9	44.9	29.4	47.9	42.1	35.3
Brooklands (Day)	8/03 6:00:00 AM	8/03 10:00:00 PM	100%	58.7	58.7	27.0	48.1	41.2	32.1
Brooklands (Day)	9/03 6:00:00 AM	9/03 10:00:00 PM	100%	44.4	44.4	25.2	46.3	39.3	30.6
Brooklands (Day)	10/03 6:00:00 AM	10/03 10:00:00 PM	100%	42.6	42.6	27.8	46.1	39.1	32.6
Brooklands (Day)	11/03 6:00:00 AM	11/03 10:00:00 PM	100%	44.6	44.6	26.8	48.1	42.0	34.8
Brooklands (Day)	12/03 6:00:00 AM	12/03 10:00:00 PM	100%	51.5	51.5	27.1	47.2	40.5	33.9
Brooklands (Day)	13/03 6:00:00 AM	13/03 10:00:00 PM	100%	45.2	45.2	24.8	49.1	41.2	32.6
Brooklands (Day)	14/03 6:00:00 AM	14/03 10:00:00 PM	100%	54.6	54.6	23.2	49.8	43.0	31.0
Brooklands (Day)	15/03 6:00:00 AM	15/03 10:00:00 PM	100%	43.3	43.3	25.2	46.2	39.9	32.5
Brooklands (Day)	16/03 6:00:00 AM	16/03 10:00:00 PM	100%	55.2	55.2	32.7	47.5	41.8	37.0
Brooklands (Day)	17/03 6:00:00 AM	17/03 10:00:00 PM	100%	45.0	45.0	31.3	48.4	40.9	36.4
Brooklands (Day)	18/03 6:00:00 AM	18/03 10:00:00 PM	100%	46.1	46.1	29.6	49.7	41.7	35.6
Brooklands (Day)	19/03 6:00:00 AM	19/03 10:00:00 PM	100%	45.2	45.2	31.7	49.0	41.9	35.4
Brooklands (Day)	20/03 6:00:00 AM	20/03 10:00:00 PM	100%	48.2	48.2	31.8	51.2	46.2	37.5
Brooklands (Day)	21/03 6:00:00 AM	21/03 10:00:00 PM	100%	45.2	45.2	24.4	49.0	41.7	32.9
Brooklands (Day)	22/03 6:00:00 AM	22/03 10:00:00 PM	100%	53.2	53.2	25.4	46.4	38.2	29.4
Brooklands (Day)	23/03 6:00:00 AM	23/03 10:00:00 PM	100%	45.7	45.7	26.2	45.6	39.2	32.0
Brooklands (Day)	24/03 6:00:00 AM	24/03 10:00:00 PM	100%	43.6	43.6	26.3	47.0	40.4	32.6
Brooklands (Day)	25/03 6:00:00 AM	25/03 10:00:00 PM	100%	46.9	46.9	29.5	50.0	44.5	37.8
Brooklands (Day)	26/03 6:00:00 AM	26/03 10:00:00 PM	100%	47.7	47.7	28.8	50.8	45.5	37.7
Brooklands (Day)	27/03 6:00:00 AM	27/03 10:00:00 PM	100%	50.2	50.2	31.8	50.4	44.9	36.6
Brooklands (Day)	28/03 6:00:00 AM	28/03 10:00:00 PM	100%	42.7	42.7	26.4	46.5	39.5	32.0
Brooklands (Day)	29/03 6:00:00 AM	29/03 10:00:00 PM	100%	41.7	41.7	26.4	44.9	37.3	30.0
Brooklands (Day)	30/03 6:00:00 AM	30/03 10:00:00 PM	100%	43.0	43.0	26.2	46.6	40.1	34.2
Brooklands (Day)	31/03 6:00:00 AM	31/03 10:00:00 PM	100%	45.9	45.9	31.6	49.1	42.9	36.4
Brooklands (Day)	1/04 6:00:00 AM	1/04 10:00:00 PM	100%	46.9	46.9	32.9	50.2	44.6	38.6
Brooklands (Day)	2/04 6:00:00 AM	2/04 10:00:00 PM	100%	51.3	51.3	27.3	48.7	42.2	33.7
Brooklands (Day)	3/04 6:00:00 AM	3/04 10:00:00 PM	100%	59.8	59.8	29.6	51.8	43.3	35.6
Brooklands (Day)	4/04 6:00:00 AM	4/04 10:00:00 PM	100%	53.5	53.5	29.0	43.8	38.1	33.4
Brooklands (Day)	5/04 6:00:00 AM	5/04 10:00:00 PM	100%	42.5	42.5	29.2	44.7	38.3	32.8
Brooklands (Day)	6/04 6:00:00 AM	6/04 10:00:00 PM	100%	43.1	43.1	29.5	46.6	40.5	33.8
Brooklands (Day)	7/04 6:00:00 AM	7/04 10:00:00 PM	100%	50.1	50.1	34.4	52.3	47.2	39.7
Brooklands (Day)	8/04 6:00:00 AM	8/04 10:00:00 PM	75%	46.0	46.0	31.3	50.5	45.1	38.8
Brooklands (Day)	9/04 6:00:00 AM	9/04 10:00:00 PM	24%	44.2	44.2	30.2	49.5	41.7	34.2
Brooklands (Day)	10/04 6:00:00 AM	10/04 10:00:00 PM	0%						
Brooklands (Day)	11/04 6:00:00 AM	11/04 10:00:00 PM	0%						

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	12/04 6:00:00 AM	12/04 10:00:00 PM	0%						
Brooklands (Day)	13/04 6:00:00 AM	13/04 10:00:00 PM	0%						
Brooklands (Day)	14/04 6:00:00 AM	14/04 10:00:00 PM	0%						
Brooklands (Day)	15/04 6:00:00 AM	15/04 10:00:00 PM	0%						
Brooklands (Day)	16/04 6:00:00 AM	16/04 10:00:00 PM	55%	49.8	49.8	33.5	46.0	41.7	36.7
Brooklands (Day)	17/04 6:00:00 AM	17/04 10:00:00 PM	100%	49.4	49.4	30.5	48.2	41.6	36.4
Brooklands (Day)	18/04 6:00:00 AM	18/04 10:00:00 PM	100%	48.5	48.5	28.3	46.1	39.9	32.2
Brooklands (Day)	19/04 6:00:00 AM	19/04 10:00:00 PM	100%	51.1	51.1	30.7	44.0	39.5	35.7
Brooklands (Day)	20/04 6:00:00 AM	20/04 10:00:00 PM	100%	43.2	43.2	29.8	46.2	39.1	34.1
Brooklands (Day)	21/04 6:00:00 AM	21/04 10:00:00 PM	100%	43.5	43.5	28.0	47.1	38.5	31.8
Brooklands (Day)	22/04 6:00:00 AM	22/04 10:00:00 PM	100%	45.2	45.2	27.6	48.4	40.0	31.8
Brooklands (Day)	23/04 6:00:00 AM	23/04 10:00:00 PM	100%	45.4	45.4	27.7	49.5	41.4	34.4
Brooklands (Day)	24/04 6:00:00 AM	24/04 10:00:00 PM	100%	45.2	45.2	26.5	47.4	41.7	34.3
Brooklands (Day)	25/04 6:00:00 AM	25/04 10:00:00 PM	100%	47.6	47.6	33.6	50.5	45.1	39.9
Brooklands (Day)	26/04 6:00:00 AM	26/04 10:00:00 PM	100%	40.7	40.7	25.9	43.8	38.2	30.6
Brooklands (Day)	27/04 6:00:00 AM	27/04 10:00:00 PM	100%	46.0	46.0	32.2	49.0	44.3	39.0
Brooklands (Day)	28/04 6:00:00 AM	28/04 10:00:00 PM	100%	46.7	46.7	28.3	49.7	44.8	37.6
Brooklands (Day)	29/04 6:00:00 AM	29/04 10:00:00 PM	100%	46.2	46.2	24.4	49.5	44.2	38.2
Brooklands (Day)	30/04 6:00:00 AM	30/04 10:00:00 PM	100%	44.8	44.8	30.6	47.2	42.8	38.2
Brooklands (Day)	1/05 6:00:00 AM	1/05 10:00:00 PM	100%	43.9	43.9	26.0	47.1	38.8	30.6
Brooklands (Day)	2/05 6:00:00 AM	2/05 10:00:00 PM	100%	44.6	44.6	21.7	45.9	37.6	29.2
Brooklands (Day)	3/05 6:00:00 AM	3/05 10:00:00 PM	100%	48.2	48.2	25.7	51.0	42.7	33.8
Brooklands (Day)	4/05 6:00:00 AM	4/05 10:00:00 PM	100%	48.7	48.7	28.5	51.7	42.6	34.9
Brooklands (Day)	5/05 6:00:00 AM	5/05 10:00:00 PM	100%	47.3	47.3	30.1	47.6	40.8	35.8
Brooklands (Day)	6/05 6:00:00 AM	6/05 10:00:00 PM	100%	45.5	45.5	32.0	48.8	42.1	36.6
Brooklands (Day)	7/05 6:00:00 AM	7/05 10:00:00 PM	100%	44.3	44.3	27.7	47.8	42.0	33.8
Brooklands (Day)	8/05 6:00:00 AM	8/05 10:00:00 PM	100%	47.8	47.8	29.9	51.0	46.0	37.8
Brooklands (Day)	9/05 6:00:00 AM	9/05 10:00:00 PM	100%	46.9	46.9	28.2	50.0	44.9	36.5
Brooklands (Day)	10/05 6:00:00 AM	10/05 10:00:00 PM	91%	45.1	45.1	26.4	48.6	42.7	34.2
Brooklands (Day)	11/05 6:00:00 AM	11/05 10:00:00 PM	100%	44.1	44.1	29.2	45.7	41.4	36.9
Brooklands (Day)	12/05 6:00:00 AM	12/05 10:00:00 PM	100%	49.2	49.2	26.8	49.5	44.6	38.0
Brooklands (Day)	13/05 6:00:00 AM	13/05 10:00:00 PM	100%	49.6	49.6	28.2	52.9	45.5	36.1
Brooklands (Day)	14/05 6:00:00 AM	14/05 10:00:00 PM	100%	45.3	45.3	27.3	49.2	41.9	31.7
Brooklands (Day)	15/05 6:00:00 AM	15/05 10:00:00 PM	100%	45.3	45.3	27.4	49.0	42.4	32.7
Brooklands (Day)	16/05 6:00:00 AM	16/05 10:00:00 PM	100%	45.3	45.3	26.9	49.1	42.2	32.6
Brooklands (Day)	17/05 6:00:00 AM	17/05 10:00:00 PM	100%	44.3	44.3	26.2	48.0	41.0	30.2

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	18/05 6:00:00 AM	18/05 10:00:00 PM	100%	44.2	44.2	25.4	47.8	41.7	33.4
Brooklands (Day)	19/05 6:00:00 AM	19/05 10:00:00 PM	95%	64.7	64.7	22.5	47.2	39.2	29.1
Brooklands (Day)	20/05 6:00:00 AM	20/05 10:00:00 PM	100%	54.5	54.5	22.6	48.5	39.3	28.5
Brooklands (Day)	21/05 6:00:00 AM	21/05 10:00:00 PM	100%	47.3	47.3	26.5	48.6	40.1	31.4
Brooklands (Day)	22/05 6:00:00 AM	22/05 10:00:00 PM	100%	49.9	49.9	25.9	50.0	42.8	32.5
Brooklands (Day)	23/05 6:00:00 AM	23/05 10:00:00 PM	100%	49.6	49.6	24.4	48.9	40.2	29.1
Brooklands (Day)	24/05 6:00:00 AM	24/05 10:00:00 PM	100%	63.0	63.0	22.9	46.3	37.4	28.1
Brooklands (Day)	25/05 6:00:00 AM	25/05 10:00:00 PM	100%	53.7	53.7	24.6	45.7	37.8	29.1
Brooklands (Day)	26/05 6:00:00 AM	26/05 10:00:00 PM	100%	47.1	47.1	27.1	48.1	43.2	35.6
Brooklands (Day)	27/05 6:00:00 AM	27/05 10:00:00 PM	100%	51.0	51.0	23.5	51.9	46.8	34.8
Brooklands (Day)	28/05 6:00:00 AM	28/05 10:00:00 PM	100%	42.8	42.8	28.6	46.3	40.1	32.5
Brooklands (Day)	29/05 6:00:00 AM	29/05 10:00:00 PM	100%	62.0	62.0	28.0	49.5	41.8	33.0
Brooklands (Day)	30/05 6:00:00 AM	30/05 10:00:00 PM	100%	47.4	47.4	34.5	50.4	45.5	39.9
Brooklands (Day)	31/05 6:00:00 AM	31/05 10:00:00 PM	100%	50.2	50.2	30.9	52.0	46.5	40.3
Brooklands (Day)	1/06 6:00:00 AM	1/06 10:00:00 PM	100%	46.2	46.2	28.1	49.9	43.8	35.1
Brooklands (Day)	2/06 6:00:00 AM	2/06 10:00:00 PM	100%	41.1	41.1	25.5	44.3	38.0	30.1
Brooklands (Day)	3/06 6:00:00 AM	3/06 10:00:00 PM	100%	41.4	41.4	29.2	44.3	39.1	33.8
Brooklands (Day)	4/06 6:00:00 AM	4/06 10:00:00 PM	100%	44.1	44.1	32.8	47.1	42.6	38.3
Brooklands (Day)	5/06 6:00:00 AM	5/06 10:00:00 PM	100%	45.4	45.4	31.7	47.7	43.3	37.2
Brooklands (Day)	6/06 6:00:00 AM	6/06 10:00:00 PM	100%	55.2	55.2	31.7	46.0	41.7	35.2
Brooklands (Day)	7/06 6:00:00 AM	7/06 10:00:00 PM	100%	56.2	56.2	30.4	47.5	42.6	35.0
Brooklands (Day)	8/06 6:00:00 AM	8/06 10:00:00 PM	100%	57.9	57.9	30.3	47.7	43.0	35.3
Brooklands (Day)	9/06 6:00:00 AM	9/06 10:00:00 PM	100%	65.1	65.1	33.5	48.5	43.8	38.2
Brooklands (Day)	10/06 6:00:00 AM	10/06 10:00:00 PM	100%	59.6	59.6	30.5	49.6	44.6	36.7
Brooklands (Day)	11/06 6:00:00 AM	11/06 10:00:00 PM	100%	48.3	48.3	25.8	51.6	46.5	37.1
Brooklands (Day)	12/06 6:00:00 AM	12/06 10:00:00 PM	100%	46.3	46.3	24.7	49.6	43.8	36.0
Brooklands (Day)	13/06 6:00:00 AM	13/06 10:00:00 PM	100%	46.0	46.0	21.2	49.3	43.5	32.2
Brooklands (Day)	14/06 6:00:00 AM	14/06 10:00:00 PM	100%	58.4	58.4	24.8	42.0	36.0	29.0
Brooklands (Day)	15/06 6:00:00 AM	15/06 10:00:00 PM	100%	42.6	42.6	27.5	45.1	40.1	34.7
Brooklands (Day)	16/06 6:00:00 AM	16/06 10:00:00 PM	100%	42.9	42.9	29.3	45.2	40.5	36.0
Brooklands (Day)	17/06 6:00:00 AM	17/06 10:00:00 PM	100%	45.1	45.1	36.0	47.9	43.5	39.4
Brooklands (Day)	18/06 6:00:00 AM	18/06 10:00:00 PM	100%	56.6	56.6	28.6	50.0	42.1	33.2
Brooklands (Day)	19/06 6:00:00 AM	19/06 10:00:00 PM	100%	46.6	46.6	25.8	50.1	43.6	34.4
Brooklands (Day)	20/06 6:00:00 AM	20/06 10:00:00 PM	100%	45.2	45.2	25.8	48.7	41.2	30.5
Brooklands (Day)	21/06 6:00:00 AM	21/06 10:00:00 PM	100%	45.8	45.8	22.5	48.7	38.3	28.1
Brooklands (Day)	22/06 6:00:00 AM	22/06 10:00:00 PM	100%	43.8	43.8	27.5	46.0	39.6	31.1

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	23/06 6:00:00 AM	23/06 10:00:00 PM	100%	45.1	45.1	23.0	48.2	43.0	30.3
Brooklands (Day)	24/06 6:00:00 AM	24/06 10:00:00 PM	100%	46.6	46.6	24.7	48.4	42.1	31.0
Brooklands (Day)	25/06 6:00:00 AM	25/06 10:00:00 PM	100%	51.3	51.3	29.5	47.6	42.1	36.3
Brooklands (Day)	26/06 6:00:00 AM	26/06 10:00:00 PM	100%	42.8	42.8	27.5	46.2	39.3	31.7
Brooklands (Day)	27/06 6:00:00 AM	27/06 10:00:00 PM	100%	47.6	47.6	25.7	49.7	44.3	35.2
Brooklands (Day)	28/06 6:00:00 AM	28/06 10:00:00 PM	100%	49.1	49.1	26.8	49.1	42.7	32.7
Brooklands (Day)	29/06 6:00:00 AM	29/06 10:00:00 PM	100%	45.5	45.5	24.7	47.6	38.4	30.4
Brooklands (Day)	30/06 6:00:00 AM	30/06 10:00:00 PM	100%	43.9	43.9	32.2	45.5	40.8	36.4
Brooklands (Day)	1/07 6:00:00 AM	1/07 10:00:00 PM	100%	43.5	43.5	28.0	44.8	40.4	33.7
Brooklands (Day)	2/07 6:00:00 AM	2/07 10:00:00 PM	100%	46.4	46.4	33.8	49.1	43.4	38.7
Brooklands (Day)	3/07 6:00:00 AM	3/07 10:00:00 PM	100%	53.2	53.2	25.9	50.1	39.8	31.0
Brooklands (Day)	4/07 6:00:00 AM	4/07 10:00:00 PM	100%	49.6	49.6	23.0	48.5	40.9	31.8
Brooklands (Day)	5/07 6:00:00 AM	5/07 10:00:00 PM	100%	44.9	44.9	32.2	48.0	40.5	35.0
Brooklands (Day)	6/07 6:00:00 AM	6/07 10:00:00 PM	100%	44.6	44.6	28.4	47.1	41.3	36.1
Brooklands (Day)	7/07 6:00:00 AM	7/07 10:00:00 PM	100%	43.9	43.9	25.6	46.3	38.7	31.6
Brooklands (Day)	8/07 6:00:00 AM	8/07 10:00:00 PM	100%	55.7	55.7	25.9	50.7	44.0	33.4
Brooklands (Day)	9/07 6:00:00 AM	9/07 10:00:00 PM	100%	46.4	46.4	23.5	49.5	43.3	30.4
Brooklands (Day)	10/07 6:00:00 AM	10/07 10:00:00 PM	100%	46.1	46.1	29.9	48.5	42.4	36.8
Brooklands (Day)	11/07 6:00:00 AM	11/07 10:00:00 PM	100%	44.7	44.7	31.0	47.8	42.0	36.1
Brooklands (Day)	12/07 6:00:00 AM	12/07 10:00:00 PM	100%	43.4	43.4	23.4	44.4	39.2	33.3
Brooklands (Day)	13/07 6:00:00 AM	13/07 10:00:00 PM	100%	45.8	45.8	31.8	49.1	43.7	37.6
Brooklands (Day)	14/07 6:00:00 AM	14/07 10:00:00 PM	100%	50.3	50.3	26.9	50.9	45.5	38.2
Brooklands (Day)	15/07 6:00:00 AM	15/07 10:00:00 PM	100%	47.9	47.9	24.2	51.3	45.7	36.0
Brooklands (Day)	16/07 6:00:00 AM	16/07 10:00:00 PM	100%	40.4	40.4	25.2	43.5	35.6	29.9
Brooklands (Day)	17/07 6:00:00 AM	17/07 10:00:00 PM	100%	44.3	44.3	28.5	46.8	40.7	34.9
Brooklands (Day)	18/07 6:00:00 AM	18/07 10:00:00 PM	100%	50.2	50.2	34.7	51.2	44.8	39.4
Brooklands (Day)	19/07 6:00:00 AM	19/07 10:00:00 PM	100%	51.3	51.3	35.4	47.0	43.2	39.2
Brooklands (Day)	20/07 6:00:00 AM	20/07 10:00:00 PM	100%	44.6	44.6	32.9	48.1	41.7	36.7
Brooklands (Day)	21/07 6:00:00 AM	21/07 10:00:00 PM	50%	55.1	55.1	29.6	50.1	45.5	37.1
Brooklands (Day)	22/07 6:00:00 AM	22/07 10:00:00 PM	67%	43.0	43.0	32.5	47.2	42.4	37.0
Brooklands (Day)	23/07 6:00:00 AM	23/07 10:00:00 PM	100%	60.1	60.1	31.6	51.3	46.3	39.3
Brooklands (Day)	24/07 6:00:00 AM	24/07 10:00:00 PM	100%	48.0	48.0	30.0	51.1	45.8	36.9
Brooklands (Day)	25/07 6:00:00 AM	25/07 10:00:00 PM	100%	47.2	47.2	23.0	50.1	44.3	33.0
Brooklands (Day)	26/07 6:00:00 AM	26/07 10:00:00 PM	100%	44.7	44.7	32.4	47.0	42.1	37.2
Brooklands (Day)	27/07 6:00:00 AM	27/07 10:00:00 PM	100%	45.8	45.8	32.5	48.8	41.6	36.0
Brooklands (Day)	28/07 6:00:00 AM	28/07 10:00:00 PM	100%	45.4	45.4	23.7	48.4	38.9	30.6

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	29/07 6:00:00 AM	29/07 10:00:00 PM	100%	54.8	54.8	21.3	46.5	39.2	28.7
Brooklands (Day)	30/07 6:00:00 AM	30/07 10:00:00 PM	100%	46.8	46.8	21.5	47.3	38.3	29.4
Brooklands (Day)	31/07 6:00:00 AM	31/07 10:00:00 PM	100%	45.9	45.9	28.6	48.5	43.2	35.3
Brooklands (Day)	1/08 6:00:00 AM	1/08 10:00:00 PM	100%	58.0	58.0	31.2	51.7	43.5	35.4
Brooklands (Day)	2/08 6:00:00 AM	2/08 10:00:00 PM	100%	44.0	44.0	33.7	45.6	41.4	37.8
Brooklands (Day)	3/08 6:00:00 AM	3/08 10:00:00 PM	100%	46.2	46.2	25.8	49.6	43.5	34.0
Brooklands (Day)	4/08 6:00:00 AM	4/08 10:00:00 PM	100%	59.8	59.8	25.6	48.3	41.3	29.4
Brooklands (Day)	5/08 6:00:00 AM	5/08 10:00:00 PM	100%	51.9	51.9	29.5	48.9	41.9	34.4
Brooklands (Day)	6/08 6:00:00 AM	6/08 10:00:00 PM	100%	58.6	58.6	32.4	47.8	41.0	35.8
Brooklands (Day)	7/08 6:00:00 AM	7/08 10:00:00 PM	100%	49.5	49.5	34.5	49.5	43.9	38.6
Brooklands (Day)	8/08 6:00:00 AM	8/08 10:00:00 PM	100%	46.8	46.8	26.2	48.4	40.5	30.8
Brooklands (Day)	9/08 6:00:00 AM	9/08 10:00:00 PM	100%	44.7	44.7	23.9	48.4	38.1	28.6
Brooklands (Day)	10/08 6:00:00 AM	10/08 10:00:00 PM	100%	44.3	44.3	27.0	47.0	40.2	31.7
Brooklands (Day)	11/08 6:00:00 AM	11/08 10:00:00 PM	100%	58.0	58.0	31.9	46.6	40.9	36.0
Brooklands (Day)	12/08 6:00:00 AM	12/08 10:00:00 PM	100%	63.9	63.9	34.6	50.9	45.9	39.4
Brooklands (Day)	13/08 6:00:00 AM	13/08 10:00:00 PM	100%	64.2	64.2	29.4	51.7	46.4	38.2
Brooklands (Day)	14/08 6:00:00 AM	14/08 10:00:00 PM	100%	65.5	65.5	27.9	50.7	45.2	35.9
Brooklands (Day)	15/08 6:00:00 AM	15/08 10:00:00 PM	100%	51.3	51.3	27.6	50.4	45.0	37.0
Brooklands (Day)	16/08 6:00:00 AM	16/08 10:00:00 PM	100%	49.2	49.2	34.1	51.2	46.0	39.6
Brooklands (Day)	17/08 6:00:00 AM	17/08 10:00:00 PM	100%	50.9	50.9	24.0	47.4	41.2	33.7
Brooklands (Day)	18/08 6:00:00 AM	18/08 10:00:00 PM	100%	63.3	63.3	30.9	50.3	44.3	38.0
Brooklands (Day)	19/08 6:00:00 AM	19/08 10:00:00 PM	100%	47.2	47.2	34.1	47.9	43.4	38.6
Brooklands (Day)	20/08 6:00:00 AM	20/08 10:00:00 PM	100%	46.2	46.2	29.7	49.1	42.6	36.2
Brooklands (Day)	21/08 6:00:00 AM	21/08 10:00:00 PM	100%	48.0	48.0	32.2	51.0	46.3	39.3
Brooklands (Day)	22/08 6:00:00 AM	22/08 10:00:00 PM	100%	47.8	47.8	30.9	50.7	45.5	37.9
Brooklands (Day)	23/08 6:00:00 AM	23/08 10:00:00 PM	100%	45.9	45.9	25.2	49.4	43.3	34.2
Brooklands (Day)	24/08 6:00:00 AM	24/08 10:00:00 PM	100%	53.9	53.9	29.1	48.0	40.5	33.0
Brooklands (Day)	25/08 6:00:00 AM	25/08 10:00:00 PM	100%	47.1	47.1	30.4	47.6	40.7	35.6
Brooklands (Day)	26/08 6:00:00 AM	26/08 10:00:00 PM	100%	57.6	57.6	25.5	50.8	46.1	32.0
Brooklands (Day)	27/08 6:00:00 AM	27/08 10:00:00 PM	100%	60.5	60.5	35.0	50.0	45.2	40.0
Brooklands (Day)	28/08 6:00:00 AM	28/08 10:00:00 PM	100%	55.2	55.2	29.6	47.2	40.9	35.1
Brooklands (Day)	29/08 6:00:00 AM	29/08 10:00:00 PM	100%	47.9	47.9	31.4	48.2	42.1	36.5
Brooklands (Day)	30/08 6:00:00 AM	30/08 10:00:00 PM	100%	59.4	59.4	27.7	46.8	38.9	32.3
Brooklands (Day)	31/08 6:00:00 AM	31/08 10:00:00 PM	100%	51.9	51.9	24.2	46.4	36.7	29.5
Brooklands (Day)	1/09 6:00:00 AM	1/09 10:00:00 PM	100%	53.0	53.0	26.5	47.5	39.9	32.3
Brooklands (Day)	2/09 6:00:00 AM	2/09 10:00:00 PM	100%	58.3	58.3	34.4	56.0	47.3	40.4

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	3/09 6:00:00 AM	3/09 10:00:00 PM	100%	55.7	55.7	34.5	49.0	43.6	38.8
Brooklands (Day)	4/09 6:00:00 AM	4/09 10:00:00 PM	100%	51.6	51.6	29.0	47.9	41.6	33.8
Brooklands (Day)	5/09 6:00:00 AM	5/09 10:00:00 PM	100%	45.3	45.3	30.5	47.5	42.1	35.4
Brooklands (Day)	6/09 6:00:00 AM	6/09 10:00:00 PM	100%	46.3	46.3	32.3	49.3	44.2	37.8
Brooklands (Day)	7/09 6:00:00 AM	7/09 10:00:00 PM	100%	52.7	52.7	27.4	51.7	45.7	36.2
Brooklands (Day)	8/09 6:00:00 AM	8/09 10:00:00 PM	100%	50.5	50.5	24.6	48.6	42.5	33.9
Brooklands (Day)	9/09 6:00:00 AM	9/09 10:00:00 PM	100%	54.5	54.5	32.9	53.4	47.9	40.1
Brooklands (Day)	10/09 6:00:00 AM	10/09 10:00:00 PM	100%	49.4	49.4	32.6	48.5	42.9	37.8
Brooklands (Day)	11/09 6:00:00 AM	11/09 10:00:00 PM	100%	44.1	44.1	28.0	47.1	40.2	32.8
Brooklands (Day)	12/09 6:00:00 AM	12/09 10:00:00 PM	100%	42.7	42.7	26.9	46.4	39.3	33.2
Brooklands (Day)	13/09 6:00:00 AM	13/09 10:00:00 PM	100%	44.0	44.0	25.6	47.4	41.0	30.7
Brooklands (Day)	14/09 6:00:00 AM	14/09 10:00:00 PM	100%	42.3	42.3	26.2	46.0	37.6	30.0
Brooklands (Day)	15/09 6:00:00 AM	15/09 10:00:00 PM	100%	44.8	44.8	26.1	47.8	41.9	33.7
Brooklands (Day)	16/09 6:00:00 AM	16/09 10:00:00 PM	100%	47.7	47.7	30.8	49.6	41.9	34.7
Brooklands (Day)	17/09 6:00:00 AM	17/09 10:00:00 PM	100%	47.5	47.5	28.6	49.9	42.3	34.9
Brooklands (Day)	18/09 6:00:00 AM	18/09 10:00:00 PM	100%	43.5	43.5	31.5	46.0	40.9	36.5
Brooklands (Day)	19/09 6:00:00 AM	19/09 10:00:00 PM	100%	45.5	45.5	30.3	46.0	40.6	35.7
Brooklands (Day)	20/09 6:00:00 AM	20/09 10:00:00 PM	100%	50.6	50.6	29.6	45.8	39.5	33.7
Brooklands (Day)	21/09 6:00:00 AM	21/09 10:00:00 PM	100%	45.0	45.0	29.5	48.2	41.5	34.6
Brooklands (Day)	22/09 6:00:00 AM	22/09 10:00:00 PM	100%	52.1	52.1	26.5	48.6	42.4	33.3
Brooklands (Day)	23/09 6:00:00 AM	23/09 10:00:00 PM	100%	45.8	45.8	29.4	49.2	43.1	35.2
Brooklands (Day)	24/09 6:00:00 AM	24/09 10:00:00 PM	100%	51.9	51.9	24.5	50.7	45.5	34.5
Brooklands (Day)	25/09 6:00:00 AM	25/09 10:00:00 PM	100%	49.3	49.3	28.8	49.8	40.8	34.2
Brooklands (Day)	26/09 6:00:00 AM	26/09 10:00:00 PM	100%	43.6	43.6	30.7	46.0	41.2	36.3
Brooklands (Day)	27/09 6:00:00 AM	27/09 10:00:00 PM	100%	45.8	45.8	32.1	46.7	40.8	36.4
Brooklands (Day)	28/09 6:00:00 AM	28/09 10:00:00 PM	100%	42.9	42.9	22.4	46.4	38.1	28.6
Brooklands (Day)	29/09 6:00:00 AM	29/09 10:00:00 PM	100%	44.0	44.0	25.7	47.2	40.2	32.0
Brooklands (Day)	30/09 6:00:00 AM	30/09 10:00:00 PM	100%	47.9	47.9	26.4	45.2	39.5	31.4
Brooklands (Day)	1/10 6:00:00 AM	1/10 10:00:00 PM	100%	50.0	50.0	34.4	52.3	45.1	38.6
Brooklands (Day)	2/10 6:00:00 AM	2/10 10:00:00 PM	100%	43.5	43.5	32.4	46.0	40.6	36.5
Brooklands (Day)	3/10 6:00:00 AM	3/10 10:00:00 PM	100%	41.0	41.0	29.0	44.1	37.1	32.2
Brooklands (Day)	4/10 6:00:00 AM	4/10 10:00:00 PM	100%	42.7	42.7	26.0	46.6	37.2	29.1
Brooklands (Day)	5/10 6:00:00 AM	5/10 10:00:00 PM	100%	40.1	40.1	23.8	43.6	35.3	27.9
Brooklands (Day)	6/10 6:00:00 AM	6/10 10:00:00 PM	100%	61.3	61.3	28.0	48.0	42.4	34.1
Brooklands (Day)	7/10 6:00:00 AM	7/10 10:00:00 PM	100%	45.2	45.2	32.4	47.6	41.9	36.9
Brooklands (Day)	8/10 6:00:00 AM	8/10 10:00:00 PM	100%	48.3	48.3	33.9	51.3	44.4	38.4

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	9/10 6:00:00 AM	9/10 10:00:00 PM	100%	43.6	43.6	27.3	45.6	37.4	31.9
Brooklands (Day)	10/10 6:00:00 AM	10/10 10:00:00 PM	100%	43.0	43.0	24.4	46.8	39.6	29.9
Brooklands (Day)	11/10 6:00:00 AM	11/10 10:00:00 PM	100%	42.4	42.4	24.4	46.0	37.8	29.7
Brooklands (Day)	12/10 6:00:00 AM	12/10 10:00:00 PM	100%	45.3	45.3	23.0	46.7	40.9	32.2
Brooklands (Day)	13/10 6:00:00 AM	13/10 10:00:00 PM	100%	53.0	53.0	27.5	52.0	44.6	36.5
Brooklands (Day)	14/10 6:00:00 AM	14/10 10:00:00 PM	100%	44.3	44.3	29.8	47.1	39.9	34.2
Brooklands (Day)	15/10 6:00:00 AM	15/10 10:00:00 PM	100%	52.7	52.7	31.1	46.0	40.8	36.3
Brooklands (Day)	16/10 6:00:00 AM	16/10 10:00:00 PM	100%	45.3	45.3	30.1	48.1	41.2	36.3
Brooklands (Day)	17/10 6:00:00 AM	17/10 10:00:00 PM	96%	45.8	45.8	29.2	47.8	40.9	35.2
Brooklands (Day)	18/10 6:00:00 AM	18/10 10:00:00 PM	100%	45.6	45.6	27.2	49.2	40.9	31.6
Brooklands (Day)	19/10 6:00:00 AM	19/10 10:00:00 PM	100%	49.0	49.0	24.3	46.2	36.9	28.6
Brooklands (Day)	20/10 6:00:00 AM	20/10 10:00:00 PM	100%	57.1	57.1	25.3	50.9	36.8	28.7
Brooklands (Day)	21/10 6:00:00 AM	21/10 10:00:00 PM	100%	50.1	50.1	31.4	52.8	46.8	39.0
Brooklands (Day)	22/10 6:00:00 AM	22/10 10:00:00 PM	100%	47.3	47.3	24.7	50.6	41.6	30.9
Brooklands (Day)	23/10 6:00:00 AM	23/10 10:00:00 PM	100%	50.7	50.7	24.2	46.5	37.0	29.8
Brooklands (Day)	24/10 6:00:00 AM	24/10 10:00:00 PM	100%	53.1	53.1	26.1	52.1	44.3	32.8
Brooklands (Day)	25/10 6:00:00 AM	25/10 10:00:00 PM	100%	53.9	53.9	25.0	47.2	35.9	28.7
Brooklands (Day)	26/10 6:00:00 AM	26/10 10:00:00 PM	100%	46.1	46.1	30.0	47.7	40.6	34.5
Brooklands (Day)	27/10 6:00:00 AM	27/10 10:00:00 PM	100%	54.5	54.5	25.7	56.0	44.0	33.1
Brooklands (Day)	28/10 6:00:00 AM	28/10 10:00:00 PM	100%	47.1	47.1	30.9	49.0	42.1	36.3
Brooklands (Day)	29/10 6:00:00 AM	29/10 10:00:00 PM	100%	42.8	42.8	29.3	46.0	39.6	33.9
Brooklands (Day)	30/10 6:00:00 AM	30/10 10:00:00 PM	100%	55.8	55.8	26.9	47.7	37.9	31.3
Brooklands (Day)	31/10 6:00:00 AM	31/10 10:00:00 PM	100%	49.7	49.7	24.3	49.8	41.4	32.0
Brooklands (Day)	1/11 6:00:00 AM	1/11 10:00:00 PM	100%	55.1	55.1	33.6	57.0	47.0	38.7
Brooklands (Day)	2/11 6:00:00 AM	2/11 10:00:00 PM	100%	52.5	52.5	31.5	47.2	41.8	36.4
Brooklands (Day)	3/11 6:00:00 AM	3/11 10:00:00 PM	100%	42.3	42.3	25.4	45.7	36.7	30.0
Brooklands (Day)	4/11 6:00:00 AM	4/11 10:00:00 PM	100%	52.5	52.5	24.8	49.1	41.8	31.5
Brooklands (Day)	5/11 6:00:00 AM	5/11 10:00:00 PM	100%	48.3	48.3	31.0	50.4	43.6	36.5
Brooklands (Day)	6/11 6:00:00 AM	6/11 10:00:00 PM	94%	66.5	66.5	30.2	45.7	39.3	33.5
Brooklands (Day)	7/11 6:00:00 AM	7/11 10:00:00 PM	100%	42.0	42.0	26.6	45.4	36.0	30.2
Brooklands (Day)	8/11 6:00:00 AM	8/11 10:00:00 PM	100%	47.1	47.1	23.1	47.8	37.6	27.6
Brooklands (Day)	9/11 6:00:00 AM	9/11 10:00:00 PM	100%	41.6	41.6	24.1	43.5	37.6	30.0
Brooklands (Day)	10/11 6:00:00 AM	10/11 10:00:00 PM	100%	43.6	43.6	28.0	46.0	40.4	34.4
Brooklands (Day)	11/11 6:00:00 AM	11/11 10:00:00 PM	100%	61.3	61.3	26.7	47.6	39.2	31.3
Brooklands (Day)	12/11 6:00:00 AM	12/11 10:00:00 PM	100%	45.8	45.8	26.6	49.0	39.8	31.3
Brooklands (Day)	13/11 6:00:00 AM	13/11 10:00:00 PM	100%	52.7	52.7	25.6	49.4	39.1	29.6

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	14/11 6:00:00 AM	14/11 10:00:00 PM	100%	45.3	45.3	24.8	48.0	42.1	32.1
Brooklands (Day)	15/11 6:00:00 AM	15/11 10:00:00 PM	100%	58.7	58.7	25.5	55.4	43.8	34.7
Brooklands (Day)	16/11 6:00:00 AM	16/11 10:00:00 PM	100%	55.1	55.1	26.3	58.3	45.8	33.5
Brooklands (Day)	17/11 6:00:00 AM	17/11 10:00:00 PM	100%	55.5	55.5	30.5	47.0	40.1	34.7
Brooklands (Day)	18/11 6:00:00 AM	18/11 10:00:00 PM	100%	47.4	47.4	30.3	48.8	42.4	35.9
Brooklands (Day)	19/11 6:00:00 AM	19/11 10:00:00 PM	100%	53.7	53.7	25.0	48.1	38.7	29.8
Brooklands (Day)	20/11 6:00:00 AM	20/11 10:00:00 PM	100%	55.1	55.1	23.3	46.8	39.3	29.1
Brooklands (Day)	21/11 6:00:00 AM	21/11 10:00:00 PM	100%	46.8	46.8	26.1	46.6	38.5	31.7
Brooklands (Day)	22/11 6:00:00 AM	22/11 10:00:00 PM	100%	58.6	58.6	25.4	46.3	37.6	30.0
Brooklands (Day)	23/11 6:00:00 AM	23/11 10:00:00 PM	100%	51.2	51.2	26.6	48.8	42.0	35.2
Brooklands (Day)	24/11 6:00:00 AM	24/11 10:00:00 PM	100%	46.3	46.3	25.7	48.0	40.6	31.0
Brooklands (Day)	25/11 6:00:00 AM	25/11 10:00:00 PM	100%	52.5	52.5	28.9	49.5	41.4	34.6
Brooklands (Day)	26/11 6:00:00 AM	26/11 10:00:00 PM	100%	43.2	43.2	30.0	45.4	39.0	34.0
Brooklands (Day)	27/11 6:00:00 AM	27/11 10:00:00 PM	100%	46.4	46.4	28.2	48.0	39.3	32.8
Brooklands (Day)	28/11 6:00:00 AM	28/11 10:00:00 PM	100%	47.8	47.8	25.3	50.4	41.2	30.2
Brooklands (Day)	29/11 6:00:00 AM	29/11 10:00:00 PM	94%	45.6	45.6	26.8	48.8	42.4	32.7
Brooklands (Day)	30/11 6:00:00 AM	30/11 10:00:00 PM	100%	47.0	47.0	27.1	48.5	42.1	33.6
Brooklands (Day)	1/12 6:00:00 AM	1/12 10:00:00 PM	100%	43.0	43.0	26.0	45.8	39.7	31.8
Brooklands (Day)	2/12 6:00:00 AM	2/12 10:00:00 PM	100%	46.2	46.2	24.8	47.3	40.9	31.7
Brooklands (Day)	3/12 6:00:00 AM	3/12 10:00:00 PM	100%	53.5	53.5	29.1	50.6	44.8	38.2
Brooklands (Day)	4/12 6:00:00 AM	4/12 10:00:00 PM	100%	53.2	53.2	28.9	50.0	42.5	35.6
Brooklands (Day)	5/12 6:00:00 AM	5/12 10:00:00 PM	100%	47.4	47.4	27.6	45.6	38.5	31.5
Brooklands (Day)	6/12 6:00:00 AM	6/12 10:00:00 PM	100%	54.4	54.4	28.5	51.4	43.8	35.2
Brooklands (Day)	7/12 6:00:00 AM	7/12 10:00:00 PM	100%	42.0	42.0	25.2	45.2	37.8	29.4
Brooklands (Day)	8/12 6:00:00 AM	8/12 10:00:00 PM	100%	44.8	44.8	28.3	47.7	39.8	32.0
Brooklands (Day)	9/12 6:00:00 AM	9/12 10:00:00 PM	100%	47.9	47.9	26.6	46.5	37.8	30.4
Brooklands (Day)	10/12 6:00:00 AM	10/12 10:00:00 PM	100%	60.9	60.9	29.2	50.4	43.9	35.7
Brooklands (Day)	11/12 6:00:00 AM	11/12 10:00:00 PM	100%	47.4	47.4	28.0	48.1	41.9	35.9
Brooklands (Day)	12/12 6:00:00 AM	12/12 10:00:00 PM	100%	60.4	60.4	31.2	52.2	46.4	38.9
Brooklands (Day)	13/12 6:00:00 AM	13/12 10:00:00 PM	100%	50.7	50.7	28.4	49.2	43.4	34.7
Brooklands (Day)	14/12 6:00:00 AM	14/12 10:00:00 PM	100%	49.7	49.7	26.5	46.7	37.1	30.5
Brooklands (Day)	15/12 6:00:00 AM	15/12 10:00:00 PM	100%	41.2	41.2	23.0	45.0	36.0	27.6
Brooklands (Day)	16/12 6:00:00 AM	16/12 10:00:00 PM	100%	55.0	55.0	24.9	56.2	46.8	29.5
Brooklands (Day)	17/12 6:00:00 AM	17/12 10:00:00 PM	100%	43.1	43.1	29.3	44.6	38.9	33.2
Brooklands (Day)	18/12 6:00:00 AM	18/12 10:00:00 PM	100%	47.6	47.6	28.4	49.2	40.2	32.4
Brooklands (Day)	19/12 6:00:00 AM	19/12 10:00:00 PM	100%	47.4	47.4	31.7	48.4	42.1	36.8

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Day)	20/12 6:00:00 AM	20/12 10:00:00 PM	100%	48.1	48.1	28.3	46.2	38.0	32.3
Brooklands (Day)	21/12 6:00:00 AM	21/12 10:00:00 PM	100%	44.9	44.9	22.2	48.0	38.6	28.5
Brooklands (Day)	22/12 6:00:00 AM	22/12 10:00:00 PM	100%	46.8	46.8	27.9	48.5	43.4	37.3
Brooklands (Day)	23/12 6:00:00 AM	23/12 10:00:00 PM	99%	47.1	47.1	26.6	49.5	44.2	37.7
Brooklands (Day)	24/12 6:00:00 AM	24/12 10:00:00 PM	100%	59.4	59.4	25.8	43.6	35.8	29.0
Brooklands (Day)	25/12 6:00:00 AM	25/12 10:00:00 PM	100%	50.0	50.0	23.1	45.7	38.8	29.9
Brooklands (Day)	26/12 6:00:00 AM	26/12 10:00:00 PM	100%	45.8	45.8	31.2	48.5	42.2	35.9
Brooklands (Day)	27/12 6:00:00 AM	27/12 10:00:00 PM	100%	49.9	49.9	31.1	49.2	44.0	37.7
Brooklands (Day)	28/12 6:00:00 AM	28/12 10:00:00 PM	100%	50.6	50.6	27.6	47.4	41.6	33.3
Brooklands (Day)	29/12 6:00:00 AM	29/12 10:00:00 PM	100%	44.0	44.0	22.7	44.8	37.8	30.1
Brooklands (Day)	30/12 6:00:00 AM	30/12 10:00:00 PM	100%	46.1	46.1	28.5	48.2	41.7	33.8
Brooklands (Day)	31/12 6:00:00 AM	31/12 10:00:00 PM	100%	47.2	47.2	26.2	45.0	35.6	30.1

2014 Continuous Real-time monitoring results – Daytime period

Location	Start Time	End Time	Activity	LDN (dB)	L_{Aeq} (dB)	L_{AMin} (dB)	L_{A10} (dB)	L_{A50} (dB)	L_{A95} (dB)
Brooklands (Night)	1/01 12:00:00 AM	2/01 12:00:00 AM	100%	51.4	51.4	25.5	43.0	36.5	28.5
Brooklands (Night)	2/01 12:00:00 AM	3/01 12:00:00 AM	100%	51.3	51.3	24.6	41.7	32.3	26.9
Brooklands (Night)	3/01 12:00:00 AM	4/01 12:00:00 AM	100%	51.9	51.9	27.5	46.9	38.8	30.0
Brooklands (Night)	4/01 12:00:00 AM	5/01 12:00:00 AM	100%	52.6	52.6	25.9	50.0	42.8	30.4
Brooklands (Night)	5/01 12:00:00 AM	6/01 12:00:00 AM	0%				44.5	35.6	28.4
Brooklands (Night)	6/01 12:00:00 AM	7/01 12:00:00 AM	0%						
Brooklands (Night)	7/01 12:00:00 AM	8/01 12:00:00 AM	0%						
Brooklands (Night)	8/01 12:00:00 AM	9/01 12:00:00 AM	0%						
Brooklands (Night)	9/01 12:00:00 AM	10/01 12:00:00 AM	0%						
Brooklands (Night)	10/01 12:00:00 AM	11/01 12:00:00 AM	25%	34.5	34.5	29.2	43.7	38.3	31.5
Brooklands (Night)	11/01 12:00:00 AM	12/01 12:00:00 AM	100%	54.5	54.5	28.1	45.6	38.7	31.4
Brooklands (Night)	12/01 12:00:00 AM	13/01 12:00:00 AM	100%	51.8	51.8	32.4	45.1	39.2	34.7
Brooklands (Night)	13/01 12:00:00 AM	14/01 12:00:00 AM	100%	53.2	53.2	32.9	51.1	45.6	39.4
Brooklands (Night)	14/01 12:00:00 AM	15/01 12:00:00 AM	100%	52.6	52.6	34.7	49.6	44.3	39.5
Brooklands (Night)	15/01 12:00:00 AM	16/01 12:00:00 AM	100%	51.7	51.7	30.5	44.7	38.9	34.0
Brooklands (Night)	16/01 12:00:00 AM	17/01 12:00:00 AM	100%	51.9	51.9	31.0	46.2	41.4	33.8
Brooklands (Night)	17/01 12:00:00 AM	18/01 12:00:00 AM	100%	43.6	43.6	32.4	46.4	42.1	35.4
Brooklands (Night)	18/01 12:00:00 AM	19/01 12:00:00 AM	100%	51.9	51.9	29.8	46.6	40.4	33.8
Brooklands (Night)	19/01 12:00:00 AM	20/01 12:00:00 AM	100%	51.8	51.8	30.9	44.8	38.5	33.8
Brooklands (Night)	20/01 12:00:00 AM	21/01 12:00:00 AM	100%	51.8	51.8	30.5	45.5	39.7	34.3
Brooklands (Night)	21/01 12:00:00 AM	22/01 12:00:00 AM	100%	51.7	51.7	30.8	44.9	38.6	33.5
Brooklands (Night)	22/01 12:00:00 AM	23/01 12:00:00 AM	100%	56.3	56.3	28.5	54.6	38.1	32.0
Brooklands (Night)	23/01 12:00:00 AM	24/01 12:00:00 AM	100%	56.1	56.1	31.2	56.7	49.1	37.9
Brooklands (Night)	24/01 12:00:00 AM	25/01 12:00:00 AM	100%	51.8	51.8	24.1	45.7	38.6	28.6
Brooklands (Night)	25/01 12:00:00 AM	26/01 12:00:00 AM	100%	51.5	51.5	28.9	39.6	35.8	32.1
Brooklands (Night)	26/01 12:00:00 AM	27/01 12:00:00 AM	100%	52.5	52.5	28.7	49.4	41.3	32.9
Brooklands (Night)	27/01 12:00:00 AM	28/01 12:00:00 AM	100%	52.1	52.1	33.5	47.3	42.2	36.9
Brooklands (Night)	28/01 12:00:00 AM	29/01 12:00:00 AM	100%	51.9	51.9	30.7	46.0	40.4	34.3
Brooklands (Night)	29/01 12:00:00 AM	30/01 12:00:00 AM	100%	52.0	52.0	26.2	47.2	42.2	32.8

Brooklands (Night)	30/01 12:00:00 AM	31/01 12:00:00 AM	100%	52.1	52.1	28.1	47.1	42.9	32.2
Brooklands (Night)	31/01 12:00:00 AM	1/02 12:00:00 AM	100%	52.0	52.0	29.9	47.2	41.2	33.7
Brooklands (Night)	1/02 12:00:00 AM	2/02 12:00:00 AM	100%	52.0	52.0	26.5	46.8	42.8	31.3
Brooklands (Night)	2/02 12:00:00 AM	3/02 12:00:00 AM	100%	52.0	52.0	29.5	46.6	41.8	34.1
Brooklands (Night)	3/02 12:00:00 AM	4/02 12:00:00 AM	100%	52.7	52.7	36.0	49.2	44.0	39.6
Brooklands (Night)	4/02 12:00:00 AM	5/02 12:00:00 AM	100%	56.3	56.3	27.4	56.7	41.6	31.7
Brooklands (Night)	5/02 12:00:00 AM	6/02 12:00:00 AM	100%	54.9	54.9	33.6	54.6	48.2	40.3
Brooklands (Night)	6/02 12:00:00 AM	7/02 12:00:00 AM	100%	53.2	53.2	32.9	51.4	45.2	37.9
Brooklands (Night)	7/02 12:00:00 AM	8/02 12:00:00 AM	100%	52.1	52.1	33.8	47.7	41.7	37.3
Brooklands (Night)	8/02 12:00:00 AM	9/02 12:00:00 AM	100%	42.2	42.2	28.7	45.9	38.3	32.0
Brooklands (Night)	9/02 12:00:00 AM	10/02 12:00:00 AM	100%	51.7	51.7	31.0	44.3	38.8	34.0
Brooklands (Night)	10/02 12:00:00 AM	11/02 12:00:00 AM	100%	51.8	51.8	26.6	46.4	39.5	30.1
Brooklands (Night)	11/02 12:00:00 AM	12/02 12:00:00 AM	100%	52.3	52.3	31.4	48.1	42.7	37.8
Brooklands (Night)	12/02 12:00:00 AM	13/02 12:00:00 AM	100%	52.0	52.0	31.3	47.2	41.0	35.4
Brooklands (Night)	13/02 12:00:00 AM	14/02 12:00:00 AM	100%	54.5	54.5	32.3	54.2	48.4	36.8
Brooklands (Night)	14/02 12:00:00 AM	15/02 12:00:00 AM	100%	51.8	51.8	29.5	45.5	39.3	33.9
Brooklands (Night)	15/02 12:00:00 AM	16/02 12:00:00 AM	100%	52.2	52.2	24.6	47.8	40.2	31.2
Brooklands (Night)	16/02 12:00:00 AM	17/02 12:00:00 AM	100%	51.7	51.7	23.5	44.3	36.9	27.5
Brooklands (Night)	17/02 12:00:00 AM	18/02 12:00:00 AM	100%	51.9	51.9	26.3	46.3	38.4	29.3
Brooklands (Night)	18/02 12:00:00 AM	19/02 12:00:00 AM	100%	54.7	54.7	30.7	47.2	41.1	34.1
Brooklands (Night)	19/02 12:00:00 AM	20/02 12:00:00 AM	100%	51.7	51.7	30.1	44.6	38.3	33.3
Brooklands (Night)	20/02 12:00:00 AM	21/02 12:00:00 AM	100%	51.8	51.8	32.8	45.2	41.4	36.6
Brooklands (Night)	21/02 12:00:00 AM	22/02 12:00:00 AM	100%	51.8	51.8	34.4	44.8	41.3	37.3
Brooklands (Night)	22/02 12:00:00 AM	23/02 12:00:00 AM	100%	52.0	52.0	30.2	46.8	41.2	34.4
Brooklands (Night)	23/02 12:00:00 AM	24/02 12:00:00 AM	100%	52.3	52.3	33.6	48.4	43.1	37.1
Brooklands (Night)	24/02 12:00:00 AM	25/02 12:00:00 AM	100%	51.8	51.8	25.4	45.7	40.2	31.6
Brooklands (Night)	25/02 12:00:00 AM	26/02 12:00:00 AM	100%	51.8	51.8	27.7	45.9	39.4	31.7
Brooklands (Night)	26/02 12:00:00 AM	27/02 12:00:00 AM	100%	51.6	51.6	24.6	44.2	36.4	26.3
Brooklands (Night)	27/02 12:00:00 AM	28/02 12:00:00 AM	100%	53.2	53.2	25.2	48.5	42.0	33.5
Brooklands (Night)	28/02 12:00:00 AM	1/03 12:00:00 AM	100%	53.1	53.1	35.9	51.0	44.6	39.4
Brooklands (Night)	1/03 12:00:00 AM	2/03 12:00:00 AM	100%	54.3	54.3	38.1	53.7	47.6	41.5

Brooklands (Night)	2/03 12:00:00 AM	3/03 12:00:00 AM	100%	52.4	52.4	37.1	48.9	43.2	39.6
Brooklands (Night)	3/03 12:00:00 AM	4/03 12:00:00 AM	100%	52.6	52.6	34.6	49.4	44.8	38.3
Brooklands (Night)	4/03 12:00:00 AM	5/03 12:00:00 AM	100%	52.1	52.1	29.8	47.5	42.1	32.9
Brooklands (Night)	5/03 12:00:00 AM	6/03 12:00:00 AM	100%	51.9	51.9	29.2	46.9	38.7	32.3
Brooklands (Night)	6/03 12:00:00 AM	7/03 12:00:00 AM	100%	52.0	52.0	28.9	47.0	41.4	33.3
Brooklands (Night)	7/03 12:00:00 AM	8/03 12:00:00 AM	100%	51.9	51.9	30.7	47.0	40.0	33.8
Brooklands (Night)	8/03 12:00:00 AM	9/03 12:00:00 AM	100%	52.1	52.1	32.9	46.6	41.6	37.0
Brooklands (Night)	9/03 12:00:00 AM	10/03 12:00:00 AM	100%	51.9	51.9	31.6	46.5	41.4	37.2
Brooklands (Night)	10/03 12:00:00 AM	11/03 12:00:00 AM	100%	51.8	51.8	30.7	45.2	39.9	34.8
Brooklands (Night)	11/03 12:00:00 AM	12/03 12:00:00 AM	100%	52.0	52.0	29.0	47.0	39.9	33.9
Brooklands (Night)	12/03 12:00:00 AM	13/03 12:00:00 AM	100%	52.1	52.1	32.0	47.8	41.1	35.8
Brooklands (Night)	13/03 12:00:00 AM	14/03 12:00:00 AM	100%	51.9	51.9	25.3	46.1	39.8	33.3
Brooklands (Night)	14/03 12:00:00 AM	15/03 12:00:00 AM	100%	52.1	52.1	32.8	47.6	40.6	36.4
Brooklands (Night)	15/03 12:00:00 AM	16/03 12:00:00 AM	100%	51.7	51.7	24.9	44.8	35.8	28.1
Brooklands (Night)	16/03 12:00:00 AM	17/03 12:00:00 AM	100%	51.5	51.5	24.2	42.1	36.2	28.0
Brooklands (Night)	17/03 12:00:00 AM	18/03 12:00:00 AM	100%	52.0	52.0	30.6	47.3	41.5	34.4
Brooklands (Night)	18/03 12:00:00 AM	19/03 12:00:00 AM	100%	52.3	52.3	31.1	49.4	41.8	35.7
Brooklands (Night)	19/03 12:00:00 AM	20/03 12:00:00 AM	100%	52.2	52.2	30.6	48.5	43.2	35.7
Brooklands (Night)	20/03 12:00:00 AM	21/03 12:00:00 AM	100%	52.0	52.0	32.0	46.8	41.6	36.4
Brooklands (Night)	21/03 12:00:00 AM	22/03 12:00:00 AM	100%	51.7	51.7	27.5	45.5	37.2	30.8
Brooklands (Night)	22/03 12:00:00 AM	23/03 12:00:00 AM	100%	51.8	51.8	27.1	45.5	38.3	31.6
Brooklands (Night)	23/03 12:00:00 AM	24/03 12:00:00 AM	100%	51.8	51.8	30.0	45.4	41.3	34.8
Brooklands (Night)	24/03 12:00:00 AM	25/03 12:00:00 AM	100%	52.9	52.9	33.5	49.8	43.8	37.4
Brooklands (Night)	25/03 12:00:00 AM	26/03 12:00:00 AM	100%	51.9	51.9	27.6	46.7	40.6	33.9
Brooklands (Night)	26/03 12:00:00 AM	27/03 12:00:00 AM	100%	51.8	51.8	23.5	47.2	39.9	31.3
Brooklands (Night)	27/03 12:00:00 AM	28/03 12:00:00 AM	100%	51.8	51.8	28.0	46.6	38.3	32.0
Brooklands (Night)	28/03 12:00:00 AM	29/03 12:00:00 AM	100%	51.5	51.5	28.2	43.0	34.2	30.1
Brooklands (Night)	29/03 12:00:00 AM	30/03 12:00:00 AM	100%	51.6	51.6	24.6	45.0	32.2	25.8
Brooklands (Night)	30/03 12:00:00 AM	31/03 12:00:00 AM	100%	52.3	52.3	33.5	48.4	44.2	39.2
Brooklands (Night)	31/03 12:00:00 AM	1/04 12:00:00 AM	100%	52.1	52.1	27.1	47.3	41.9	30.7
Brooklands (Night)	1/04 12:00:00 AM	2/04 12:00:00 AM	100%	52.3	52.3	29.8	48.9	42.8	35.8

Brooklands (Night)	2/04 12:00:00 AM	3/04 12:00:00 AM	100%	51.9	51.9	29.2	46.7	40.0	33.1
Brooklands (Night)	3/04 12:00:00 AM	4/04 12:00:00 AM	100%	51.8	51.8	27.0	46.4	38.6	30.6
Brooklands (Night)	4/04 12:00:00 AM	5/04 12:00:00 AM	100%	51.5	51.5	27.9	41.8	35.6	30.2
Brooklands (Night)	5/04 12:00:00 AM	6/04 12:00:00 AM	100%	51.7	51.7	31.9	44.0	38.2	34.1
Brooklands (Night)	6/04 12:00:00 AM	7/04 12:00:00 AM	100%	52.0	52.0	35.7	46.4	42.2	38.4
Brooklands (Night)	7/04 12:00:00 AM	8/04 12:00:00 AM	100%	52.4	52.4	33.8	48.9	43.9	39.6
Brooklands (Night)	8/04 12:00:00 AM	9/04 12:00:00 AM	75%	51.9	51.9	36.6	47.5	42.3	39.2
Brooklands (Night)	9/04 12:00:00 AM	10/04 12:00:00 AM	0%						
Brooklands (Night)	10/04 12:00:00 AM	11/04 12:00:00 AM	0%						
Brooklands (Night)	11/04 12:00:00 AM	12/04 12:00:00 AM	0%						
Brooklands (Night)	12/04 12:00:00 AM	13/04 12:00:00 AM	0%						
Brooklands (Night)	13/04 12:00:00 AM	14/04 12:00:00 AM	0%						
Brooklands (Night)	14/04 12:00:00 AM	15/04 12:00:00 AM	0%						
Brooklands (Night)	15/04 12:00:00 AM	16/04 12:00:00 AM	0%						
Brooklands (Night)	16/04 12:00:00 AM	17/04 12:00:00 AM	25%	39.0	39.0	34.6	47.5	43.7	39.5
Brooklands (Night)	17/04 12:00:00 AM	18/04 12:00:00 AM	100%	54.8	54.8	31.7	48.4	44.2	38.7
Brooklands (Night)	18/04 12:00:00 AM	19/04 12:00:00 AM	100%	52.0	52.0	31.5	46.6	42.3	37.0
Brooklands (Night)	19/04 12:00:00 AM	20/04 12:00:00 AM	100%	51.7	51.7	31.2	44.2	40.5	35.9
Brooklands (Night)	20/04 12:00:00 AM	21/04 12:00:00 AM	100%	51.8	51.8	30.5	45.3	41.3	36.0
Brooklands (Night)	21/04 12:00:00 AM	22/04 12:00:00 AM	100%	51.9	51.9	33.2	46.0	41.6	37.1
Brooklands (Night)	22/04 12:00:00 AM	23/04 12:00:00 AM	100%	52.3	52.3	30.0	48.7	43.6	36.8
Brooklands (Night)	23/04 12:00:00 AM	24/04 12:00:00 AM	100%	52.6	52.6	26.1	50.1	44.6	33.0
Brooklands (Night)	24/04 12:00:00 AM	25/04 12:00:00 AM	100%	52.0	52.0	29.2	47.3	40.9	33.7
Brooklands (Night)	25/04 12:00:00 AM	26/04 12:00:00 AM	100%	51.9	51.9	31.1	46.3	41.0	35.3
Brooklands (Night)	26/04 12:00:00 AM	27/04 12:00:00 AM	100%	51.7	51.7	27.2	44.8	39.8	31.5
Brooklands (Night)	27/04 12:00:00 AM	28/04 12:00:00 AM	100%	51.9	51.9	32.0	46.1	42.1	37.4
Brooklands (Night)	28/04 12:00:00 AM	29/04 12:00:00 AM	100%	51.9	51.9	33.5	46.1	41.3	37.6
Brooklands (Night)	29/04 12:00:00 AM	30/04 12:00:00 AM	100%	51.9	51.9	32.4	46.5	39.6	35.1
Brooklands (Night)	30/04 12:00:00 AM	1/05 12:00:00 AM	100%	51.9	51.9	25.0	47.4	39.7	31.6
Brooklands (Night)	1/05 12:00:00 AM	2/05 12:00:00 AM	100%	46.0	46.0	24.9	49.4	44.3	34.2
Brooklands (Night)	2/05 12:00:00 AM	3/05 12:00:00 AM	100%	51.8	51.8	21.0	46.3	37.4	24.4

Brooklands (Night)	3/05 12:00:00 AM	4/05 12:00:00 AM	100%	51.8	51.8	21.7	46.7	36.5	28.4
Brooklands (Night)	4/05 12:00:00 AM	5/05 12:00:00 AM	100%	51.5	51.5	26.1	42.7	36.9	31.0
Brooklands (Night)	5/05 12:00:00 AM	6/05 12:00:00 AM	100%	51.8	51.8	24.0	47.0	37.8	27.9
Brooklands (Night)	6/05 12:00:00 AM	7/05 12:00:00 AM	100%	52.5	52.5	34.1	49.1	44.4	39.1
Brooklands (Night)	7/05 12:00:00 AM	8/05 12:00:00 AM	100%	52.2	52.2	31.8	48.2	43.1	37.2
Brooklands (Night)	8/05 12:00:00 AM	9/05 12:00:00 AM	100%	52.1	52.1	29.9	47.6	41.5	35.7
Brooklands (Night)	9/05 12:00:00 AM	10/05 12:00:00 AM	100%	51.9	51.9	28.4	46.7	39.7	32.8
Brooklands (Night)	10/05 12:00:00 AM	11/05 12:00:00 AM	100%	51.8	51.8	25.8	45.6	37.2	29.8
Brooklands (Night)	11/05 12:00:00 AM	12/05 12:00:00 AM	100%	54.4	54.4	22.1	44.2	36.7	25.1
Brooklands (Night)	12/05 12:00:00 AM	13/05 12:00:00 AM	100%	51.9	51.9	27.2	46.5	41.4	31.7
Brooklands (Night)	13/05 12:00:00 AM	14/05 12:00:00 AM	100%	52.0	52.0	28.7	47.4	41.0	34.4
Brooklands (Night)	14/05 12:00:00 AM	15/05 12:00:00 AM	100%	52.1	52.1	26.9	48.2	40.9	33.6
Brooklands (Night)	15/05 12:00:00 AM	16/05 12:00:00 AM	100%	52.0	52.0	27.9	47.9	40.8	33.8
Brooklands (Night)	16/05 12:00:00 AM	17/05 12:00:00 AM	100%	52.2	52.2	28.8	48.8	41.7	34.1
Brooklands (Night)	17/05 12:00:00 AM	18/05 12:00:00 AM	100%	52.3	52.3	31.8	49.2	42.5	36.0
Brooklands (Night)	18/05 12:00:00 AM	19/05 12:00:00 AM	100%	51.9	51.9	27.9	46.8	40.7	34.2
Brooklands (Night)	19/05 12:00:00 AM	20/05 12:00:00 AM	100%	51.9	51.9	23.3	47.2	39.9	32.2
Brooklands (Night)	20/05 12:00:00 AM	21/05 12:00:00 AM	100%	54.6	54.6	24.2	47.4	39.8	29.3
Brooklands (Night)	21/05 12:00:00 AM	22/05 12:00:00 AM	100%	52.0	52.0	29.8	48.2	40.6	33.2
Brooklands (Night)	22/05 12:00:00 AM	23/05 12:00:00 AM	100%	52.3	52.3	30.3	49.1	43.2	36.0
Brooklands (Night)	23/05 12:00:00 AM	24/05 12:00:00 AM	100%	51.8	51.8	21.6	46.5	37.0	24.3
Brooklands (Night)	24/05 12:00:00 AM	25/05 12:00:00 AM	100%	51.9	51.9	20.8	48.0	34.3	21.8
Brooklands (Night)	25/05 12:00:00 AM	26/05 12:00:00 AM	100%	51.9	51.9	26.1	46.3	41.4	30.8
Brooklands (Night)	26/05 12:00:00 AM	27/05 12:00:00 AM	100%	52.0	52.0	30.6	47.3	42.0	36.6
Brooklands (Night)	27/05 12:00:00 AM	28/05 12:00:00 AM	100%	51.8	51.8	22.0	46.2	38.5	27.2
Brooklands (Night)	28/05 12:00:00 AM	29/05 12:00:00 AM	100%	51.7	51.7	21.8	45.4	35.3	24.5
Brooklands (Night)	29/05 12:00:00 AM	30/05 12:00:00 AM	100%	51.9	51.9	27.5	47.0	41.0	33.4
Brooklands (Night)	30/05 12:00:00 AM	31/05 12:00:00 AM	100%	51.9	51.9	27.7	46.7	41.3	35.5
Brooklands (Night)	31/05 12:00:00 AM	1/06 12:00:00 AM	100%	52.4	52.4	37.6	49.1	43.6	40.1
Brooklands (Night)	1/06 12:00:00 AM	2/06 12:00:00 AM	100%	54.3	54.3	32.5	52.4	45.1	36.2
Brooklands (Night)	2/06 12:00:00 AM	3/06 12:00:00 AM	100%	51.4	51.4	29.3	40.7	35.6	31.5

Brooklands (Night)	3/06 12:00:00 AM	4/06 12:00:00 AM	100%	51.7	51.7	30.4	45.3	37.8	32.5
Brooklands (Night)	4/06 12:00:00 AM	5/06 12:00:00 AM	100%	52.0	52.0	27.6	47.8	40.9	30.7
Brooklands (Night)	5/06 12:00:00 AM	6/06 12:00:00 AM	100%	52.6	52.6	36.0	49.9	45.5	40.7
Brooklands (Night)	6/06 12:00:00 AM	7/06 12:00:00 AM	100%	52.0	52.0	32.3	46.5	42.6	37.3
Brooklands (Night)	7/06 12:00:00 AM	8/06 12:00:00 AM	100%	51.9	51.9	33.1	46.9	41.6	36.7
Brooklands (Night)	8/06 12:00:00 AM	9/06 12:00:00 AM	100%	52.1	52.1	31.7	47.6	44.0	36.3
Brooklands (Night)	9/06 12:00:00 AM	10/06 12:00:00 AM	100%	51.9	51.9	29.6	46.6	42.3	35.9
Brooklands (Night)	10/06 12:00:00 AM	11/06 12:00:00 AM	100%	52.1	52.1	30.2	47.7	42.5	34.6
Brooklands (Night)	11/06 12:00:00 AM	12/06 12:00:00 AM	100%	52.1	52.1	26.1	48.3	41.5	32.1
Brooklands (Night)	12/06 12:00:00 AM	13/06 12:00:00 AM	100%	51.9	51.9	27.3	47.4	39.2	32.6
Brooklands (Night)	13/06 12:00:00 AM	14/06 12:00:00 AM	100%	51.7	51.7	22.7	45.5	36.3	28.2
Brooklands (Night)	14/06 12:00:00 AM	15/06 12:00:00 AM	100%	51.4	51.4	22.3	40.8	31.9	24.4
Brooklands (Night)	15/06 12:00:00 AM	16/06 12:00:00 AM	100%	51.5	51.5	24.1	43.0	38.3	26.0
Brooklands (Night)	16/06 12:00:00 AM	17/06 12:00:00 AM	100%	51.7	51.7	30.6	44.4	39.0	34.6
Brooklands (Night)	17/06 12:00:00 AM	18/06 12:00:00 AM	100%	51.7	51.7	21.8	46.4	34.0	23.9
Brooklands (Night)	18/06 12:00:00 AM	19/06 12:00:00 AM	100%	52.1	52.1	31.9	48.2	42.6	36.6
Brooklands (Night)	19/06 12:00:00 AM	20/06 12:00:00 AM	100%	52.1	52.1	23.7	48.3	42.4	33.2
Brooklands (Night)	20/06 12:00:00 AM	21/06 12:00:00 AM	100%	51.7	51.7	22.3	46.0	33.8	24.8
Brooklands (Night)	21/06 12:00:00 AM	22/06 12:00:00 AM	100%	52.1	52.1	31.2	47.6	42.0	34.8
Brooklands (Night)	22/06 12:00:00 AM	23/06 12:00:00 AM	100%	51.8	51.8	30.6	46.0	40.7	35.0
Brooklands (Night)	23/06 12:00:00 AM	24/06 12:00:00 AM	100%	51.6	51.6	26.2	43.3	35.7	28.4
Brooklands (Night)	24/06 12:00:00 AM	25/06 12:00:00 AM	100%	51.5	51.5	25.7	42.0	36.8	29.2
Brooklands (Night)	25/06 12:00:00 AM	26/06 12:00:00 AM	100%	51.5	51.5	22.6	41.2	36.4	27.0
Brooklands (Night)	26/06 12:00:00 AM	27/06 12:00:00 AM	100%	51.7	51.7	25.8	44.6	39.6	31.4
Brooklands (Night)	27/06 12:00:00 AM	28/06 12:00:00 AM	100%	51.8	51.8	22.4	46.4	37.6	25.9
Brooklands (Night)	28/06 12:00:00 AM	29/06 12:00:00 AM	100%	51.9	51.9	24.6	46.2	41.4	28.0
Brooklands (Night)	29/06 12:00:00 AM	30/06 12:00:00 AM	100%	51.4	51.4	25.0	38.7	31.5	27.0
Brooklands (Night)	30/06 12:00:00 AM	1/07 12:00:00 AM	100%	51.5	51.5	27.0	42.7	37.0	31.1
Brooklands (Night)	1/07 12:00:00 AM	2/07 12:00:00 AM	100%	51.8	51.8	31.1	45.7	41.1	36.0
Brooklands (Night)	2/07 12:00:00 AM	3/07 12:00:00 AM	100%	52.0	52.0	30.8	47.5	41.6	34.3
Brooklands (Night)	3/07 12:00:00 AM	4/07 12:00:00 AM	100%	52.3	52.3	31.4	48.7	43.5	37.6

Brooklands (Night)	4/07 12:00:00 AM	5/07 12:00:00 AM	100%	51.8	51.8	21.4	46.7	38.7	28.3
Brooklands (Night)	5/07 12:00:00 AM	6/07 12:00:00 AM	100%	51.7	51.7	22.1	45.5	39.8	26.8
Brooklands (Night)	6/07 12:00:00 AM	7/07 12:00:00 AM	100%	51.5	51.5	26.0	42.1	37.6	32.8
Brooklands (Night)	7/07 12:00:00 AM	8/07 12:00:00 AM	100%	52.0	52.0	29.9	46.4	39.6	33.2
Brooklands (Night)	8/07 12:00:00 AM	9/07 12:00:00 AM	100%	52.3	52.3	22.4	49.3	42.0	28.2
Brooklands (Night)	9/07 12:00:00 AM	10/07 12:00:00 AM	100%	51.8	51.8	24.7	46.7	38.4	29.0
Brooklands (Night)	10/07 12:00:00 AM	11/07 12:00:00 AM	100%	51.6	51.6	23.4	44.6	36.5	26.6
Brooklands (Night)	11/07 12:00:00 AM	12/07 12:00:00 AM	100%	52.0	52.0	26.4	46.8	41.0	30.6
Brooklands (Night)	12/07 12:00:00 AM	13/07 12:00:00 AM	100%	51.9	51.9	21.7	46.4	37.5	23.9
Brooklands (Night)	13/07 12:00:00 AM	14/07 12:00:00 AM	100%	51.6	51.6	28.6	43.6	38.2	32.4
Brooklands (Night)	14/07 12:00:00 AM	15/07 12:00:00 AM	100%	51.9	51.9	29.3	47.0	40.1	33.3
Brooklands (Night)	15/07 12:00:00 AM	16/07 12:00:00 AM	100%	52.1	52.1	24.1	47.9	41.1	35.7
Brooklands (Night)	16/07 12:00:00 AM	17/07 12:00:00 AM	100%	52.2	52.2	26.0	49.4	42.1	31.3
Brooklands (Night)	17/07 12:00:00 AM	18/07 12:00:00 AM	100%	51.6	51.6	22.4	44.4	33.5	28.1
Brooklands (Night)	18/07 12:00:00 AM	19/07 12:00:00 AM	100%	53.9	53.9	23.3	52.3	43.8	30.4
Brooklands (Night)	19/07 12:00:00 AM	20/07 12:00:00 AM	100%	51.8	51.8	31.9	45.8	41.1	35.2
Brooklands (Night)	20/07 12:00:00 AM	21/07 12:00:00 AM	100%	51.9	51.9	31.8	46.8	41.3	35.5
Brooklands (Night)	21/07 12:00:00 AM	22/07 12:00:00 AM	75%	51.7	51.7	30.3	46.4	40.7	33.4
Brooklands (Night)	22/07 12:00:00 AM	23/07 12:00:00 AM	25%	36.2	36.2	28.2	45.9	39.8	31.6
Brooklands (Night)	23/07 12:00:00 AM	24/07 12:00:00 AM	100%	54.6	54.6	28.1	48.1	41.1	31.6
Brooklands (Night)	24/07 12:00:00 AM	25/07 12:00:00 AM	94%	52.0	52.0	29.6	47.4	39.5	33.8
Brooklands (Night)	25/07 12:00:00 AM	26/07 12:00:00 AM	100%	54.5	54.5	26.1	45.9	37.2	30.2
Brooklands (Night)	26/07 12:00:00 AM	27/07 12:00:00 AM	100%	51.8	51.8	30.5	46.3	40.0	33.7
Brooklands (Night)	27/07 12:00:00 AM	28/07 12:00:00 AM	100%	51.8	51.8	33.5	46.6	39.8	36.2
Brooklands (Night)	28/07 12:00:00 AM	29/07 12:00:00 AM	100%	51.9	51.9	23.2	47.4	37.7	30.5
Brooklands (Night)	29/07 12:00:00 AM	30/07 12:00:00 AM	100%	51.6	51.6	22.9	45.1	32.9	25.8
Brooklands (Night)	30/07 12:00:00 AM	31/07 12:00:00 AM	100%	51.8	51.8	21.7	46.4	38.8	26.6
Brooklands (Night)	31/07 12:00:00 AM	1/08 12:00:00 AM	100%	51.6	51.6	20.5	44.5	32.0	22.4
Brooklands (Night)	1/08 12:00:00 AM	2/08 12:00:00 AM	100%	51.5	51.5	23.7	42.9	37.6	27.0
Brooklands (Night)	2/08 12:00:00 AM	3/08 12:00:00 AM	100%	51.6	51.6	29.8	44.6	38.1	32.9
Brooklands (Night)	3/08 12:00:00 AM	4/08 12:00:00 AM	100%	51.9	51.9	26.0	46.8	40.2	32.9

Brooklands (Night)	4/08 12:00:00 AM	5/08 12:00:00 AM	100%	51.9	51.9	30.7	47.1	40.4	34.5
Brooklands (Night)	5/08 12:00:00 AM	6/08 12:00:00 AM	100%	52.0	52.0	33.7	47.7	41.0	36.4
Brooklands (Night)	6/08 12:00:00 AM	7/08 12:00:00 AM	100%	51.9	51.9	31.3	47.1	41.3	35.1
Brooklands (Night)	7/08 12:00:00 AM	8/08 12:00:00 AM	100%	52.0	52.0	31.0	47.6	42.0	36.3
Brooklands (Night)	8/08 12:00:00 AM	9/08 12:00:00 AM	100%	51.9	51.9	30.6	46.6	40.7	34.5
Brooklands (Night)	9/08 12:00:00 AM	10/08 12:00:00 AM	100%	52.0	52.0	32.1	47.6	41.5	36.0
Brooklands (Night)	10/08 12:00:00 AM	11/08 12:00:00 AM	100%	52.1	52.1	31.4	47.6	40.3	34.7
Brooklands (Night)	11/08 12:00:00 AM	12/08 12:00:00 AM	100%	51.7	51.7	28.8	44.6	39.5	34.1
Brooklands (Night)	12/08 12:00:00 AM	13/08 12:00:00 AM	100%	52.0	52.0	27.4	47.3	40.9	34.1
Brooklands (Night)	13/08 12:00:00 AM	14/08 12:00:00 AM	100%	52.4	52.4	29.4	49.3	43.4	36.4
Brooklands (Night)	14/08 12:00:00 AM	15/08 12:00:00 AM	100%	52.1	52.1	29.0	48.2	41.9	36.2
Brooklands (Night)	15/08 12:00:00 AM	16/08 12:00:00 AM	100%	52.0	52.0	31.9	46.9	40.9	35.7
Brooklands (Night)	16/08 12:00:00 AM	17/08 12:00:00 AM	100%	52.3	52.3	32.4	48.5	41.5	36.4
Brooklands (Night)	17/08 12:00:00 AM	18/08 12:00:00 AM	100%	51.9	51.9	25.2	46.7	40.3	28.1
Brooklands (Night)	18/08 12:00:00 AM	19/08 12:00:00 AM	100%	51.9	51.9	31.6	45.9	39.5	34.6
Brooklands (Night)	19/08 12:00:00 AM	20/08 12:00:00 AM	100%	51.8	51.8	33.9	44.8	41.1	36.9
Brooklands (Night)	20/08 12:00:00 AM	21/08 12:00:00 AM	100%	52.0	52.0	27.8	47.5	41.4	35.2
Brooklands (Night)	21/08 12:00:00 AM	22/08 12:00:00 AM	100%	52.0	52.0	29.2	47.8	39.7	34.0
Brooklands (Night)	22/08 12:00:00 AM	23/08 12:00:00 AM	100%	52.0	52.0	27.4	47.8	40.8	33.6
Brooklands (Night)	23/08 12:00:00 AM	24/08 12:00:00 AM	100%	52.0	52.0	29.4	47.4	40.2	35.1
Brooklands (Night)	24/08 12:00:00 AM	25/08 12:00:00 AM	100%	52.0	52.0	31.1	46.9	40.4	34.6
Brooklands (Night)	25/08 12:00:00 AM	26/08 12:00:00 AM	100%	51.8	51.8	30.1	45.7	39.3	32.4
Brooklands (Night)	26/08 12:00:00 AM	27/08 12:00:00 AM	100%	51.9	51.9	28.8	46.2	40.3	34.0
Brooklands (Night)	27/08 12:00:00 AM	28/08 12:00:00 AM	100%	52.0	52.0	31.9	47.2	42.3	36.6
Brooklands (Night)	28/08 12:00:00 AM	29/08 12:00:00 AM	100%	52.0	52.0	30.6	47.2	41.3	34.3
Brooklands (Night)	29/08 12:00:00 AM	30/08 12:00:00 AM	100%	51.9	51.9	26.9	46.3	40.8	33.4
Brooklands (Night)	30/08 12:00:00 AM	31/08 12:00:00 AM	100%	51.9	51.9	28.7	46.4	40.1	34.0
Brooklands (Night)	31/08 12:00:00 AM	1/09 12:00:00 AM	100%	52.0	52.0	25.9	47.7	40.5	31.3
Brooklands (Night)	1/09 12:00:00 AM	2/09 12:00:00 AM	100%	52.2	52.2	26.6	46.4	39.0	32.2
Brooklands (Night)	2/09 12:00:00 AM	3/09 12:00:00 AM	100%	51.7	51.7	29.5	44.0	39.5	33.1
Brooklands (Night)	3/09 12:00:00 AM	4/09 12:00:00 AM	100%	51.8	51.8	30.4	45.5	40.6	35.2

Brooklands (Night)	4/09 12:00:00 AM	5/09 12:00:00 AM	100%	52.0	52.0	31.7	47.1	42.6	37.3
Brooklands (Night)	5/09 12:00:00 AM	6/09 12:00:00 AM	100%	51.8	51.8	24.0	46.6	39.7	30.6
Brooklands (Night)	6/09 12:00:00 AM	7/09 12:00:00 AM	100%	51.7	51.7	29.5	45.5	38.3	32.5
Brooklands (Night)	7/09 12:00:00 AM	8/09 12:00:00 AM	100%	52.6	52.6	31.0	50.0	44.0	36.4
Brooklands (Night)	8/09 12:00:00 AM	9/09 12:00:00 AM	100%	51.9	51.9	29.2	46.7	38.7	34.1
Brooklands (Night)	9/09 12:00:00 AM	10/09 12:00:00 AM	100%	52.9	52.9	30.9	50.7	43.3	34.0
Brooklands (Night)	10/09 12:00:00 AM	11/09 12:00:00 AM	100%	52.7	52.7	25.7	48.0	39.5	29.1
Brooklands (Night)	11/09 12:00:00 AM	12/09 12:00:00 AM	100%	52.0	52.0	31.8	47.7	41.3	36.4
Brooklands (Night)	12/09 12:00:00 AM	13/09 12:00:00 AM	100%	52.0	52.0	32.3	46.8	42.4	37.6
Brooklands (Night)	13/09 12:00:00 AM	14/09 12:00:00 AM	100%	52.0	52.0	29.8	47.5	41.0	34.2
Brooklands (Night)	14/09 12:00:00 AM	15/09 12:00:00 AM	100%	52.1	52.1	33.9	47.8	42.5	38.0
Brooklands (Night)	15/09 12:00:00 AM	16/09 12:00:00 AM	100%	52.0	52.0	32.0	47.0	41.5	35.7
Brooklands (Night)	16/09 12:00:00 AM	17/09 12:00:00 AM	100%	51.7	51.7	22.4	44.2	37.1	27.8
Brooklands (Night)	17/09 12:00:00 AM	18/09 12:00:00 AM	100%	51.8	51.8	29.2	46.1	39.0	32.6
Brooklands (Night)	18/09 12:00:00 AM	19/09 12:00:00 AM	100%	51.7	51.7	28.1	45.1	39.6	34.4
Brooklands (Night)	19/09 12:00:00 AM	20/09 12:00:00 AM	100%	52.0	52.0	29.7	46.4	40.8	34.5
Brooklands (Night)	20/09 12:00:00 AM	21/09 12:00:00 AM	100%	51.8	51.8	28.2	45.6	40.4	32.8
Brooklands (Night)	21/09 12:00:00 AM	22/09 12:00:00 AM	100%	51.8	51.8	30.7	46.1	40.3	34.4
Brooklands (Night)	22/09 12:00:00 AM	23/09 12:00:00 AM	100%	51.9	51.9	28.8	46.6	39.9	32.8
Brooklands (Night)	23/09 12:00:00 AM	24/09 12:00:00 AM	100%	52.1	52.1	29.2	48.1	41.3	35.0
Brooklands (Night)	24/09 12:00:00 AM	25/09 12:00:00 AM	100%	52.0	52.0	24.4	48.0	39.9	32.4
Brooklands (Night)	25/09 12:00:00 AM	26/09 12:00:00 AM	100%	51.9	51.9	21.0	45.2	38.2	22.6
Brooklands (Night)	26/09 12:00:00 AM	27/09 12:00:00 AM	100%	51.7	51.7	33.3	45.0	40.5	36.7
Brooklands (Night)	27/09 12:00:00 AM	28/09 12:00:00 AM	100%	52.0	52.0	30.4	47.0	41.0	35.4
Brooklands (Night)	28/09 12:00:00 AM	29/09 12:00:00 AM	100%	52.1	52.1	22.7	47.4	41.7	27.0
Brooklands (Night)	29/09 12:00:00 AM	30/09 12:00:00 AM	100%	51.6	51.6	24.9	44.8	33.0	26.7
Brooklands (Night)	30/09 12:00:00 AM	1/10 12:00:00 AM	100%	51.6	51.6	28.5	43.7	35.5	30.9
Brooklands (Night)	1/10 12:00:00 AM	2/10 12:00:00 AM	100%	53.1	53.1	33.1	49.7	43.3	38.7
Brooklands (Night)	2/10 12:00:00 AM	3/10 12:00:00 AM	100%	51.9	51.9	32.1	46.7	41.7	36.7
Brooklands (Night)	3/10 12:00:00 AM	4/10 12:00:00 AM	100%	51.9	51.9	28.9	46.8	41.0	34.7
Brooklands (Night)	4/10 12:00:00 AM	5/10 12:00:00 AM	100%	51.9	51.9	29.2	47.1	39.8	32.4

Brooklands (Night)	5/10 12:00:00 AM	6/10 12:00:00 AM	88%	51.8	51.8	24.0	46.3	36.6	26.7
Brooklands (Night)	6/10 12:00:00 AM	7/10 12:00:00 AM	100%	51.5	51.5	21.3	43.0	32.5	23.0
Brooklands (Night)	7/10 12:00:00 AM	8/10 12:00:00 AM	100%	51.7	51.7	24.7	44.2	38.9	30.1
Brooklands (Night)	8/10 12:00:00 AM	9/10 12:00:00 AM	100%	51.7	51.7	30.8	44.8	40.0	34.7
Brooklands (Night)	9/10 12:00:00 AM	10/10 12:00:00 AM	100%	51.7	51.7	30.2	45.1	39.3	33.6
Brooklands (Night)	10/10 12:00:00 AM	11/10 12:00:00 AM	100%	51.9	51.9	28.4	47.2	39.6	33.1
Brooklands (Night)	11/10 12:00:00 AM	12/10 12:00:00 AM	100%	52.0	52.0	27.1	47.4	41.3	33.8
Brooklands (Night)	12/10 12:00:00 AM	13/10 12:00:00 AM	100%	51.7	51.7	26.4	45.0	37.9	30.8
Brooklands (Night)	13/10 12:00:00 AM	14/10 12:00:00 AM	100%	51.7	51.7	24.9	44.3	38.8	29.2
Brooklands (Night)	14/10 12:00:00 AM	15/10 12:00:00 AM	100%	51.6	51.6	29.2	42.8	38.2	33.1
Brooklands (Night)	15/10 12:00:00 AM	16/10 12:00:00 AM	100%	52.1	52.1	32.5	46.9	40.9	35.3
Brooklands (Night)	16/10 12:00:00 AM	17/10 12:00:00 AM	100%	51.9	51.9	30.6	47.1	40.7	35.1
Brooklands (Night)	17/10 12:00:00 AM	18/10 12:00:00 AM	100%	51.9	51.9	31.8	46.6	41.8	35.8
Brooklands (Night)	18/10 12:00:00 AM	19/10 12:00:00 AM	100%	54.6	54.6	28.9	47.0	40.2	34.2
Brooklands (Night)	19/10 12:00:00 AM	20/10 12:00:00 AM	100%	51.8	51.8	28.6	46.1	38.7	32.6
Brooklands (Night)	20/10 12:00:00 AM	21/10 12:00:00 AM	100%	53.8	53.8	27.2	53.1	39.1	30.9
Brooklands (Night)	21/10 12:00:00 AM	22/10 12:00:00 AM	100%	55.8	55.8	42.4	56.0	50.4	45.6
Brooklands (Night)	22/10 12:00:00 AM	23/10 12:00:00 AM	100%	53.6	53.6	25.0	52.5	47.2	28.2
Brooklands (Night)	23/10 12:00:00 AM	24/10 12:00:00 AM	100%	51.9	51.9	28.2	47.0	37.3	31.0
Brooklands (Night)	24/10 12:00:00 AM	25/10 12:00:00 AM	100%	51.9	51.9	30.8	46.1	40.2	34.7
Brooklands (Night)	25/10 12:00:00 AM	26/10 12:00:00 AM	100%	51.6	51.6	25.6	43.7	38.1	29.1
Brooklands (Night)	26/10 12:00:00 AM	27/10 12:00:00 AM	100%	51.6	51.6	25.0	43.8	36.2	28.8
Brooklands (Night)	27/10 12:00:00 AM	28/10 12:00:00 AM	100%	51.7	51.7	25.5	45.0	39.5	29.3
Brooklands (Night)	28/10 12:00:00 AM	29/10 12:00:00 AM	100%	51.7	51.7	28.3	45.2	40.1	34.4
Brooklands (Night)	29/10 12:00:00 AM	30/10 12:00:00 AM	100%	51.7	51.7	28.9	45.6	38.9	32.7
Brooklands (Night)	30/10 12:00:00 AM	31/10 12:00:00 AM	100%	51.9	51.9	29.4	47.0	40.1	34.9
Brooklands (Night)	31/10 12:00:00 AM	1/11 12:00:00 AM	100%	51.8	51.8	28.0	45.9	38.6	32.6
Brooklands (Night)	1/11 12:00:00 AM	2/11 12:00:00 AM	100%	51.8	51.8	27.8	45.2	39.6	30.7
Brooklands (Night)	2/11 12:00:00 AM	3/11 12:00:00 AM	100%	51.8	51.8	33.3	45.1	41.4	36.8
Brooklands (Night)	3/11 12:00:00 AM	4/11 12:00:00 AM	100%	51.7	51.7	27.2	45.4	39.4	32.9
Brooklands (Night)	4/11 12:00:00 AM	5/11 12:00:00 AM	100%	52.1	52.1	24.2	48.1	41.7	31.4

Brooklands (Night)	5/11 12:00:00 AM	6/11 12:00:00 AM	100%	51.6	51.6	24.9	44.8	35.2	27.0
Brooklands (Night)	6/11 12:00:00 AM	7/11 12:00:00 AM	100%	51.6	51.6	30.7	43.9	38.8	34.0
Brooklands (Night)	7/11 12:00:00 AM	8/11 12:00:00 AM	100%	54.5	54.5	27.9	45.9	39.8	34.8
Brooklands (Night)	8/11 12:00:00 AM	9/11 12:00:00 AM	100%	51.9	51.9	26.2	46.6	40.4	31.7
Brooklands (Night)	9/11 12:00:00 AM	10/11 12:00:00 AM	100%	51.8	51.8	27.0	45.4	39.3	31.8
Brooklands (Night)	10/11 12:00:00 AM	11/11 12:00:00 AM	100%	51.7	51.7	29.3	44.2	39.6	32.7
Brooklands (Night)	11/11 12:00:00 AM	12/11 12:00:00 AM	100%	52.0	52.0	27.7	46.6	41.5	34.1
Brooklands (Night)	12/11 12:00:00 AM	13/11 12:00:00 AM	100%	52.5	52.5	28.7	49.0	44.0	35.0
Brooklands (Night)	13/11 12:00:00 AM	14/11 12:00:00 AM	100%	52.0	52.0	30.0	47.3	40.1	33.4
Brooklands (Night)	14/11 12:00:00 AM	15/11 12:00:00 AM	100%	51.8	51.8	27.8	45.6	36.9	30.6
Brooklands (Night)	15/11 12:00:00 AM	16/11 12:00:00 AM	100%	60.5	60.5	24.6	43.7	37.0	30.1
Brooklands (Night)	16/11 12:00:00 AM	17/11 12:00:00 AM	100%	55.7	55.7	23.3	51.9	35.9	27.9
Brooklands (Night)	17/11 12:00:00 AM	18/11 12:00:00 AM	100%	51.9	51.9	28.9	45.5	40.8	34.7
Brooklands (Night)	18/11 12:00:00 AM	19/11 12:00:00 AM	100%	51.7	51.7	29.4	45.1	38.7	33.9
Brooklands (Night)	19/11 12:00:00 AM	20/11 12:00:00 AM	100%	51.8	51.8	28.7	45.9	40.1	34.2
Brooklands (Night)	20/11 12:00:00 AM	21/11 12:00:00 AM	100%	51.9	51.9	24.0	46.7	39.6	26.9
Brooklands (Night)	21/11 12:00:00 AM	22/11 12:00:00 AM	100%	51.9	51.9	23.4	46.4	39.7	25.7
Brooklands (Night)	22/11 12:00:00 AM	23/11 12:00:00 AM	100%	51.9	51.9	30.3	45.9	40.3	34.0
Brooklands (Night)	23/11 12:00:00 AM	24/11 12:00:00 AM	100%	52.1	52.1	27.5	45.5	38.7	32.0
Brooklands (Night)	24/11 12:00:00 AM	25/11 12:00:00 AM	100%	51.9	51.9	23.1	43.3	34.0	26.2
Brooklands (Night)	25/11 12:00:00 AM	26/11 12:00:00 AM	100%	52.4	52.4	25.7	48.8	39.1	30.3
Brooklands (Night)	26/11 12:00:00 AM	27/11 12:00:00 AM	100%	51.7	51.7	27.9	44.4	38.8	34.6
Brooklands (Night)	27/11 12:00:00 AM	28/11 12:00:00 AM	100%	53.5	53.5	28.7	52.3	40.9	33.0
Brooklands (Night)	28/11 12:00:00 AM	29/11 12:00:00 AM	100%	54.1	54.1	33.8	52.8	47.5	40.1
Brooklands (Night)	29/11 12:00:00 AM	30/11 12:00:00 AM	100%	52.8	52.8	26.2	49.9	44.4	32.4
Brooklands (Night)	30/11 12:00:00 AM	1/12 12:00:00 AM	100%	54.5	54.5	24.6	45.8	35.9	28.5
Brooklands (Night)	1/12 12:00:00 AM	2/12 12:00:00 AM	100%	54.5	54.5	25.5	48.6	36.6	28.4
Brooklands (Night)	2/12 12:00:00 AM	3/12 12:00:00 AM	100%	52.7	52.7	24.3	47.6	38.9	29.2
Brooklands (Night)	3/12 12:00:00 AM	4/12 12:00:00 AM	100%	51.8	51.8	23.1	46.4	35.7	25.3
Brooklands (Night)	4/12 12:00:00 AM	5/12 12:00:00 AM	100%	51.9	51.9	24.2	46.4	38.2	30.2
Brooklands (Night)	5/12 12:00:00 AM	6/12 12:00:00 AM	100%	51.7	51.7	23.0	44.4	34.7	26.6

Brooklands (Night)	6/12 12:00:00 AM	7/12 12:00:00 AM	100%	51.8	51.8	22.1	45.9	37.2	24.5
Brooklands (Night)	7/12 12:00:00 AM	8/12 12:00:00 AM	100%	51.8	51.8	26.2	45.5	36.8	31.1
Brooklands (Night)	8/12 12:00:00 AM	9/12 12:00:00 AM	100%	51.7	51.7	27.8	45.2	37.4	30.6
Brooklands (Night)	9/12 12:00:00 AM	10/12 12:00:00 AM	100%	51.9	51.9	28.0	46.6	38.7	32.1
Brooklands (Night)	10/12 12:00:00 AM	11/12 12:00:00 AM	100%	52.1	52.1	27.9	47.5	41.4	34.0
Brooklands (Night)	11/12 12:00:00 AM	12/12 12:00:00 AM	100%	54.2	54.2	24.8	47.5	38.4	29.3
Brooklands (Night)	12/12 12:00:00 AM	13/12 12:00:00 AM	100%	51.9	51.9	28.7	45.9	38.2	31.8
Brooklands (Night)	13/12 12:00:00 AM	14/12 12:00:00 AM	100%	52.0	52.0	24.7	47.0	39.5	32.3
Brooklands (Night)	14/12 12:00:00 AM	15/12 12:00:00 AM	100%	52.1	52.1	26.3	47.0	41.2	33.8
Brooklands (Night)	15/12 12:00:00 AM	16/12 12:00:00 AM	100%	51.8	51.8	24.4	45.7	38.0	32.3
Brooklands (Night)	16/12 12:00:00 AM	17/12 12:00:00 AM	100%	51.9	51.9	24.4	45.9	39.8	27.3
Brooklands (Night)	17/12 12:00:00 AM	18/12 12:00:00 AM	100%	52.2	52.2	23.9	47.9	41.2	26.8
Brooklands (Night)	18/12 12:00:00 AM	19/12 12:00:00 AM	100%	51.8	51.8	28.8	45.6	38.9	34.0
Brooklands (Night)	19/12 12:00:00 AM	20/12 12:00:00 AM	100%	51.9	51.9	32.2	45.2	40.2	35.3
Brooklands (Night)	20/12 12:00:00 AM	21/12 12:00:00 AM	100%	51.7	51.7	28.3	44.2	38.4	33.4
Brooklands (Night)	21/12 12:00:00 AM	22/12 12:00:00 AM	100%	51.9	51.9	26.2	46.0	40.2	31.5
Brooklands (Night)	22/12 12:00:00 AM	23/12 12:00:00 AM	100%	51.8	51.8	27.9	44.7	38.1	31.3
Brooklands (Night)	23/12 12:00:00 AM	24/12 12:00:00 AM	100%	52.4	52.4	25.7	48.9	42.0	30.8
Brooklands (Night)	24/12 12:00:00 AM	25/12 12:00:00 AM	100%	54.4	54.4	22.4	43.2	34.4	24.6
Brooklands (Night)	25/12 12:00:00 AM	26/12 12:00:00 AM	100%	51.6	51.6	22.8	42.3	36.4	24.1
Brooklands (Night)	26/12 12:00:00 AM	27/12 12:00:00 AM	100%	53.1	53.1	22.5	40.5	32.7	23.6
Brooklands (Night)	27/12 12:00:00 AM	28/12 12:00:00 AM	100%	51.9	51.9	26.0	46.5	39.8	30.0
Brooklands (Night)	28/12 12:00:00 AM	29/12 12:00:00 AM	100%	52.0	52.0	26.2	46.5	41.6	30.0
Brooklands (Night)	29/12 12:00:00 AM	30/12 12:00:00 AM	100%	51.6	51.6	22.3	43.3	34.1	26.4
Brooklands (Night)	30/12 12:00:00 AM	31/12 12:00:00 AM	100%	51.8	51.8	27.8	44.3	40.1	32.6
Brooklands (Night)	31/12 12:00:00 AM	1/01 12:00:00 AM	100%	51.7	51.7	24.9	44.4	37.2	29.1

Appendix E

Blast Monitoring Results

Date/Time	Harts Cottage (V1)		Tomingley Village (V2)		Underpass (V3)		Residue Dam (V4)	
	Ground Vibration (mm/s)	Airburst Overpressure (dBL)	Ground Vibration (mm/s)	Airburst Overpressure (dBL)	Ground Vibration (mm/s)	Airburst Overpressure (dBL)	Ground Vibration (mm/s)	Airburst Overpressure (dBL)
28/02/2014 13:30	0.16	97.3	0.16	100.2	1.33	108.9	0.45	67.2
7/03/2014 12:31	0.23	97.8	0.18	99.1	1.03	114.2	0.7	67.2
11/03/2014 12:30	0.16	94.2	0.13	96.8	0.52	110.5	1.92	67.2
18/03/2014 12:28	0.12	99.6	0.14	100.7	1.24	62.8	0.26	107.7
26/03/2014 12:32	0.15	93.4	0.15	95.4	1.06	58.4	0.43	103.4
1/04/2014 12:34	0.16	110.3	0.17	113	0.88	62.8	0.9	120.8
28/04/2014 12:34	0.13	101.1	0.18	105.1	1.94	62.8	0.24	115.4
29/04/2014 1:30	DNT							
2/05/2014 12:30	0.14	102.1	0.16	106.5	0.54	64.4	0.4	107.6
8/05/2014 12:30	0.2	96.9	0.19	102.5	1.05	62.8	0.14	116.2
12/05/2014 12:30	0.19	110.7	0.21	114.9	1	62.8	0.14	116.7
17/05/2014 12:30	0.2	102.4	0.18	103.1	0.7	62.8	0.13	104.7
20/05/2014 11:30	0.14	94.6	0.13	94.1	1.03	62.8	0.2	102
22/05/2014 12:30	0.15	99.9	0.13	99.6	0.74	62.8	0.28	107.4
23/05/2014 12:30	DNT							
26/05/2014 12:30	0.14	94.7	0.15	93.4	0.92	62.8	0.09	100.8
29/05/2014 12:30	0.09	101.9	0.1	101.9	0.56	60.9	0.19	111.5
30/05/2014 12:30	DNT							
31/05/2014 10:00	0.11	94.1	0.14	98.6	0.95	60.9	0.17	115.1
3/06/2014 10:00	0.14	96.2	0.12	97.2	0.5	58.4	0.33	105.4
4/06/2014 15:00	0.08	95.5	0.08	96.7	0.53	64.4	0.32	100.3
6/06/2014 10:00	0.08	97.6	0.07	100.8	0.57	60.9	0.49	102.2
7/06/2014 12:30	0.07	96	0.08	96.6	0.51	62.8	0.24	100.4
10/06/2014 12:30	0.25	103.1	0.18	105.4	1.17	62.8	0.14	104.3
11/06/2014 12:30	0.09	97.9	0.11	93	0.71	64.4	0.18	111.8
17/06/2014 12:30	0.26	104.8	0.25	109.7	1.44	64.4	0.19	101.4
19/06/2014 12:30	0.14	95.7	0.14	95.6	0.57	64.4	0.28	104.1
20/06/2014 12:30	0.1	94.7	0.12	94.8	0.56	60.9	0.19	99.6
23/06/2014 12:30	0.11	97.8	0.11	94.7	0.54	60.9	0.33	105.9
25/06/2014 9:57	0.1	94.8	0.11	98.7	0.51	58.4	0.17	102.9
27/06/2014 12:30	0	88.9	0.01	102.3	8.8	62.8	0.02	103.1
1/07/2014 12:30	0.2	122.4	0.17	124.1	0.7	60.9	0.11	115.3
6/07/2014 12:30	DNT							
8/07/2014 12:30	DNT							
10/07/2014 12:30	DNT							
11/07/2014 12:30	0.08	93	0.1	97.4	0.4	58.4	0.1	102.2
16/07/2014 12:30	0.27	98.3	0.22	95.9	0.66	58.4	0.14	98.1
4/08/2014 12:30	0.22	96.4	0.18	96.8	0.98	64.4	0.1	97.2
13/08/2014 12:30	0.22	116.2	0.2	119.7	0.93	58.4	0.11	120
15/08/2014 12:30	0.23	97.8	0.22	101	0.59	60.9	0.11	98.4
18/08/2014 12:30	0.18	106.3	0.18	108.8	0.49	58.4	0.13	113.8

Date/Time	Harts Cottage (V1)		Tomingley Village (V2)		Underpass (V3)		Residue Dam (V4)	
	Ground Vibration (mm/s)	Airburst Overpressure (dBL)	Ground Vibration (mm/s)	Airburst Overpressure (dBL)	Ground Vibration (mm/s)	Airburst Overpressure (dBL)	Ground Vibration (mm/s)	Airburst Overpressure (dBL)
25/08/2014 12:30	0	77.6	0.01	107.4	0.01	61.8	0.01	95.6
25/08/2014 12:30	0.15	99.3	0.14	102.7	0.41	61.8	0.08	98
28/08/2014 12:30	DNT							
1/09/2014 12:30	0.16	94.2	0.26	92.6	0.93	58.3	0.11	100.3
6/09/2014 13:00	0.13	97.5	0.13	98.8	0.23	58.3	0.07	99.9
9/09/2014 12:31	0.34	90.2	0.26	102.1	1.74	58.3	0.15	104
12/09/2014 12:44	0.33	91.1	0.25	92.6	0.99	58.3	0.14	91.5
13/09/2014 13:44	0.16	96.2	0.13	95.6	0.58	61.8	0.07	97
16/09/2014 12:30	0.28	99.1	0.19	105.7	0.51	61.8	0.15	106.9
19/09/2014 12:30	0.21	101.9	0.21	100.2	1	58.3	0.11	96.5
22/09/2014 12:30	0.22	98	0.26	98.8	0.68	61.8	0.11	98
25/09/2014 12:30	0.13	99	0.16	95.5	0.68	58.3	0.09	100.9
29/09/2014 12:30	0.11	95.4	0.12	92.3	0.37	61.8	0.09	109.9
2/10/2014 13:30	0.28	104.4	0.35	105.3	0.95	61.8	0.14	104.3
7/10/2014 13:00	0.17	102.7	0.21	104.7	0.49	58.3	0.08	98.4
11/10/2014 13:00	0.17	97.1	0.18	96.8	0.96	61.8	0.83	101
13/10/2014 13:00	0.21	97.8	0.23	106.9	1.07	61.8	0.09	102.5
16/10/2014 13:00	0.15	97.9	0.15	105.2	0.42	58.3	0.07	92.3
18/10/2014 13:00	0.25	95.4	0.17	97.2	0.6	61.8	0.11	96.1
20/10/2014 13:00	0.2	96.4	0.16	95.4	0.31	64.3	0.07	91.2
24/10/2014 13:25	0.2	96.7	0.16	103.5	0.54	61.8	0.07	107.2
27/10/2014 13:00	0.19	95.2	0.18	94.7	0.61	61.8	0.09	109
30/10/2014 13:02	0.17	97.8	0.18	97.7	0.47	61.8	0.07	95.4
3/11/2014 13:00	0.22	104.1	0.28	98.1	1.11	61.8	0.12	98.6
6/11/2014 13:00	0.34	106.7	0.45	108.7	1.67	61.8	0.2	95.8
7/11/2014 13:00	0.15	95.5	0.18	94.9	1.1	61.8	0.24	103.1
8/11/2014 3:00	0.11	98.2	0.15	97.7	1.37	64.3	0.15	103.9
11/11/2014 13:00	0.19	106.6	0.23	109.3	0.49	64.3	0.09	107.6
13/11/2014 13:54	0.29	101.6	0.24	101.8	1.39	61.8	0.08	99.9
13/11/2014 13:54	0.01	83.2	0	92.6	0.22	61.8	0.01	85.1
15/11/2014 13:00	0.15	95.9	0.15	94.9	0.29	61.8	0.05	90.4
17/11/2014 13:00	0.15	97.8	0.13	96.1	0.37	61.8	0.08	104
18/11/2014 13:00	0.19	110.3	0.19	114.4	0.95	61.8	0.12	110.4
20/11/2014 13:00	0.24	95.5	0.18	98.2	1.12	61.8	0.09	100
24/11/2014 13:00	0.31	96.3	0.29	94.7	1.21	61.8	0.1	98.6
26/11/2014 13:00	0.33	100.8	0.33	102.7	1.02	64.3	0.11	100.8
26/11/2014 13:00	0.01	83	0.01	88.7	0.17	61.8	0.01	97.5
1/12/2014 13:00	0.2	91.6	0.31	94.9	0.56	61.8	0.09	100.3
1/12/2014 13:00	0.21	98.4	0.24	100.3	1.54	61.8	0.27	106.7
4/12/2014 13:00	0.12	91.9	0.16	91.7	0.52	61.8	0.07	92
5/12/2014 13:00	0.16	93.5	0.23	91.9	0.62	61.8	0.09	95.4
8/12/2014 13:00	0.2	103.1	0.24	100.9	0.66	61.8	0.11	100.8
10/12/2014 13:00	0.15	103.4	0.18	95.6	1.21	61.8	0.17	104.1

Date/Time	Harts Cottage (V1)		Tomingley Village (V2)		Underpass (V3)		Residue Dam (V4)	
	Ground Vibration (mm/s)	Airburst Overpressure (dBL)	Ground Vibration (mm/s)	Airburst Overpressure (dBL)	Ground Vibration (mm/s)	Airburst Overpressure (dBL)	Ground Vibration (mm/s)	Airburst Overpressure (dBL)
12/12/2014 13:00	0.25	103	0.27	103.4	1.31	61.8	0.11	111.7
17/12/2014 13:00	0.43	106.8	0.59	109.9	1.26	61.8	0.17	105.4
19/12/2014 13:00	0.21	101	0.17	108.5	0.59	61.8	0.07	96.2
20/12/2014 10:37	0.29	105.1	0.24	106.2	0.53	61.8	0.12	99.7
24/12/2014 13:00	0.18	102	0.19	102.5	1.85	61.8	0.19	115.9
27/12/2014 13:00	0.09	96.1	0.09	97.5	1.12	61.8	0.19	104.4
90	**Total Number of Shots for Reporting Period**							
No. shots exceeding 5% limit	0	2	0	2	0	N/A	0	N/A
Perc. shots exceeding 5% limit	0.00	2.22	0.00	2.22	0.00	N/A	0.00	N/A
DNT = Did not trigger								

TOMINGLEY
GOLD OPERATIONS PTY LTD
(A wholly owned subsidiary of Alkane Resources Ltd)
ABN 53 149 040 371

Appendix F

Surface Water Quality

TOMINGLEY
GOLD OPERATIONS PTY LTD
(A wholly owned subsidiary of Alkane Resources Ltd)
ABN 53 149 040 371

2014 RSF WAD Cyanide Monitoring

2014 RSF Weak Acid Dissociable Cyanide Monitoring Results

January			February			March			April			May			June			July			August			September			October			November			December		
'-	-	-	1/02/14	Day	0.9615	1/03/14	Day	1.86	1/04/14	Day	1.79	1/05/14	Day		1/06/14	Day	0.805	1/07/14	Day	2.48	1/08/14	Day	0.165	1/09/14	Day	1.3	6/10/14	Day	0	1/11/14	Day	1.625	1/12/14	Day	2.67
'-	-	-	1/02/14	Night	2.62	1/03/14	Night	1.57	1/04/14	Night	0.325	1/05/14	Night	0.925	1/06/14	Night	1.59	1/07/14	Night	0.87	1/08/14	Night	0.24	1/09/14	Night	2.53	6/10/14	Night	0	1/11/14	Night	7.05	1/12/14	Night	2.75
'-	-	-	2/02/14	Day	6.195	2/03/14	Day	0.77	2/04/14	Day	0.675	2/05/14	Day	0.285	2/06/14	Day	11.38	2/07/14	Day	8.06	2/08/14	Day	1.29	2/09/14	Day	0.895	4/10/14	Day	0.055	2/11/14	Day	9.35	2/12/14	Day	4.33
'-	-	-	2/02/14	Night	4.02	2/03/14	Night	7.945	2/04/14	Night	0.365	2/05/14	Night	0.795	2/06/14	Night	0.46	2/07/14	Night	0.515	2/08/14	Night	11.865	2/09/14	Night	0.16	18/10/14	Day	0.2	2/11/14	Night	4.02	2/12/14	Night	3.865
'-	-	-	3/02/14	Day		3/03/14	Day	1.17	3/04/14	Day	0.39	3/05/14	Day	0.585	3/06/14	Day	2.665	3/07/14	Day	3.335	3/08/14	Day	1.14	3/09/14	Day	0.755	13/10/14	Day	0.215	3/11/14	Day	11.13	3/12/14	Day	8.34
'-	-	-	3/02/14	Night	0.98	3/03/14	Night	19.55	3/04/14	Night	0.34	3/05/14	Night	11.71	3/06/14	Night	2.035	3/07/14	Night	3.82	3/08/14	Night	0.545	3/09/14	Night	7.64	13/10/14	Night	0.225	3/11/14	Night	5.44	3/12/14	Night	4.17
'-	-	-	4/02/14	Day	1.9	4/03/14	Day	7.05	4/04/14	Day	1.645	4/05/14	Day	2.475	4/06/14	Day	0.1	4/07/14	Day	6.595	4/08/14	Day	0.52	4/09/14	Day	0.485	13/10/14	Night	0.285	4/11/14	Day	1.25	4/12/14	Day	6.07
'-	-	-	4/02/14	Night		4/03/14	Night	7.62	4/04/14	Night	6	4/05/14	Night	0.57	4/06/14	Night	6.56	4/07/14	Night	0.765	4/08/14	Night	0.57	4/09/14	Night	3.725	13/10/14	Night	0.2945	4/11/14	Night	1.225	4/12/14	Night	2.735
'-	-	-	5/02/14	Day	10.845	5/03/14	Day	6.49	5/04/14	Day	1.56	5/05/14	Day	1.745	5/06/14	Day	0.12	5/07/14	Day	1.95	5/08/14	Day	7.24	5/09/14	Day	1.075	7/10/14	Day	0.445	5/11/14	Day	2.9	5/12/14	Day	1.79
'-	-	-	5/02/14	Night		5/03/14	Night	3.64	5/04/14	Night	5.435	5/05/14	Night	2.525	5/06/14	Night	0.235	5/07/14	Night	6.165	5/08/14	Night	3.23	5/09/14	Night	4.295	7/10/14	Night	0.45	5/11/14	Night	6.535	5/12/14	Night	0.565
'-	-	-	6/02/14	Day		6/03/14	Day	0.24	6/04/14	Day	2.875	6/05/14	Day	7.765	6/06/14	Day	0.775	6/07/14	Day	6.935	6/08/14	Day	1.55	6/09/14	Day	7.38	9/10/14	Day	0.465	6/11/14	Day	1.22	6/12/14	Day	0.624
'-	-	-	6/02/14	Night		6/03/14	Night	15.71	6/04/14	Night	2.17	6/05/14	Night	2.495	6/06/14	Night	0.65	6/07/14	Night	2.22	6/08/14	Night	13.505	6/09/14	Night	2.68	9/10/14	Night	0.5	6/11/14	Night	1.905	6/12/14	Night	0.662
'-	-	-	7/02/14	Day	0.74	7/03/14	Day	3.93	7/04/14	Day	2.65	7/05/14	Day	3.36	7/06/14	Day	0.43	7/07/14	Day	2.635	7/08/14	Day	1.01	7/09/14	Day	4.67	14/10/14	Day	0.63	7/11/14	Day	16.27	7/12/14	Day	0.5935
'-	-	-	7/02/14	Night	8.26	7/03/14	Night	1.405	7/04/14	Night	4.24	7/05/14	Night	3.29	7/06/14	Night	0.835	7/07/14	Night	5.12	7/08/14	Night	1.85	7/09/14	Night	1.71	3/10/14	Day	0.7585	7/11/14	Night	3.265	7/12/14	Night	0.2475
'-	-	-	8/02/14	Day	0.64	8/03/14	Day	9.2	8/04/14	Day	1.11	8/05/14	Day	10.945	8/06/14	Day	0.305	8/07/14	Day	8.19	8/08/14	Day	1.395	8/09/14	Day	0.405	3/10/14	Night	0.7805	8/11/14	Day	6.775	8/12/14	Day	0.385
'-	-	-	8/02/14	Night	0.98	8/03/14	Night	0.605	8/04/14	Night	1.285	8/05/14	Night	1.99	8/06/14	Night	0.155	8/07/14	Night	0.83	8/08/14	Night	2.05	8/09/14	Night	0.875	3/10/14	Night	0.92	8/11/14	Night	0.504	8/12/14	Night	0.325
'-	-	-	9/02/14	Day	0.64	9/03/14	Day	0.215	9/04/14	Day	0.315	9/05/14	Day	5.3	9/06/14	Day	0.065	9/07/14	Day		9/08/14	Day	1.34	9/09/14	Day		12/10/14	Day	0.9505	9/11/14	Day	1.315	9/12/14	Day	0.39
'-	-	-	9/02/14	Night	0.98	9/03/14	Night	0.32	9/04/14	Night	0.405	9/05/14	Night	0.71	9/06/14	Night	0.215	9/07/14	Night	4.115	9/08/14	Night	1.05	9/09/14	Night		12/10/14	Night	0.955	9/11/14	Night	4.245	9/12/14	Night	0.5
'-	-	-	10/02/14	Day	19.335	10/03/14	Day	0.77	10/04/14	Day	1.495	10/05/14	Day	0.735	10/06/14	Day	0.19	10/07/14	Day	3.295	10/08/14	Day	0.875	10/09/14	Day		11/10/14	Day	0.971	10/11/14	Day	2.59	10/12/14	Day	0.29
'-	-	-	10/02/14	Night	1.715	10/03/14	Night	0.57	10/04/14	Night	0.65	10/05/14	Night	5.2	10/06/14	Night	0.3	10/07/14	Night	1.84	10/08/14	Night	1.76	10/09/14	Night	0.765	11/10/14	Night	0.975	10/11/14	Night	4.72	10/12/14	Night	0.62
'-	-	-	11/02/14	Day	4.45	11/03/14	Day	1.615	11/04/14	Day	0.325	11/05/14	Day	0.185	11/06/14	Day	0.4	11/07/14	Day	0.761	11/08/14	Day	0.265	11/09/14	Day	1.815	11/10/14	Night	1	11/11/14	Day		11/12/14	Day	1.115
'-	-	-	11/02/14	Night	5.26	11/03/14	Night	2.085	11/04/14	Night	1.53	11/05/14	Night	0.61	11/06/14	Night	0.43	11/07/14	Night	1.055	11/08/14	Night	0.335	11/09/14	Night	2.94	11/10/14	Night	1.065	11/11/14	Night		11/12/14	Night	0.685
'-	-	-	12/02/14	Day	5.23	12/03/14	Day	1.32	12/04/14	Day	1.89	12/05/14	Day	1.09	12/06/14	Day	2.07	12/07/14	Day	0.264	12/08/14	Day	0.575	12/09/14	Day	0.86	1/10/14	Day	1.09	12/11/14	Day	2.235	12/12/14	Day	4.33
'-	-	-	12/02/14	Night	3.31	12/03/14	Night	1.855	12/04/14	Night	0.31	12/05/14	Night	1.27	12/06/14	Night	0.375	12/07/14	Night	0.5135	12/08/14	Night	1.285	12/09/14	Night	0.56	1/10/14	Night	1.185	12/11/14	Night	1.95	12/12/14	Night	12.3
'-	-	-	13/02/14	Day	5.345	13/03/14	Day	1.615	13/04/14	Day	0.41	13/05/14	Day	0.03	13/06/14	Day	17.68	13/07/14	Day	0	13/08/14	Day	7.375	13/09/14	Day	0	1/10/14	Night	1.31	13/11/14	Day	1.97	13/12/14	Day	2.735
'-	-	-	13/02/14	Night	13.1	13/03/14	Night	1.005	13/04/14	Night	0.79	13/05/14	Night	15.42	13/06/14	Night	4.3	13/07/14	Night	0.615	13/08/14	Night	0.945	13/09/14	Night	1.535	29/10/14	Day	1.375	13/11/14	Night	2.41	13/12/14	Night	3.885
'-	-	-	14/02/14	Day	0.031	14/03/14	Day	0.565	14/04/14	Day	0.92	14/05/14	Day	1.515	14/06/14	Day	1.0145	14/07/14	Day	0.315	14/08/14	Day	3.47	14/09/14	Day	1.53	29/10/14	Night	1.53	14/11/14	Day	6.765	14/12/14	Day	3.37
'-	-	-	14/02/14	Night	1.6645	14/03/14	Night	0.77	14/04/14	Night	0.415	14/05/14	Night	0.385	14/06/14	Night	4.165	14/07/14	Night	0.335	14/08/14	Night	3.57	14/09/14	Night	0.9015	29/10/14	Night	1.55	14/11/14	Night	3.36	14/12/14	Night	10.835
'-	-	-	15/02/14	Day	0.535	15/03/14	Day	2.04	15/04/14	Day	0.49	15/05/14	Day	3.21	15/06/14	Day	5.045	15/07/14	Day	1.385	15/08/14	Day	11.185	15/09/14	Day	0.48	10/10/14	Day	1.63	15/11/14	Day	6.485	15/12/14	Day	2.36
'-	-	-	15/02/14	Night	0.135	15/03/14	Night	5.295	15/04/14	Night	3.37	15/05/14	Night	0.8165	15/06/14	Night	2.045	15/07/14	Night	5.695	15/08/14	Night	0.826	15/09/14	Night	4.36	17/10/14	Day	1.675	15/11/14	Night	3.105	15/12/14	Night	2.445
'-	-	-	16/02/14	Day	0.37	16/03/14	Day	3.37	16/04/14	Day	9.465	16/05/14	Day	16.98	16/06/14	Day	0.3	16/07/14	Day	0.42	16/08/14	Day	0.29	16/09/14	Day	0.02	25/10/14	Day	1.705	16/11/14	Day	2.455	16/12/14	Day	0.58
'-	-	-	16/02/14	Night	2.385	16/03/14	Night	1.75	16/04/14	Night	6.285	16/05/14	Night	4.08	16/06/14	Night	1.085	16/07/14	Night	6.925	16/08/14	Night	1.9	16/09/14	Night	0.02	22/10/14	Day	1.755	16/11/14	Night	4.265	16/12/14	Night	0.675
'-	-	-	17/02/14	Day	2.62	17/03/14	Day	8.43	17/04/14	Day	0.835	17/05/14	Day	0.9055	17/06/14	Day	0.315	17/07/14	Day	0.51	17/08/14	Day	6.855	17/09/14	Day	2.835	22/10/14	Night	1.94	17/11/14	Day	6.65	17/12/14	Day	
'-	-	-	17/02/14	Night	1.145	17/03/14	Night	7.24	17/04/14	Night	4.92	17/05/14	Night	11.505	17/06/14	Night	8.53	17/07/14	Night	0.58	17/08/14	Night	0	17/09/14	Night	0.215	30/10/14	Day	2.01	17/11/14	Night	1.585	17/12/14	Night	0.677
'-	-	-	18/02/14	Day	4.34	18/03/14	Day	5.265	18/04/14	Day	1.0675	18/05/14	Day	2.71	18/06/14	Day	3.22	18/07/14	Day	0.2735	18/08/14	Day	9.98	18/09/14	Day	2.41	21/10/14	Day	2.015	18/11/14	Day	5.87	18/12/14	Day	0.82
'-	-	-	18/02/14	Night	0.61	18/03/14	Night	4.19	18/04/14	Night	1.945	18/05/14	Night	0.39	18/06/14	Night	0.77	18/07/14	Night	0.2495	18/08/14	Night	4.185	18/09/14	Night	2	23/10/14	Day	2.105	18/11/14	Night	5.78	18/12/14	Night	0.43
'-	-	-	19/02/14	Day	1.315	19/03/14	Day	4.575	19/04/14	Day	3.505	19/05/14	Day	4.48	19/06/14	Day	0.645	19/07/14	Day	0.6565	19/08/14	Day	1.38	19/09/14	Day	2.1	23/10/14	Night	2.325	19/11/14	Day	2.23	19/12/14	Day	2.215
'-	-	-	19/02/14	Night	0.59	19/03/14	Night	0.29	19/04/14	Night	1.4	19/05/14	Night	0.455	19/06/14	Night	0.79	19/07/14	Night	0.5815	19/08/14	Night	1.08	19/09/14	Night	2.405	15/10/14	Day	2.5	19/11/14	Night	3.94	19/12/14	Night	0.46
'-	-	-	20/02/14	Day	4.505	20/03/14	Day	4.24	20/04/14	Day	0.175	20/05/14	Day	8.45	20/06/14	Day	2.075	20/07/14	Day	0.555	20/08/14	Day	0.695	20/09/14	Day	2.49	15/10/14	Night	2.535	20/11/14	Day	2.535	20/12/14	Day	1.42
'-	-	-	20/02/14	Night	6.645	20/03/14	Night	5.12	20/04/14	Night	0.51	20/05/14	Night	6.88	20/06/14	Night	2.26	20/07/14	Night	6.02	20/08/14	Night	0.975	20/09/14	Night	3.29	8/10/14	Day	2.57	20/11/14	Night	2.97	20/12/14	Night	1.16
'-	-	-	21/02/14	Day	3.71	21/03/14	Day	5.52	21/04/14	Day	1.3	21/05/14	Day	19.81	21/06/14	Day	1.98	21/07/14	Day	2.015	21/08/14	Day	12.535	21/09/14	Day	0.935	8/10/14	Night	2.69	21/11/14	Day	4.035	21/12/14	Day	2.35
'-	-	-	21/02/14	Night	4.48	21/03/14	Night	4.11	21/04/14	Night	1.04	21/05/14	Night	9.775	21/06/14	Night	6.635	21/07/14	Night	2.725	21/08/14	Night	0.575	21/09/14	Night	0.645	8/10/14	Night	2.75	21/11/14	Night	5.13	21/12/14	Night	0.97
'-	-	-	22/02/14	Day	4.2	22/03/14	Day	10.63	22/04/14	Day	1.035	22/05/14	Day	3.655	22/06/14	Day	0.329	22/07/14	Day	-0.255	22/08/14	Day	0.3825	22/09/14	Day	5.26	16/10/14	Day	2.955	22/11/14	Day	4.975	22/12/14	Day	2.48
'-	-	-	22/02/14	Night	0.56	22/03/14	Night	9.975	22/04/14	Night	3.2	22/05/14	Night	1.64	22/06/14	Night	0.6315	22/07/14	Night	-0.315	22/08/14	Night	2.76	22/09/14	Night	0.855	16/10/14	Night	3.005	22/11/14	Night	14.25	22/12/14	Night	2.43
'-	-	-	23/02/14	Day	5.125	23/03/14	Day	14.51	23/04/14	Day	1.015	23/05/14	Day	0.8725	23/06/14	Day	1.595	23/07/14	Day	0.675	23/08/14	Day	2.13	23/09/14	Day	0.72	16/10/14	Night	3.135	23/11/14	Day	6.605	23/12/14	Day	2.255
'-	-	-	23/02/14	Night	1.305	23/03/14	Night	1.7	23/04/14	Night	1.78	23/05/14	Night	9.105	23/06/14	Night	1.95	23/07/14	Night	0.36	23/08/14	Night	3.515	23/09/14	Night	0.48	26/10/14	Day	3.185	23/11/14	Night	5.905	23/12/14	Night	3.965
'-	-	-	24/02/14	Day	1.175	24/03/14	Day		24/04/14	Day	1.28	24/05/14	Day	5.525	24/06/14	Day	1.39	24/07/14	Day	0.03	24/08/14	Day	1.815	24/09/14	Day	2.6	5/10/14	Day	3.275	24/11/14	Day	4.02	24/12/14	Day	1.04
'-	-	-	24/02/14	Night	1.75	24/03/14	Night	2.3	24/04/14	Night	0.554	24/05/14	Night	29.095	24/06/14	Night	0.495	24/07/14	Night	0.035	24/08/14	Night	8.585	24/09/14	Night	1.21	20/10/14	Day	3.73	24/11/14	Night	12.755	24/12/14	Night	0.674
25/01/14	Day	0.13	25/02/14	Day	0.25	25/03/14	Day		25/04/14	Day	0.62	25/05/14	Day	4.095	25/06/14	Day	0.595	25/07/14	Day	1.245	25/08/14	Day	1.955	25/09/14	Day	0.595	24/10/14	Day	3.98	25/11/14	Day	6.765	25/12/14	Day	0.925
25/01/14	Night		25/02/14	Night	0.67	25/03/14	Night		25/04/14	Night	5.71	25/05/14	Night	17.05	25/06/14	Night	1.5	25/07/14	Night	2.045	25/08/14	Night	2.7	25/09/14	Night	1.08	24/10/14	Night	4.23	25/11/14	Night	3.18	25/12/14	Night	2.425
26/01/14	Day	0.08	26/02/14	Day		26/03/14	Day		26/04/14	Day	0.7725	26/05/14	Day	4.69	26/06/14	Day	8.355	26/07/14	Day	2.68	26/08/14	Day	12.1	26/09/14	Day	1.515	28/10/14	Day	5.185	26/11/14	Day	9.73	26/12/14	Day	0.35
26/01/14	Night	0.129	26/02/14	Night	0.925	26/03/14	Night	5.36	26/04/14	Night	4.38	26/05/14	Night	1.665	26/06/14	Night	3.265	26/07/14	Night	1.3	26/08/14	Night	5.13	26/09/14	Night	4.265	28/10/14	Night	5.28	26/11/14	Night	2.785	26/12/14	Night	0.35
27/01/14	Day	0.215	27/02/14	Day		27/03/14	Day		27/04/14	Day	2.495	27/05/14	Day	1.465	27/06/14	Day	4.86	27/07/14	Day	0.175	27/08/14	Day	0.22	27/09/14	Day	9.185	19/10/14	Day	5.505	27/11/14	Day	5.005	27/12/14	Day	1.085
27/01/14	Night		27/02/14	Night	0.65	27/03/14	Night		27/04/14	Night	0.185	27/05/14	Night	1.32	27/06/14	Night	1.745	27/07/14	Night	10.645	27/08/14	Night	0.415	27/09/14	Night	5.3	2/10/14	Day	5.77	27/11/14	Night	3.215	27/12/14	Night	3.315
28/01/14	Day	3.215	28/02/14	Day	0.9155	28/03/14	Day	1.79	28/04/14	Day	3.435	28/05/14	Day	1.105	28/06/14	Day	1.845	28/07/14	Day	1.095	28/08/14	Day	1.195	28/09/14	Day	0.07	2/10/14	Night	6.185	28/11/14	Day	4.84	28/12/14	Day	1.125
28/01/14	Night	2.995	28/02/14	Night	0.047	28/03/14	Night	0.325	28/04/14	Night	1.925	28/05/14	Night	1.015	28/06/14	Night	2.755	28/07/14	Night	2.73	28/08/14	Night	1.81	28/09/14	Night	0.75	2/10/14	Night	7.605	28/11/14	Night	4.93	28/12/14	Night	2.405
29/01/14	Day	0.4				29/03/14	Day	1.645	29/04/14	Day	0.525	29/05/14	Day		29/06/14	Day	2.4	29/07/14	Day	0.415	29/08/14	Day	0.12	29/09/14	Day	0.41	2/10/14	Night	8.465	29/11/14	Day	4.945	29/12/14	Day	3.84
29/01/14	Night	0.585				29/03/14	Night	0.32	29/04/14	Night	1.56	29/05/14	Night		29/06/14	Night	5.69	29/07/14	Night	1.61	29/08/14	Night	0.495	29/09/14	Night	0.275	2/10/14	Night	8.995	29/11/14	Night	3.56	29/12/14	Night	5.41
30/01/14	Day	0.435				30/03/14	Day	17.45				30/05/14	Day	0.86	30/06/14	Day	5.55	30/07/14	Day	0.535	30/08/14	Day	1.425	30/09/14	Day	0	2/10/14	Night	9.06	30/11/14	Day	3.34	30/12/14	Day	2.225
30/01/14	Night	17.79				30/03/14	Night	0.485				30/05/14	Night	1.475	30/06/14	Night	6.015	30/07/14	Night	0.925	30/08/14	Night	0.69	30/09/14	Night	0	27/10/14	Day	9.13	30/11/14	Night	3.02	30/12/14	Night	6.475
31/01/14	Day	5.78				31/03/14	Day	1.645				31/05/14	Day	6.535				31/07/14	Day	1.13	31/08/14	Day	0.89				27/10/14	Night	9.825				31/12/14	Day	9.74
31/01/14	Night	1.59				31/03/14	Night	0.32				31/05/14	Night	0.98				31/07/14	Night	1.69	31/08/14	Night	1.67				31/10/14	Day	10.86				31/12/14	Night	9.715

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2014 Sediment Basin 1					
Parameter	Units	1/06/2014	6/06/2014	10/06/2014	ANZECC Trigger Limit
Electrical conductivity *(lab)	µS/cm	167	-	-	350
Cyanide (Free)	mg/L	-	-	-	-
Cyanide (WAD)	mg/L	<0.004	<0.004	<0.004	
Cyanide (Total)	mg/L	-	-	-	
Kjeldahl Nitrogen Total	mg/L	-	-	-	-
Total Suspended solids	mg/L	5320	374	730	50
Total Dissolved Solids	mg/L	-	-	-	-
pH (Lab)	pH_Units	7.82	-	-	6.5-8.0
Ammonia	mg/L		-	-	-
Nitrogen (as N)	mg/L	7	-	-	0.25
Phosphorous (Total)	mg/L	2.42	-	-	0.02
Alkalinity (total) as CaCO3	mg/L		-	-	-
Bicarbonate	mg/L		-	-	-
Carbonate	mg/L		-	-	-
Chloride	mg/L		-	-	-
Magnesium	mg/L		-	-	-
Ionic Balance	%		-	-	-
Arsenic	mg/L	0.003	-	-	0.024
Cadmium	mg/L	<0.0001	-	-	0.0002
Copper	mg/L	0.009	-	-	0.0014
Lead	mg/L	0.006	-	-	0.0034
Nickel	mg/L	0.006	-	-	0.011
Zinc	mg/L	0.022	-	-	0.008

2014 Sediment Basin 2					
Parameter	Units	1/06/2014	6/06/2014	10/06/2014	ANZECC Trigger Limit
Electrical conductivity *(lab)	µS/cm	116	199	-	350
Cyanide (Free)	mg/L	-	-	-	-
Cyanide (WAD)	mg/L	0.004	-	-	
Cyanide (Total)	mg/L	0.004	-	-	
Kjeldahl Nitrogen Total	mg/L	-	-	-	-
Total Suspended solids	mg/L	751	3700	39	50
Total Dissolved Solids	mg/L	-	-	-	-
pH (Lab)	pH_Units	7.68	8.15	-	6.5-8.0
Ammonia	mg/L	-	-	-	-
Nitrogen (as N)	mg/L	3.3	-	-	0.25
Phosphorous (Total)	mg/L	1.31	-	-	0.02
Alkalinity (total) as CaCO3	mg/L	-	-	-	-
Bicarbonate	mg/L	-	-	-	-
Carbonate	mg/L	-	-	-	-
Chloride	mg/L	-	-	-	-
Magnesium	mg/L	-	-	-	-
Ionic Balance	%	-	-	-	-
Arsenic	mg/L	0.001	-	-	0.024
Cadmium	mg/L	0.0001	-	-	0.0002
Copper	mg/L	0.006	-	-	0.0014
Lead	mg/L	0.003	-	-	0.0034
Nickel	mg/L	0.003	-	-	0.011
Zinc	mg/L	0.015	-	-	0.008

2014 Sediment Basin 3				
Parameter	Units	2/03/2014	6/06/2014	ANZECC Trigger Limit
Electrical conductivity *(lab)	µS/cm	144	170	350
Cyanide (Free)	mg/L	-	-	-
Cyanide (WAD)	mg/L	<0.004	-	
Cyanide (Total)	mg/L	<0.004	-	
Kjeldahl Nitrogen Total	mg/L	-	-	-
Total Suspended solids	mg/L	1390	1960	50
Total Dissolved Solids	mg/L	-	-	-
pH (Lab)	pH_Units	7.56	8.11	6.5-8.0
Ammonia	mg/L	-	-	-
Nitrogen (as N)	mg/L	3.2	-	0.25
Phosphorous (Total)	mg/L	1.9	-	0.02
Alkalinity (total) as CaCO3	mg/L	-	-	-
Bicarbonate	mg/L	-	-	-
Carbonate	mg/L	-	-	-
Chloride	mg/L	-	-	-
Magnesium	mg/L	-	-	-
Ionic Balance	%	-	-	-
Arsenic	mg/L	0.013	-	0.024
Cadmium	mg/L	<0.0001	-	0.0002
Copper	mg/L	0.021	-	0.0014
Lead	mg/L	0.013	-	0.0034
Nickel	mg/L	0.027	-	0.011
Zinc	mg/L	0.107	-	0.008

2014 Sediment Basin 4				
Parameter	Units	2/03/2014	6/06/2014	ANZECC Trigger Limit
Electrical conductivity *(lab)	µS/cm	530	250	350
Cyanide (Free)	mg/L	-	-	-
Cyanide (WAD)	mg/L	<0.004	-	
Cyanide (Total)	mg/L	<0.004	-	
Kjeldahl Nitrogen Total	mg/L	-	-	-
Total Suspended solids	mg/L	33	3000	50
Total Dissolved Solids	mg/L	-	-	-
pH (Lab)	pH_Units	8	8.11	6.5-8.0
Ammonia	mg/L	-	-	-
Nitrogen (as N)	mg/L	1	-	0.25
Phosphorous (Total)	mg/L	0.09	-	0.02
Alkalinity (total) as CaCO3	mg/L	-	-	-
Bicarbonate	mg/L	-	-	-
Carbonate	mg/L	-	-	-
Chloride	mg/L	-	-	-
Magnesium	mg/L	-	-	-
Ionic Balance	%	-	-	-
Arsenic	mg/L	0.002	-	0.024
Cadmium	mg/L	<0.0001	-	0.0002
Copper	mg/L	<0.001	-	0.0014
Lead	mg/L	<0.001	-	0.0034
Nickel	mg/L	<0.001	-	0.011
Zinc	mg/L	<0.005	-	0.008

2014 Sediment Basin 5					
Parameter	Units	2/03/2014	3/03/2014	6/06/2014	ANZECC Trigger Limit
Electrical conductivity *(lab)	µS/cm	152	228	79.7	350
Cyanide (Free)	mg/L	-	-	-	-
Cyanide (WAD)	mg/L	<0.004	<0.004	-	
Cyanide (Total)	mg/L	<0.004	<0.004	-	
Kjeldahl Nitrogen Total	mg/L	-	-	-	-
Total Suspended solids	mg/L	215	2750	1060	50
Total Dissolved Solids	mg/L	-	-	-	-
pH (Lab)	pH_Units	7.16	7.71	8.12	6.5-8.0
Ammonia	mg/L	-	-	-	-
Nitrogen (as N)	mg/L	2.1	5.2	-	0.25
Phosphorous (Total)	mg/L	1.36	3.04	-	0.02
Alkalinity (total) as CaCO3	mg/L	-	-	-	-
Bicarbonate	mg/L	-	-	-	-
Carbonate	mg/L	-	-	-	-
Chloride	mg/L	-	-	-	-
Magnesium	mg/L	-	-	-	-
Ionic Balance	%	-	-	-	-
Arsenic	mg/L	0.008	0.016	-	0.024
Cadmium	mg/L	<0.0001	<0.0001	-	0.0002
Copper	mg/L	0.015	0.021	-	0.0014
Lead	mg/L	0.008	0.011	-	0.0034
Nickel	mg/L	0.018	0.019	-	0.011
Zinc	mg/L	0.105	0.083	-	0.008

Appendix G

Groundwater Monitoring Data

TOMINGLEY
GOLD OPERATIONS PTY LTD
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2014 Groundwater Bore Monitoring Results

	GW-WYMB01				GW-WYMB02				GW-WYMB03				GW-WYMB04			
Sampling Date	25-Mar	19-Jun	24-Sep	15-Dec	25-Mar	19-Jun	24-Sep	15-Dec	24-Mar	18-Jun	25-Sep	16-Dec	25-Mar	19-Jun	24-Sep	15-Dec
Depth of water (m below surface)	38.2	38.17	38.37	39.63	59.28	59.23	59.03	60.35	54.25	54.07	54.27	53.18	63.2	62.8	62.7	63.84
Redox (field) (mV)	-42	-	45	95	159	-	113	138	119	-	127	143	162	-	118	159
Oxygen (field) (%)	-	-	0.67	1.8	-	-	0.18	1.8	-	-	0.47	2.41	-	-	0.03	3.23
pH (lab)	8.1	7.42	7.89	7.42	8.24	7.76	7.55	7.47	8.07	7.68	7.77	7.97	7.68	7.43	7.61	7.41
Electrical Conductivity (lab) (µS/cm)	12200	12500	12200	12100	22700	22200	22900	22800	21200	20800	21500	20500	27200	26600	27400	27500
Total Dissolved Solids (mg/L)	-	7550	7460	6920	-	14900	15200	14300	-	13400	14100	12800	-	16400	18600	18400
Suspended Solids (mg/L)	-	<5	<5	<5	-	22	<5	<5	-	15	<5	80	-	<5	41	<5
Ionic Balance	-	0.03	5.6	0.81	-	1.96	5.1	2.56	-	3.04	4.41	1.64	-	8.28	0.46	0.12
Ammonia as N (mg/L)	0.06	0.14	0.18	0.19	0.02	0.49	0.08	<0.01	0.03	0.02	0.02	2.04	0.06	<0.01	0.02	0.02
Alkalinity ($CaCO_3$) (mg/L)	341	338	325	382	967	1100	924	970	1080	1110	1010	1130	957	1090	899	929
Hardness (as $CaCO_3$) (mg/L)	-	1570	1650	1580	-	2130	2310	2030	-	2510	2690	2190	-	3620	3700	3140
Carbonate (mg/L)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
Bicarbonate (mg/L)	341	338	325	382	967	1100	924	970	1080	1110	1010	1130	957	1090	899	929
Chloride (mg/L)	3470	3400	3840	3630	6420	6110	7290	6740	5900	5650	6660	5950	7650	7310	8840	8350
Calcium (mg/L)	231	228	234	232	153	129	139	112	196	160	173	120	273	268	271	208
Magnesium (mg/L)	257	244	259	242	500	439	476	426	585	512	549	460	757	717	734	637
Sodium (mg/L)	2450	2120	2010	2220	5770	4730	4450	5140	5410	4440	4120	4160	6580	6090	5620	5600
Potassium (mg/L)	8	7	10	8	12	11	15	11	19	18	24	20	22	22	26	24
Arsenic (mg/L)	0.002	0.003	0.004	0.003	<0.001	0.004	.001.003	0.003	0.002	0.005	0.005	0.003	0.003	<0.01	0.002	<0.01
Cadmium (mg/L)	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0002	<0.0001	0.0002	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (mg/L)	<0.001	<0.001	<0.001	0.013	0.003	0.005	0.001	0.002	0.003	0.005	0.001	0.002	0.049	<0.01	0.001	<0.01
Copper (mg/L)	0.041	0.002	0.003	0.005	0.057	0.022	0.001	0.002	0.03	0.02	0.009	0.047	0.015	<0.01	0.001	<0.01
Nickel (mg/L)	0.006	0.004	0.007	0.012	0.005	0.012	0.002	0.002	0.013	0.028	0.011	0.026	0.011	<0.01	0.002	<0.01
Lead (mg/L)	<0.001	0.004	<0.001	0.008	0.002	0.047	0.007	0.025	0.002	0.022	0.008	0.162	0.049	<0.01	0.002	<0.01
Zinc (mg/L)	0.035	0.011	0.061	0.113	0.12	0.274	0.035	0.027	0.038	0.206	0.112	0.176	0.149	0.16	0.21	<0.05
Iron (mg/L)	-	0.21	0.1	0.4	-	1.35	<0.05	0.44	-	0.96	0.23	2.69	-	<0.05	0.3	<0.05
Mercury (mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Total Cyanide (mg/L)	0.019	0.007	0.022	0.013	0.006	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Weak Acid Dissociable Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Sulphates (mg/L)	927	1020	967	975	1810	2140	2000	2000	1910	2290	2260	2030	2280	2790	2620	2500
Nitrate as N (mg/L)	0.01	0.04	0.07	0.03	0.59	0.27	0.58	0.58	0.36	0.72	0.7	0.28	0.17	0.16	0.16	0.18
Phosphate (calculated from P) (mg/L)	0.1533	0.092	0.0921	0.12	0.4906	0.4906	0.3377	0.31	0.5212	0.5212	0.5526	<0.03	<0.03066	0.092	0.4912	0.03

	GW-WYMB06				GW-WYMB10				GW-GDCMB01			
Sampling Date	24-Mar	18-Jun	24-Sep	16-Dec	25-Mar	19-Jun	25-Sep	15-Dec	25-Mar	19-Jun	25-Sep	15-Dec
Depth of water (m below surface)	35.6	36.74	36.02	32.01	72.7	72.23	72.27	75.77	2.1	2.31	1.92	2.8
Redox (field) (mV)	142	-	88	64	73	-	124	203	183	-	157	9
Oxygen (field) (%)	-	-	1.12	2.09	-	-	1.02	1.82	-	-	0.7	1.78
pH (lab)	7.58	7.47	7.54	7.95	8.24	7.47	7.91	7.48	6.83	7.02	7.1	7.09
Electrical Conductivity (lab) (µS/cm)	13200	13400	13700	13000	28700	27900	28500	28700	434	498	505	502
Total Dissolved Solids (mg/L)	-	7960	9120	8720	-	17900	18900	18000	-	799	453	402
Suspended Solids (mg/L)	-	<5	15	<5	-	<5	<5	<5	-	61	6	42
Ionic Balance	-	1.63	1.02	1.32	-	8.68	1.23	0.16	-	0.48	3.91	0.79
Ammonia as N (mg/L)	0.05	0.02	0.03	0.15	0.02	<0.01	0.04	0.01	0.04	0.01	<0.01	0.04
Alkalinity ($CaCO_3$) (mg/L)	1150	1190	1040	1060	847	994	814	882	34	79	69	54
Hardness (as $CaCO_3$) (mg/L)	-	1640	1900	1400	-	3140	3340	2850	-	11	7	4
Carbonate (mg/L)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bicarbonate (mg/L)	1150	1190	1040	1060	847	994	814	882	34	79	69	54
Chloride (mg/L)	2750	2720	3310	2880	8050	7600	9110	8660	58	68	66	60
Calcium (mg/L)	140	138	155	84	226	215	223	181	<1	1	1	<1
Magnesium (mg/L)	309	316	368	290	649	633	675	583	1	2	1	1
Sodium (mg/L)	3060	2840	2810	2690	7120	6700	6350	6230	100	121	113	92
Potassium (mg/L)	9	8	9	8	28	29	35	26	1	3	2	1
Arsenic (mg/L)	0.03	0.033	0.0258	0.028	<0.001	<0.01	0.004	<0.01	0.006	0.007	0.005	0.002
Cadmium (mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.001	0.0002	<0.001	<0.0001	<0.0001	0.0002	<0.0001
Chromium (mg/L)	0.004	0.002	0.001	0.001	0.001	<0.01	0.002	<0.01	0.025	0.024	0.015	0.008
Copper (mg/L)	0.012	0.011	0.039	0.006	0.002	0.011	0.01	<0.01	0.015	0.016	0.01	0.007
Nickel (mg/L)	0.036	0.035	0.036	0.026	0.004	0.011	0.007	<0.01	0.014	0.015	0.009	0.004
Lead (mg/L)	0.004	0.003	<0.001	0.002	<0.001	<0.01	<0.001	<0.01	0.015	0.01	0.005	0.004
Zinc (mg/L)	0.077	0.116	0.186	0.012	0.009	0.264	0.215	<0.05	0.046	0.052	0.071	0.019
Iron (mg/L)	-	0.41	0.31	0.3	-	<0.5	0.22	<0.5	-	21.1	13.3	8.61
Mercury (mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	0.018	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Total Cyanide (mg/L)	0.079	0.098	0.123	0.079	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Weak Acid Dissociable Cyanide (mg/L)	<0.004	<0.004	0.006	0.01	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Sulphates (mg/L)	2010	2450	2380	2240	2820	3070	2980	3150	20	24	25	22
Nitrate as N (mg/L)	0.45	0.61	0.63	0.01	0.61	0.7	0.83	0.65	14.2	16.4	13	15.9
Phosphate (calculated from P) (mg/L)	0.0307	0.0613	0.1228	0.09	0.4906	0.4599	0.4298	0.4	0.184	0.2146	0.1842	0.12

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2014 RSF Piezometer Monitoring Results

RSFMP01	**2014**									
Sampling Date	March	April	May (13th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	10.9	11.14	10.95	10.91	10.95	10.96	11	10.95	10.55	10.95
Standing Water (Y/N)	N	N	N	N	N	N	N	N	N	N

RSFMP02	**2014**									
Sampling Date	March	April	May (13th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	10.8	10.79	10.59	10.59	10.55	10.5	10.5	10.58	10.58	10.58
Standing Water (Y/N)	N	N	N	N	N	N	N	N	N	N

RSFMP03	**2014**									
Sampling Date	March	April	May (26th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	9.78	9.74	9.32	9.27	9.24	8.99	8.6	8.12	7.55	6.99
Standing Water (Y/N)	Y	Y	Y	Y	N	Y	Y	Y	N	Y
pH	-	-	6.7	6.8	-	7.19	6.83	7.74	-	7.48
Electrical Conductivity (µS/cm)	-	-	12400	15100	-	14740	14880	15120	-	14800
Total Suspended Solids (mg/L)	-	-	-	-	-	-	90	239	-	392
Calcium (mg/L)	-	-	-	-	-	-	-	-	-	73
Magnesium (mg/L)	-	-	-	-	-	-	-	-	-	244
Sodium (mg/L)	-	-	-	-	-	-	-	-	-	2410
Potassium (mg/L)	-	-	-	-	-	-	-	-	-	14
Aluminium (mg/L)	-	-	-	-	-	-	-	-	-	3.42
Arsenic (mg/L)	-	-	<0.001	-	-	-	-	-	-	0.002
Cadmium (mg/L)	-	-	<0.0001	-	-	-	-	-	-	<0.0001
Chromium (mg/L)	-	-	<0.001	-	-	-	-	-	-	0.004
Copper (mg/L)	-	-	<0.001	-	-	-	-	-	-	0.003

Nickel (mg/L)	-	-	0.005	-	-	-	-	-	-	0.003
Lead (mg/L)	-	-	<0.001	-	-	-	-	-	-	0.001
Selenium (mg/L)	-	-	-	-	-	-	-	-	-	0.03
Zinc (mg/L)	-	-	0.06	-	-	-	-	-	-	0.014
Iron (mg/L)	-	-	-	-	-	-	-	-	-	4.13
Mercury (mg/L)	-	-	<0.0001	-	-	-	-	-	-	<0.0001
Free Cyanide (mg/L)	-	-	<0.004	-	-	-	-	-	-	<0.004
Total Cyanide (mg/L)	-	-	-	-	-	-	-	-	-	<0.004
Weak Acid Dissociable Cyanide (mg/L)	-	-	<0.004	-	-	-	-	-	-	<0.004
Ammonia as N (mg/L)	-	-	0.15	-	-	-	-	-	-	0.05
Nitrite as N (mg/L)	-	-	0.26	-	-	-	-	-	-	<0.01
Nitrate as N (mg/L)	-	-	13.4	-	-	-	-	-	-	15.5
Nitrite + Nitrate as N (mg/L)	-	-	13.7	-	-	-	-	-	-	15.5
Total Kjeldahl Nitrogen as N (mg/L)	-	-	4.2	-	-	-	-	-	-	0.9
Total Nitrogen as N (mg/L)	-	-	17.9	-	-	-	-	-	-	16.4
Total Phosphorus as P (mg/L)	-	-	2.27	-	-	-	-	-	-	0.03

RSFMP04	**2014**									
Sampling Date	March	April	May (14th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	5.57	5.57	5.27	5.25	5.34	5.27	5.27	5.26	5.28	5.28
Standing Water (Y/N)	Y	Y	N	N	N	Y	Y	N	N	N

RSFMP05	**2014**									
Sampling Date	March	April	May (14th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	5.98	7.35	8.05	7.3	7.43	7.42	7.7	7.54	7.73	7.25
Standing Water (Y/N)	Y	Y	N	Y	Y	Y	Y	Y	Y	N
pH	-	-	-	-	-	-	-	7.38	-	-
Electrical Conductivity (µS/cm)	-	-	-	-	-	-	-	5.44	-	-

Total Suspended Solids (mg/L)	-	-	-	-	-	-	-	682	-	-
Arsenic (mg/L)	-	-	0.004	-	-	-	-	-	-	-
Cadmium (mg/L)	-	-	<0.0001	-	-	-	-	-	-	-
Chromium (mg/L)	-	-	0.003	-	-	-	-	-	-	-
Copper (mg/L)	-	-	0.011	-	-	-	-	-	-	-
Nickel (mg/L)	-	-	0.007	-	-	-	-	-	-	-
Lead (mg/L)	-	-	<0.001	-	-	-	-	-	-	-
Zinc (mg/L)	-	-	0.08	-	-	-	-	-	-	-
Mercury (mg/L)	-	-	<0.0001	-	-	-	-	-	-	-
Free Cyanide (mg/L)	-	-	<0.004	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide (mg/L)	-	-	<0.004	-	-	-	-	-	-	-
Nitrite + Nitrate as N (mg/L)	-	-	6.6	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen as N (mg/L)	-	-	14.6	-	-	-	-	-	-	-
Total Nitrogen as N (mg/L)	-	-	21.2	-	-	-	-	-	-	-
Total Phosphorus as P (mg/L)	-	-	2.91	-	-	-	-	-	-	-

RSFMP06	2014									
Sampling Date	March	April	May (26th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	2.45	2.93	3.14	2.3	2.73	2.76	3.03	3.15	3.2	3.24
Standing Water (Y/N)	Y	Y	Y	Y	Y	Y	Y	N	Y	N
pH	-	-	7.44	-	-	9.08	8.02	-	-	-
Electrical Conductivity (µS/cm)	-	-	1040	-	-	908	919	-	-	-
Total Dissolved Solids (mg/L)	-	-	-	-	-	-	-	-	-	-
Total Suspended Solids (mg/L)	-	-	-	-	-	-	602	-	-	-
Arsenic (mg/L)	-	-	0.006	-	-	-	-	-	-	-
Cadmium (mg/L)	-	-	<0.0001	-	-	-	-	-	-	-
Chromium (mg/L)	-	-	<0.001	-	-	-	-	-	-	-
Copper (mg/L)	-	-	0.002	-	-	-	-	-	-	-
Nickel (mg/L)	-	-	0.002	-	-	-	-	-	-	-
Lead (mg/L)	-	-	<0.001	-	-	-	-	-	-	-
Zinc (mg/L)	-	-	<0.005	-	-	-	-	-	-	-
Mercury (mg/L)	-	-	<0.0001	-	-	-	-	-	-	-
Free Cyanide (mg/L)	-	-	<0.004	-	-	-	-	-	-	-
Total Cyanide (mg/L)	-	-	-	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide (mg/L)	-	-	<0.004	-	-	-	-	-	-	-
Ammonia as N (mg/L)	-	-	0.03	-	-	-	-	-	-	-
Nitrite as N (mg/L)	-	-	<0.01	-	-	-	-	-	-	-
Nitrate as N (mg/L)	-	-	2.56	-	-	-	-	-	-	-
Nitrite + Nitrate as N (mg/L)	-	-	2.56	-	-	-	-	-	-	-
Total Kjeldahl N (mg/L)	-	-	0.8	-	-	-	-	-	-	-

RSFMP06	2014									
Sampling Date	March	April	May (26th)	June	July (30 June)	August	September	October	November	December
Total Nitrogen as N (mg/L)	-	-	3.4	-	-	-	-	-	-	-
Total Phosphorus as P (mg/L)	-	-	0.18	-	-	-	-	-	-	-

RSFMP07	2014									
Sampling Date	March	April	May (13th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	5.74	5.74	5.4	5.4	5.4	5.4	5.5	5.41	5.3	5.19
Standing Water (Y/N)	N	N	N	N	N	N	N	N	N	N

RSFMP08	2014									
Sampling Date	March	April	May (13th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	4.74	4.74	4.7	4.42	4.43	4.44	4.5	4.43	4.43	4.43
Standing Water (Y/N)	N	N	N	N	N	N	N	N	N	N

RSFMP09	2014									
Sampling Date	March	April	May (13th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	3.31	5.3	4.98	5.02	5.02	4.99		4.98	5.02	4.98
Standing Water (Y/N)	-	Y	N	N	N	N	N	N	N	N

RSFMP010	2014									
Sampling Date	March	April	May (14th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	0.88	1.93	3.61	5.05	5.23	5.39	5.4	5.45	5.49	5.5
Standing Water (Y/N)	Y	Y	Y	Y	Y	N	N	N	N	N
pH	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity (µS/cm)	-	-	-	-	-	-	-	-	-	-
Total Suspended Solids (mg/L)	-	-	-	-	-	-	-	-	-	-
Arsenic (mg/L)	-	-	0.008	-	-	-	-	-	-	-
Cadmium (mg/L)	-	-	<0.0001	-	-	-	-	-	-	-
Chromium (mg/L)	-	-	0.002	-	-	-	-	-	-	-
Copper (mg/L)	-	-	0.002	-	-	-	-	-	-	-
Nickel (mg/L)	-	-	0.007	-	-	-	-	-	-	-
Lead (mg/L)	-	-	<0.001	-	-	-	-	-	-	-
Zinc (mg/L)	-	-	0.015	-	-	-	-	-	-	-

Mercury (mg/L)	-	-	<0.0001	-	-	-	-	-	-	-
Free Cyanide (mg/L)	-	-	<0.004	-	-	-	-	-	-	-
Total Cyanide (mg/L)	-	-	-	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide (mg/L)	-	-	<0.004	-	-	-	-	-	-	-
Nitrite + Nitrate as N (mg/L)	-	-	1.41	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen as N (mg/L)	-	-	29.2	-	-	-	-	-	-	-
Total Nitrogen as N (mg/L)	-	-	30.6	-	-	-	-	-	-	-
Total Phosphorus as P (mg/L)	-	-	6.8	-	-	-	-	-	-	-

RSFMP11	**2014**									
Sampling Date	March	April	May (13th)	June	July (30 June)	August	September	October	November	December
Depth of water (m below surface)	5.93	5.92	5.73	5.73	5.73	5.72	5.74	5.68	5.69	5.69
Standing Water (Y/N)	N	N	N	N	N	N	N	N	N	N

Appendix H

Community Complaints Register

TOMINGLEY
GOLD OPERATIONS PTY LTD
(A wholly owned subsidiary of Alkane Resources Ltd)
ABN 53 149 040 371

Date	Time	Mode of contact	Complaint regarding	The complaint	Action Taken
7/01/2014	12.00pm	telephone through community enquiry line	Dust	Dust and poor visibility at premises north of Caloma	Works were stopped at Coloma. Arranged for complainant to visit site and tour work areas and discuss dust management.
22/01/2014	7.31am	telephone through community enquiry line	Dust	Dust and poor visibility at premises north of Caloma	works were stopped at Caloma. Dust was generated from the Go-Line not being watered prior to vehicles moving off. Controls put in place to ensure that Go-line receives water for dust suppression.
10/01/2014	6.50am	telephone through community enquiry line	Dust	Dust and poor visibility at premises north of Caloma.	Scraper fleet had been stood down. Carried out site inspection. Dust hanging due to lack of wind. Water was short from previous day and it was taking some time to get moisture back in the ground.
11/02/2014	11.18am	telephone to Dubbo office	Staff	Operators at the Tomingley Mine are using UHF Channel 15. A lot of swearing (f) bombs and discussions that families in the area do not want to hear.	Referred to mine superintendent and contractors advised of inappropriate use of radio channels and not to use channel 15.
13/02/2014	9.17pm	telephone through community enquiry line	Dust	Allot of dust blowing through the village	Dust was coming from the crusher. The crusher was shut down until conditions improved.
25/02/2014	8:12am	Telephone through front office	Noise	Truck horns were very busy through the night.	Investigation revealed that that it was actually air-horns on the diggers, they had been switched over form the electric horns. Air horns to be removed.
6/03/2014	7.10pm, 9.52pm, 9.57pm, 10.02pm	telephone through community enquiry line	Traffic	Tomingley west road was dangerous during road redevelopment.	Contractor was stood down until rectification works were implemented to make area safe

Date	Time	Mode of contact	Complaint regarding	The complaint	Action Taken
11/03/2014	12.36pm	telephone through community line	Noise	Mine is creating allot of noise, it had been for the 3 nights previous but this night was particularly loud.	Dozer was removed from the dump another continued to operate. Property attended front gate of property and carried out a noise assessment. The results didn't reveal any non-compliance at the time.
12/03/2014	N/A	By Letter	Traffic	Complaint that people who appeared to be mine workers were driving dangerously on local roads. This had been noted on 2 occasions	Safety Toolbox to be rolled out to all employees and contractors on travelling safely.
24/03/2014	9.30pm	telephone through community line	Noise	Advised that the mine was very noisy and could be heard over the TV.	Mine operations discussed
28/03/2014	8.29pm	txt message	Noise	Noise from mine site	Discussed issues with complainant to inform changes in operational procedures.
31/03/2014	10.45am	telephone to site office	Noise	Dozer noise was loud all last night	Complainant advised that consultant was coming to site to review noise.
31/03/2014	11.30am	telephone	Noise	Noise is so bad significantly disrupting sleep	Consultant will be on site within a fortnight to review what mitigation methods can be used to reduce noise.
31/03/2014	10.35pm	telephone	Noise	Complainant concerned that the noise was unreasonable.	Consultant will be on site within a fortnight to review what mitigation methods can be used to reduce noise.
8/04/2014	8.00am	telephone	Property damage	Contractor truck turning around in complainant's driveway causing damage to surface	Contractor site manager instructed not to use property driveways as a turning point.
16/04/2014	6.00am	telephone	Noise	Noise was really bad last night, could hear dozer tracks and they woke complainant up	TGO will install real time monitor at complainant house next week. Discussed regarding use of dozers
16/04/2014	6.30am	Discussion in office	Noise	Noise was really bad last night.	TGO will install real time monitor at complainant house next week. Discussed regarding use of dozers

Date	Time	Mode of contact	Complaint regarding	The complaint	Action Taken
22/04/2014	12.03am	telephone	Noise	Noise was really bad can't sleep	Discussion held with complainant regarding what the company is doing to address noise concerns. TGO made an offer to have a noise consultant attend the premises and install acoustic treatment
23/04/2014	9.55pm	telephone	Noise	Noise was really bad can't sleep	Discussion held with complainant regarding what the company is doing to address noise concerns.
15/05/2014	4.50pm EST	telephone to Alkane Perth Office	Dust	Dust blowing off entrance road out to Tomingley west road	Break down with water truck that usually waters entrance road. Water cart returned to duty as soon as possible
20/05/2014	6.00am	telephone	Noise	Very Noisy Last night	Data from Real time monitor reviewed from noise and sound services.
29/05/2014	11.24am	telephone	Noise	Complainant was woken by dozer track noises, reverse squawkers and trucks changing gear. It was very noisy.	TGO will review the noise data.
29/05/2014	4.00pm	Discussion at residence	Noise	Noise was really bad, has been OK but last night sounded like it was coming through lounge room	Noise data was reviewed
29/05/2014	4.30pm	Discussions at business/residence	Noise	Noise was very bad, enquired as to whether work was being carried out off the lease it seemed so close.	Noise data was reviewed
10/062014	7.00am	In person at TGO Office	Noise	The noise was the worst it had been, on 9/6/2014... particularly 9.54pm for at least an hour	Information passed on to noise consultant for review. Waiting on report regarding acoustic treatment.
27/06/2014	12.00pm	Telephone	Noise	Noise was really bad last night, was woken up at 2am and 5am . Complainant considers noise to be out of control and the mine to be disregarding the issue.	Information passed on to noise consultant for review. Waiting on report regarding acoustic treatment.

Date	Time	Mode of contact	Complaint regarding	The complaint	Action Taken
2/07/2015	8.15am	Telephone	Noise	Dozer Noise very bad when he got home at around 11pm	Dozer noise on WRE2. Review to be carried out on use of dozers. Dozer should be off top of dump at night time
2/07/2014	9.00am	Telephone	Noise	Dozer Noise very bad between 11.30 and 12.30pm	Dozer noise on WRE2. Review to be carried out on use of dozers. Dozer should be off top of dump at night time
2/07/2015	10.15am	Telephone	Noise	Dozer noise very bad late last night	Dozer noise on WRE2. Review to be carried out on use of dozers. Dozer should be off top of dump at night time
1/07/2014	4.40pm	Telephone	Blasting	Blast almost blew out back wall of house, sounded like and earth quake.	Visited complainant and advised that there was an issue with blast and that it did exceed set limits for overpressure. The matter had been investigated and referred to the EPA. It was an unusual occurrence.
5/08/2014	8.04am msg	Message left and phone call returned at 12.03pm	Blasting	Complainant had noticed movement in their house, having trouble with doors opening and closing. Suggested that it may be the result of blasting events.	Project approval requirements were explained to complainant, and TGO contracted an independent to complete the inspection of the house and provide a report. If there is any dispute regarding the independent report then the matter will be referred to the director general of the department of planning
5/08/2014	8.30pm	Telephone	Noise	Complainant advised that dozer and horn noise was extremely loud.	Advice/ information gathered to give thorough answer
15/08/2014	12.03am	Telephone	Noise	mine noise tonight and last night has been very bad, like loud banging	Large rocks being lowered into the tubs of trucks causing the problem. They were trying to lay them in as cautiously as possible.
22/08/2014	3.15pm	Telephone to office	Noise	2.45am Wednesday week ago, dozer 11.30pm last night. Drilling on shift. Last 2 night on dump trucks on site.	Followed up
25/08/2014	11.48pm	Telephone	Noise	Complainant can hear dozer working. "Thought it was on dump this side	The mine crew were ripping the toe in Caloma pit. Follow up discussion with Mine Superintendent and suggested we don't do that task on night shift.

Date	Time	Mode of contact	Complaint regarding	The complaint	Action Taken
				but went outside and it is on "other side".	
27/08/2014	4.15	Discussion at residence	Noise	Noise is now a problem again. Keeping the family awake at night. Family have important commitments coming up.	Actions are ongoing.
8/10/2014	8.00am	Telephone	Noise	Noise was the worst it had ever been. It was noticed it around 9.30pm (7/10/14) when they went to bed and it kept up most of the night. It seemed that every 10 minutes or so there was very loud banging.	Recordings from Noise Sentinel were reviewed and rocks being loaded into trucks could be heard. Report from consultant showed exceedance of Project Approval limits.
8/10/2014	8.20am	Telephone	Noise	It was extremely noisy last night, sounded like banging and trucks. He noticed it from around 11 pm (7/10/14) onwards through the night.	Recordings from Noise Sentinel were reviewed and rocks being loaded into trucks could be heard. Report from consultant showed exceedance of Project Approval limits.
14/10/2014	11.01am	email to Alkane central email system	Traffic	Traffic safety issue noticed at mine entrance gate	Incident was investigated and discussed with complainant
18/11/2014	10:51:13PM	Text message	Noise	Mine noise very loud and noise could be identified as trucks, beeping horns and loud bangs presumably when they are loading the trucks.	Complainant contacted
19/11/2014	6.16pm	Telephone	Noise	Noise from mine keeping complainant awake during the night.	Complainant contacted and arrangements made for further discussion regarding the impact on the complainant. Dust issues also highlighted as an issue during these discussions.
19/11/2014	11.53pm	Telephone	Noise	Noise was load last night which impacted on the complainant's ability to sleep.	Complainant contacted and arrangements made for further discussion regarding the impact on the complainant.

Date	Time	Mode of contact	Complaint regarding	The complaint	Action Taken
16/11/2014	4.54pm	Telephone	Dust	A lot of dust seen blowing off site.	Complainant contacted and arrangements made for further discussion regarding the impact on the complainant.
16/11/2014	4.50pm	Telephone	Dust	A lot of dust seen blowing off site.	Complainant contacted and arrangements made for further discussion regarding the impact on the complainant.
16/11/2014	9.30pm	Telephone	Dust	A lot of dust seem blowing off site and complainant was unwilling to run their evaporative cooler as it was filling with dust.	Complainant contacted and arrangements made for further discussion regarding the impact on the complainant.
16/11/2014	9.02am	Telephone	Dust	Dust reportedly blowing off the mine site and onto complainant's roof.	Complainant contacted and arrangements made for further discussion regarding the impact on the complainant.
23/11/2014	5.16pm	Telephone	Dust	Dust emissions reported.	Complainant contacted and arrangements made for further discussion regarding the impact on the complainant.
28/11/2014	7.50am	Telephone	Noise	Noise noted shortly after 4am however prior to that time complainant was quite pleased with the noise level.	Recent discussions regarding noise have occurred with complainant. Added that it can be just as useful to us if the community lets us know when the noise level is appropriate for them.
30/11/2014	4.48pm	Telephone to community Line	Dust	Dust emissions reported.	Complainant contacted and arrangements made for further discussion regarding the impact on the complainant.
30/12/2014	2:47:19PM	Text message	Noise	Noise was an issue last night, impacting on the sleep of children in the house.	Complainant contacted. Strategy formulated to progress sound treatment of dwelling.
30/12/2014	9.49pm	Text message	Noise	Mine noise very loud.	Investigation at the time confirmed that truck noise was load as heard from the village.
30/12/2014	9.50pm	Text message	Noise	Mine noise loud	Complaint investigated and evidence suggested that complaint was exaggerated.

Date	Time	Mode of contact	Complaint regarding	The complaint	Action Taken
31/12/2014	7.45am	Telephone	Noise	Mine noise very loud. Reported to sound like truck movements and loading.	Complainant contacted and arrangements made for further discussion regarding the impact on the complainant.