

Report

STATEMENT OF EXPERT EVIDENCE

**ANSEVATA NOMINEES PTY LTD V
SOUTH GIPPSLAND SHIRE
COUNCIL**

WALKERVILLE, VICTORIA

1 May 2018

Environmental Engineering
Science & Management
Consultants



**PETER J RAMSAY
& ASSOCIATES**

Melbourne
222 Kings Way
South Melbourne VIC 3205
Telephone +61 3 9690 0522
Facsimile +61 3 9690 0585

Sydney
3/538 Gardeners Road
Alexandria NSW 2015
Telephone +61 2 8338 1655
Facsimile +61 2 8338 1755

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USE OF REPORT

The preparation of this report has been undertaken for the purpose of providing expert evidence in the matter between Ansevata Nominees Pty Ltd and South Gippsland Shire Council regarding the dam at "Marapana", Loop Road, Walkerville, Victoria, and it is not intended that this report should be used for any other purpose.

LIST OF ABBREVIATIONS

ANZECC	Australian and New Zealand Environment Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
BOD	Biological Oxygen Demand
COC	Chain of Custody
EPA	Environment Protection Authority
IWRG	Industrial Waste Resource Guideline
SEPP	State Environment Protection Policy
VCAT	Victorian Civil and Administrative Tribunal
WoV	Waters of Victoria

1. INTRODUCTION

I was instructed by Wisewould Mahony Lawyers (Wisewould Mahony) on behalf of Ansevata Nominees Pty Ltd (Ansevata) to provide expert evidence regarding the dam at "Marapana", Loop Road, Walkerville, Victoria.

The expert evidence relates to an Agreement for Taking of Water between Ansevata and South Gippsland Shire Council (Council), which provides Ansevata the right to use water from a dam located on the retarding basin land ('the dam') for the purpose of irrigation of pasture and crops and watering of stock without charge. This matter relates to concerns held by Ansevata regarding the quality of the water within the dam.

2. SCOPE

I have been instructed to:

- Review the available documentation in relation to the matter;
- Undertake such inquiries as appropriate to enable me to prepare a response to the questions set out in the instructions; and
- Prepare an expert evidence report providing my opinion in relation to several specific questions, and any other matters relevant based on my review.

3. EXPERT EVIDENCE DETAILS

3.1 Expert Witness Details

Expert Witness: Dr Darren Bennetts
Address: Level 10, 222 Kings Way, South Melbourne, Victoria, 3205
Company: Peter J Ramsay & Associates Pty Ltd

3.2 Expert's Qualifications and Experience

I am a qualified hydrogeologist, holding a Bachelor of Environmental Science (Hons) and a PhD in hydrogeology, geochemistry and hydrology. I am appointed as an Environmental Auditor pursuant to the *Environment Protection Act 1970* by Environment Protection Authority (EPA) Victoria in the category of contaminated land and am a member of Mr Peter Ramsay's expert support team for statutory audits. I have over 13 years' experience in environmental consulting, with significant expertise in soil, groundwater and gas investigations, groundwater and soil vapour modelling, risk assessments, site remediation, due diligence transactions, and water resource management.

I have extensive experience in conducting hydrogeological assessments, including for water resources in Australia, New Zealand, Papua New Guinea, New Caledonia, Fiji, Samoa and Tahiti. In addition, I have conducted numerous investigations regarding the potential environmental impacts associated with various industrial facilities, including a number of environmental investigations into the storage, treatment and management of wastewater.

Prior to my role at Peter J Ramsay & Associates, I conducted research into the hydrogeology, hydrochemistry and hydrology of groundwater flow systems in western Victoria and their role in the development of dryland salinity. I have authored numerous papers, which have been published in International peer reviewed journals, in relation to dryland salinity, hydrogeology and geochemistry, and geology.

My curriculum vitae is provided in Appendix A.

3.3 Expert's Area of Expertise

My professional career has focused on identifying and resolving environmental issues at industrial and commercial facilities or associated with historical land uses. This includes soil, groundwater and gas investigations, groundwater and soil vapour modelling, risk assessments, site remediation (including soil, groundwater and vapour remediation), environmental management and water resource management. I have expertise and experience in hydrogeology, hydrology, geochemistry, contaminant fate and transport, assessment of exposure pathways and risk, and remedial technologies.

I have previously acted as an expert witness at Victorian Civil and Administrative Tribunal (VCAT) and have provided assistance to Mr Peter Ramsay in relation to various expert witness cases in the Supreme Court of Victoria, County Court, VCAT and panel hearings.

3.4 Statement of Expertise

In view of my professional qualifications and expertise, I believe I am well qualified to prepare and present this evidence.

3.5 Existence of Private or Business Relationship with the Party Requesting this Report

There is no relationship between myself and Ansevata Nominees Pty Ltd, beyond the commercial arrangement to prepare this expert evidence report.

3.6 Instructions that Defined the Scope of the Report

Written instructions were received from Wisewould Mahony on behalf of Ansevata on 26 March 2018 to provide an expert witness report in relation to the matter between Ansevata and Council. A copy of the instructions from Wisewould Mahony is provided in Appendix B.

In preparing this expert evidence report, I have read and agree to be bound to by the Expert Witness Code of Conduct for the Supreme Court of Victoria. In addition, I acknowledge the obligation on an expert witness imposed by the *Civil Procedure Act 2010*, and have complied with those obligations in preparing my report.

3.7 Facts, Matters and Assumptions Used

The following facts, matters and assumptions were used in the preparation of this report:

- The Brief of Documents provided by Wisewould Mahony (Section 3.8.1);
- Consideration of relevant legislation and guidelines (Sections 3.8.2 and 3.8.3); and
- My experience in surface water investigations, water resource management and evaluating the risk to the environment due to the reuse of reclaimed water.

3.8 Documents and Other Materials Used to Prepare Report

The documentation and materials used to prepare this report are listed following.

3.8.1 Supplied Documents

The following documents were provided by Wisewould Mahony Lawyers for my consideration:

1. Letter from Mr Rob McGirr of Wisewould Mahony Lawyers to Dr Darren Bennetts dated 26 March 2018 outlining the instructions and background information relating to the matter.
2. Expert Witness Code of Conduct for the Supreme Court of Victoria (Form 44A).
3. Extract of the Civil Procedure Act 2010 (Vic) about the obligations on expert witnesses in Victorian Courts.
4. Agreement for taking water dated 8 May 1990
5. Deed of variation to the water agreement dated 28 November 2016.
6. Storage capacity area and location plan 30-158 dated 16 November 1997.
7. Walkerville basin feature level survey dated 27 January 2016 by Mackie Surveying.
8. Copies of certificates of analysis as per the schedule attached.
9. Aerial photograph of the site.
10. Map showing sampling locations SP1 to SP4: SP1 and SP3 are water outlets of the North West and South West corner of the dam SP2 is the stormwater outlet of the South East corner of the dam from the Estate by underground pipe.
11. Letter to Mr Rob McGirr of Wisewould Mahony Lawyers from Mr Andrew Sherman of Russell Kennedy regarding the proposed works at Walkerville Retarding Basin dated 20 April 2018.
12. Original design drawings for Promontory Views Estate Drainage Scheme plan file number 30-160 dated February 1988.
13. Updated Walkerville basin feature level survey dated 27 January 2016 by Mackie Surveying.
14. Proposed plans for Promontory Views Basin Works plan file number 40/1703/1 dated 30 November 2017.

The document numbers preceding the document details are used throughout this report to reference each document.

3.8.2 Legislation

I have considered the following pieces of legislation in the preparation of my evidence:

- *Environment Protection Act 1970*;
- *Water Act 1989*;
- State Environment Protection Policy [SEPP] (Waters of Victoria) (WoV), 1988; and
- Variation to SEPP (WoV), 2003.

3.8.3 Technical References and Guidelines

I have considered the following technical references and guidelines in the preparation of my evidence:

- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Australian and New Zealand Environment Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ), October 2000 (ANZECC/ARMCANZ 2000)*;
- Australian/New Zealand Standard 5667.1:1998, *Water Quality-Sampling, Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples*, 1998.
- Environment Protection Authority Publication 441, 6th Edition, *A Guide to the Sampling and Analysis of Water and Wastewater*, 1995;
- Environment Protection Authority Publication, Industrial Waste Resource Guideline (IWRG) 701, *Sampling and Analysis of Waters, Wastewaters, Soils and Wastes*, June 2009; and
- Environment Protection Authority Victoria 2003, *Guidelines for Environmental Management, Use of Reclaimed Water*, Publication 464.2, June 2003 (EPA Publication 464.2).

3.9 Summary of Opinions

It is my opinion that:

- It is not possible to confirm that the monitoring program was undertaken in accordance with EPA requirements as insufficient documentation was available.
- Based on my review of the results provided with regard to the relevant criteria for irrigation and livestock watering, I am of the opinion that the dam water is not suitable for irrigation of pasture and crops, and watering of livestock. In drawing this conclusion I acknowledge that insufficient documentation has been provided to confirm the efficacy of the sampling program, however, any data errors are unlikely to alter the overall magnitude of the results.
- Dam water quality in Victoria is regulated by both the *Water Act 1989* and the *Environment Protection Act 1970*. These require that the uses of the water that it is intended to be used should not be compromised.

- Based on my opinion that the water is not suitable for the intended uses of irrigation and livestock watering, in accordance with both the *Water Act 1989* and the *Environment Protection Act 1970*, the water is considered to be polluted.
- The source of the polluted water identified is considered to be from a combination of treated septic tank effluent from the adjacent Estate mixed (essentially diluted) with stormwater.
- The mixing of stormwater with septic tank effluent is inappropriate and inconsistent with the management principle of segregating wastewater from clean water streams. To that end, it is considered to be inherently very difficult to ensure suitable water quality within the dam to support irrigation and livestock watering purposes based on the current system.
- The system would need to be upgraded to include a pre-treatment step to ensure that only acceptably treated septic tank effluent is released into the dam. Alternatively, septic tank effluent should be prevented from being placed into the dam and disposed of in an alternative manner (i.e. dispersion trench system).

3.10 Provisional Opinions

The opinions expressed are not considered to be provisional.

3.11 Limitation

I consider myself qualified to prepare and present the report, and where an area is beyond the area of my expertise, I have noted this in the report. I have not addressed questions falling outside my area of expertise, and do not consider it incomplete or inaccurate in any respect.

My opinions are based on my review of the documentation provided for my review and other relevant documentation that I have sourced and my professional experience.

3.12 Declaration

I have made all the enquiries that I believe are desirable and appropriate and that no matters of significance which I regard as relevant have to my knowledge been withheld.

4. FINDINGS AND OPINIONS

4.1 Background

In 1990 Ansevata provided Shire of Woorayl with approximately 2.585 ha of its land to construct a retarding basin and dam to receive stormwater drainage and treated septic effluent from the nearby Promontory Views Estate (the Estate) (Document 1). The dam is located off Panoramic Drive, Walkerville, approximately 200 m north of the local Country Fire Authority building.

Ansevata subsequently entered into an agreement with the Shire of Woorayl, dated 8 May 1990, whereby Ansevata had an entitlement to use the water in the dam for the purpose of irrigation of pasture and crops and watering of stock on their remaining land (Document 4). The Agreement sets out the rights and obligations of the parties. As part of the Agreement, the Shire was to ensure that the water in the dam was of suitable quality for the purposes of irrigation and stock watering. In 1994 the Shire of Woorayl was merged into the South Gippsland Shire Council, with responsibilities under the Agreement being taken on by the South Gippsland Shire Council (the Council). In 2016, a variation was made to the Agreement whereby the Council may not take or use water from the dam except in certain circumstances (Document 5).

Ansevata uses the farm to graze cattle and sheep and operate a vineyard, and has used the water in the dam to irrigate crops and pastures, and water livestock. A windmill pump next to the retarding basin dam pumps water via an underground water pipe of approximately 1 km in length from the retarding basin to another dam referred to as the 'home dam as necessary.

I am instructed that the land immediately surrounding the dam (retarding basin land) is fenced. The dam itself was designed with dimensions of 120 m x 200 m and a storage capacity of 15 ML (Document 6). As constructed plans for the dam were not available (Document 10).

The dam receives storm water from the majority, but not the entirety, of the Estate (Document 1). The Estate covers approximately 25 ha, including 380 allotments, of which approximately three quarters have dwellings. There is no reticulated water supply or sewerage (Document 1). Domestic wastewater is understood to be treated and reused/disposed on each individual site. Pursuant to the Agreement the Council has undertaken various tests of the water in the dam. Copies of all of the tests results which have been provided to Ansevata by the Council were provided for my review (Document 8).

4.2 Answers to Questions Posed

4.2.1 Question 1

What are the "methods recommended by the Environmental Protection Authority", as at 1990 and now, for testing biological and chemical pollution referred to in clause 8 of the agreement? Have the methods recommended by the Environmental Protection Authority been followed?

At the time that the Agreement was made in 1990, EPA Publication 441, 5th Edition, *A Guide to the Sampling and Analysis of Water and Wastewater*, 1987, was the applicable guideline. This guideline was updated again in 1995 (6th Edition). The current guideline is EPA Publication IWRG701, *Sampling and Analysis of Waters, Wastewaters, Soils and Wastes*, June 2009.

A copy of EPA Publication 441, 5th Edition, was sought from EPA, however, a copy of this document was unable to be located by EPA. Therefore, reference has been made to the 6th Edition, September 1995, which I was able to obtain. In any case, the data provided are from 2016 to 2018 and the most recent guideline, IWRG701, would apply to those data.

Both EPA Publication 441, 6th Edition, and EPA Publication IWRG701 recommend for well mixed waters the retrieval of surface water samples from approximately 100 mm below the surface and away from the edge of the water in order to ensure that a sample representative of the water body is obtained.

In addition to sample retrieval, guidance is also provided relating to sample handling, storage and transport, and analytical and quality assurance methods. With the exception of the sample location, no information has been provided regarding the methodology employed during the sampling episodes. Therefore, it cannot be confirmed that the methods recommended by EPA in relation to sample retrieval, sample handling, storage and transport, and quality assurance have been followed.

In addition, all samples should be accompanied by chain of custody (COC) documentation (referred to as a sample log in EPA Publication 441, 6th Edition) when being sent to a laboratory. The COC documentation should include the details of all samples being sent to the laboratory and enable the condition of the samples and timeframe between sampling and analysis to be confirmed. Of the 17 laboratory reports provided for my review, COC documentation was only provided for five. Only two of the COCs had information relating to the condition of samples upon receipt at the laboratory. These indicated that the samples had been received undamaged, appropriately preserved, within the recommended holding times and at an appropriate temperature.

Quality assurance procedures are also an integral part of any sampling program that is performed in accordance with EPA guidelines. These include appropriate sampling methods, staff training, field records, equipment and analytical methods, detection limits, holding times and quality control analyses. There is insufficient documentation available to confirm that these items have been satisfactorily addressed.

With respect to the analytical program to test for biological and chemical pollution, this is not specified in the guidelines as the development of an analytical program is site specific. In my opinion, potential contaminants of concern associated with water from stormwater and treated septic tank effluent include heavy metals, nitrate, ammonia, phosphorous, pH, biological oxygen demand (BOD), dissolved and suspended solids, *Escherichia coli* (*E.coli*), thermotolerant (or faecal) coliforms and turbidity. Of these, pH, BOD, suspended solids, *E.coli* and turbidity have been analysed by Council. It is my opinion that the analytical program should have been expanded, particularly when elevated concentrations were identified, so that the risks associated with the use of the water for irrigation and stock watering could be adequately appraised.

4.2.2 Question 2

Is there an appropriate, common or standard methodology or regime for collecting samples of water from a dam for testing? Has that methodology been followed?

As outlined in Section 4.2.1, for well mixed water surface water samples should be retrieved from approximately 100 mm below the surface and away from the edge of the water. No information has been provided regarding the methodology employed during the sampling episodes apart from the location within the dam that the sample was retrieved from. Therefore, it cannot be confirmed that the methods recommended by EPA have been followed.

4.2.3 Question 3

What if any are the standards to assess whether water in the dam is suitable for the purpose of irrigation of pasture and crops or watering of stock?

The criteria provided in ANZECC/ARMCANZ 2000 are those that apply to determine suitability of the water for irrigation and livestock watering purposes. The ANZECC/ARMCANZ guidelines represent the most up-to date, Nationally agreed criteria for the management of water resources in Australia and New Zealand. The guidelines were first issued in 1992 and were updated in 2000. The criteria for the contaminants of concern are provided in **Table 1**.

Table 1 Water Quality Criteria for Irrigation and Livestock Watering

Analyte	Guideline Values	
	Irrigation	Livestock Watering
Thermotolerant coliforms (cfu/100mL) (a)	<10 (b) <100 (c) <1,000 (d) <10,000 (e)	100
Calcium	-	1,000
Sodium	<115 (f)	-
Phosphorus	0.05	-
Chloride	<175 (f)	
Nitrate (as N)	-	90.3
Nitrite (as N)	-	9.1
Nitrogen	5	-
Sulphate	-	1,000
Total dissolved solids	-	4,000 (g)
pH (pH units)	6 to 9	-
Aluminium	5	5
Arsenic	0.1	0.5
Beryllium	0.1	n/a
Boron	0.5	5
Cadmium	0.01	0.01
Chromium	0.1	1
Cobalt	0.05	1
Copper	0.2	0.4
Fluoride	1	2
Iron	0.2	-
Lead	2	0.1
Lithium	0.075	-
Magnesium	-	n/a
Manganese	2	-
Mercury	0.002	0.002
Molybdenum	0.01	0.15
Nickel	0.2	1
Selenium	0.02	0.02
Uranium	0.01	0.2
Vanadium	0.1	n/a
Zinc	2	20

Notes:

- a) It is recommended that a median value of thermotolerant coliforms is used, based on a number of readings generated over time from a regular monitoring program. Investigations of likely causes are warranted when 20% of results exceed four times the median trigger value (ANZECC/ARMCANZ 2000).
- b) Raw human food crops in direct contact with irrigation water (e.g. via sprays, irrigation of salad vegetables)
- c) Pasture and fodder for dairy animals (without withholding period)
- d) Raw human food crops not in direct contact with irrigation water (edible product separated from contact with water, e.g. by peel, use of trickle irrigation); or crops sold to consumers cooked or processed, and Pasture and fodder for dairy animals (with withholding period of 5 days), and Pasture and fodder (for grazing animals except pigs and dairy animals, i.e. cattle, sheep and goats)
- e) Silviculture, turf, cotton, etc. (restricted public access)
- f) Criterion for grapes.
- g) Criterion for beef cattle.

4.2.4 Question 4

Based on the tests results attached to this letter, is the water in the dam suitable for the purpose of irrigation of pasture and crops and watering of stock?

The samples that have been retrieved from the dam have only been analysed for pH, *E.coli*, BOD, turbidity and suspended solids. Of these analytes, criteria are only available for pH for irrigation uses. The pH measured would not preclude the use of the dam water for irrigation purposes.

There are no specific criteria for *E.coli* in water used for irrigation and livestock watering. However, as *E.coli* is the most common thermotolerant coliform present in faeces (typically >90%) it is regarded as the most specific indication of recent faecal contamination and, therefore, the measured *E.coli* concentrations are considered appropriate to compare to the criteria for thermotolerant coliforms, noting that this comparison is likely to provide an underestimation of actual thermotolerant coliform concentrations.

In evaluating the significance of the *E.coli* concentrations for the uses of irrigation and livestock watering, ANZECC/ARMCANZ 2000 (Sections 4.2.3.3 and 4.3.2.2) states that "It is recommended that a median value of thermotolerant coliforms is used, based on a number of readings generated over time from a regular monitoring program. Investigations of the likely causes are warranted when 20% of results exceed four times the median trigger value".

The *E.coli* values measured between February 2016 and January 2018 and the median value are shown in **Figures 1 and 2**.

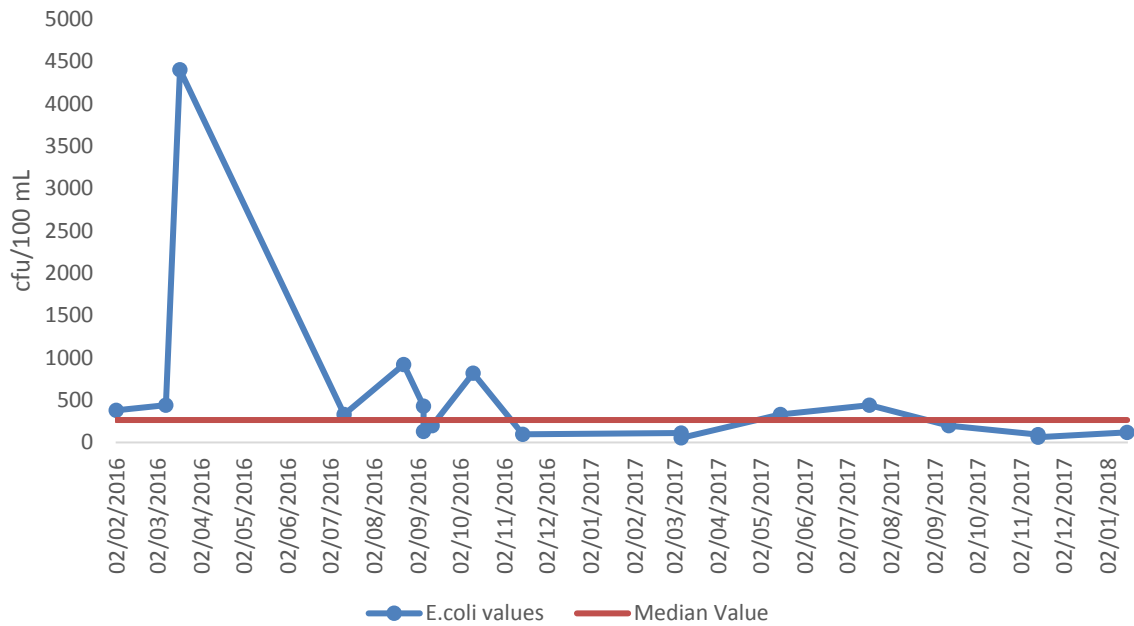


Figure 1 E.coli Concentrations with Time (including outlier)

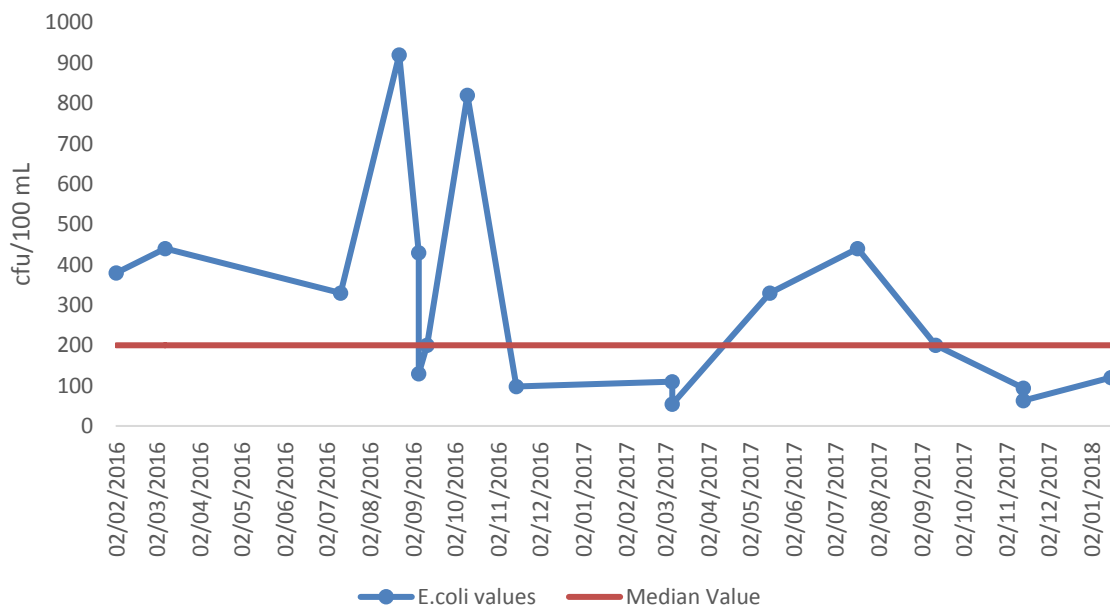


Figure 2 E.coli Concentrations with Time (excluding outlier)

A median value (265 cfu/100 mL) was calculated based on all of the laboratory results provided (Document 7). This median value included the outlier of 4,400 cfu/100 mL measured in March 2016. When this apparent outlier is precluded from the calculation, the median value is 200 cfu/100 mL.

Both of the calculated median values are above the criteria for irrigation (specifically 'raw human food crops in direct contact with irrigation water (e.g. via sprays, irrigation of salad vegetables)' and 'pasture and fodder for dairy animals (without withholding period)'), and livestock watering.

Based on review of the results provided with regard to the relevant criteria for irrigation and livestock watering, I am of the opinion that the dam water is not suitable for irrigation of pasture and crops, and watering of livestock. In drawing this conclusion I acknowledge that insufficient documentation has been provided to confirm the efficacy of the sampling program (as discussed in Section 4.2.1), however, any data errors are unlikely to alter the overall magnitude of the results.

4.2.5 Question 5

If in your opinion the water of the dam is not suitable for the purpose of irrigation of pasture and crops and watering of stock, what are the likely causes of the water not meeting that purpose?

The water in the dam is indicated to be from a combination of treated septic tank effluent from the adjacent Estate mixed (essentially diluted) with stormwater. The data are consistent with this system and therefore are not surprising. Therefore, it is my opinion that the likely causes for the water not meeting that purpose are contaminants being transported into the drainage system from stormwater following a rain event together with insufficiently treated septic tank effluent.

It is my opinion from an environmental perspective that the mixing of stormwater with septic tank effluent is inappropriate and inconsistent with the management principle of segregating wastewater from 'clean' water streams. It is stated in EPA Publication 464.4, *Use of Reclaimed Water*, June 2003, that "... supplementing reclaimed water with other water sources in order to meet the minimum treatment standards (such as levels for BOD, SS, E.coli, pH).. is not an acceptable practice as reclaimed water must meet the required criteria prior to dilution with other sources."

To that end, it is considered to be inherently very difficult to ensure suitable water quality within the dam to support irrigation and livestock watering purposes based on the current system. The system would need to be upgraded to include a pre-treatment step to ensure that only acceptably treated septic tank effluent is released into the dam. Alternatively, septic tank effluent should be prevented from being placed into the dam and disposed of in an alternative manner (i.e. dispersion trench system).

4.2.6 Question 6

What external controls exist to regulate dam water quality?

Dam water quality in Victoria is regulated by both the *Water Act 1989* and the *Environment Protection Act 1970*.

The *Water Act 1989* provides for the protection of the 'beneficial purpose' of water resources, including dams. In the *Water Act 1989*, 'pollute' is defined as "...to alter (directly or indirectly) the physical, thermal, chemical, biological or radioactive properties of the water so as to make the water—

- (a) less fit for any beneficial purpose for which it is, or may reasonably be expected to be, used; or
- (b) harmful or potentially harmful to—
 - (i) the health, welfare or safety of human beings; or
 - (ii) animals, birds, wildlife, fish or other aquatic life; or
 - (iii) plants or other vegetation; or
 - (iv) other organisms;

In addition, the *Environment Protection Act 1970* requires that:

"(1) A person shall not pollute any waters so that the condition of the waters is so changed as to make or be reasonably expected to make those waters—

- (a) noxious or poisonous;
- (b) harmful or potentially harmful to the health, welfare, safety or property of human beings;
- (c) poisonous, harmful or potentially harmful to animals, birds, wildlife, fish or other aquatic life;
- (d) poisonous, harmful or potentially harmful to plants or other vegetation; or
- (e) detrimental to any beneficial use made of those waters. "

'Waters' is defined in the *Environment Protection Act 1970* as "reservoir, tank, billabong, anabranch, canal, spring, swamp, natural or artificial channel, lake, lagoon, waterway, dam, tidal water, coastal water or groundwater". I note that the *Environment Protection Act 1970* also provides requirements for the regulation of septic tank systems, which is of relevance as the dam receives septic tank effluent from the adjacent Estate. The requirements include those related to permitting and maintenance.

The quality of surface waters in Victoria is further protected by the provisions of the SEPP (WoV). However, in the SEPP (WoV), "surface waters excludes groundwaters and waters within artificial wastewater treatment systems, reticulated water supply distribution systems, off-stream private dams, and piped or underground drains".

Based on my opinion that the water is not suitable for the intended uses of irrigation and livestock watering (refer to Section 4.2.4), in accordance with both the *Water Act 1989* and the *Environment Protection Act 1970*, the water is considered to be polluted.

5. CONCLUSIONS

Based on my consideration of the available documentation, I conclude that:

- It is not possible to confirm that the monitoring program was undertaken in accordance with EPA requirements as insufficient documentation was available.
- Based on my review of the results provided with regard to the relevant criteria for irrigation and livestock watering, I am of the opinion that the dam water is not suitable for irrigation of pasture and crops, and watering of livestock. In drawing this conclusion I acknowledge that insufficient documentation has been provided to confirm the efficacy of the sampling program, however, any data errors are unlikely to alter the overall magnitude of the results.
- Dam water quality in Victoria is regulated by both the *Water Act 1989* and the *Environment Protection Act 1970*. These require that the uses of the water that it is intended to be used should not be compromised.
- Based on my opinion that the water is not suitable for the intended uses of irrigation and livestock watering, in accordance with both the *Water Act 1989* and the *Environment Protection Act 1970*, the water is considered to be polluted.
- The source of the polluted water identified is considered to be from a combination of treated septic tank effluent from the adjacent Estate mixed (essentially diluted) with stormwater.
- The mixing of stormwater with septic tank effluent is inappropriate and inconsistent with the management principle of segregating wastewater from clean water streams. To that end, it is considered to be inherently very difficult to ensure suitable water quality within the dam to support irrigation and livestock watering purposes based on the current system.
- The system would need to be upgraded to include a pre-treatment step to ensure that only acceptably treated septic tank effluent is released into the dam. Alternatively, septic tank effluent should be prevented from being placed into the dam and disposed of in an alternative manner (i.e. dispersion trench system).

Appendix A

Expert Witness' Curriculum Vitae





Fields of Competence

- Hydrogeology including geochemistry, conceptual model development, modelling of the fate and transport of contaminated groundwater, and management of polluted groundwater.
- Contaminated land investigations involving soil, surface water, vapour and groundwater.
- Landfill gas assessment and management.
- Development and implementation of site remediation programs.
- Water resource and waste water management.
- Environmental auditing and expert support.

Experience Summary

Darren is an Associate and manager of the soil and groundwater team at Peter J Ramsay & Associates. He is appointed as an Environmental Auditor under the Victorian *Environment Protection Act 1970* for contaminated land.

Darren is a hydrogeologist with over 12 years experience in soil, groundwater and soil gas investigations. This experience includes hydrogeological investigations, water resource and wastewater management, groundwater modelling, soil and groundwater assessments and, landfill gas assessment and management.

Education

Bachelor of Environmental Science (Honours), La Trobe University, 2001.

Doctor of Philosophy, La Trobe University, 2006 in hydrogeology, geochemistry and hydrology. Thesis titled:

- *Hydrogeology, hydrochemistry and hydrology of groundwater flow systems in western Victoria and their role in the development of dryland salinity.*

Language Proficiency

(None, Fair, Moderate, Excellent, Native)

- English: Speak/Read/Write – Native/Native/Native

Professional Affiliations and Registrations

- Australasian Land and Groundwater Association

- Environment Institute of Australia and New Zealand Inc.
- Australian Environment Business Network
- Australian Sustainable Business Group
- International Association of Hydrogeologists
- Peer reviewer for International Journals including Journal of Hydrogeology, Chemical Geology and Geoderma.

Key Projects

Water resource expert for a number of water resource and wastewater investigations in the Australia-Pacific region.

Provision of expert evidence in relation to a geothermal groundwater resource in south-eastern Australia.

Detailed hydrogeological assessments, including contaminant fate and transport modelling at sites impacted by petroleum hydrocarbons, chlorinated solvents and heavy metals.

Project Manager for a long-term audit of a large brownfields site with significant soil and groundwater contamination issues, which was being redeveloped for residential and commercial purposes.

Performance of an independent review of technical reports relating to a landfill used for the disposal of toxic wastes.

Project manager for numerous Phase I and II soil and groundwater contamination assessments at industrial sites in Australia.

Project manager for several long-term groundwater remediation projects.

Hydrological modeling and design of wastewater treatment and storage systems.

Soil vapour assessment and modelling at sites impacted by petroleum and chlorinated hydrocarbons.

Expert support in relation to statutory audits in a number of states. This has included assessment of soil, groundwater and landfill gas investigations, management and remediation strategies.



Publications

- Raiber, M, Webb, J.A. and Bennetts, D.A., 2009. *Strontium Isotopes as Tracers to Delineate Aquifer Interactions and the Influence of Rainfall in the Basalt Plains of Southeastern Australia*. Journal of Hydrology, 367, 188-199.
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- Bennetts, D.A., Webb, J.A., Stone, D.J.M. and Hill, D.M., 2006. *Understanding the salinisation process for groundwater in an area of south-eastern Australia, using chemical and isotopic evidence*. Journal of Hydrology, 323:178-192.
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- Paine, M.D., Bennetts, D.A., Webb, J.A. and Morand, V.J., 2004. *Nature and extent of Pliocene strandlines in southwestern Victoria and their application to late Neogene tectonics*. Australian Journal of Earth Sciences, 51(3): 407-422.
- Smitt, C., Cox, J., Dahlhaus, P.D., Bennetts, D.A. and Heislars, D., 2004. *Setting Aspirational, Resource and Management Action Targets Across the Glenelg Hopkins CMA, CSIRO Land and Water Report*.
- Bennetts, D.A., Webb, J.A. and Gray, C.M. 2003. *Distribution of Plio-Pleistocene basalts and regolith around Hamilton, western Victoria, and their relationship to groundwater recharge and discharge*. In: I.C.Roach (Editor), Advances in Regolith. CRC LEME, pp.11-15.

Appendix B

Instructions from Wisewould Mahony Lawyers





LAWYERS
MELBOURNE | GEELONG

ABN: 26 965 814 421

Our reference: 40064584
Direct Line: (03) 9612 7209
Email: rob.mcgirr@wisemah.com.au

Monday, 26 March 2018

Darren Bennetts
Peter J Ramsay and Associates
Level 10, 222 Kings Way
South Melbourne, Vic 3205

BY EMAIL: darren.bennetts@pjra.com.au

Dear Darren,

Ansevata Nominees Pty Ltd (“Ansevata”) v South Gippsland Shire Council (“SGSC”)

1. Summary Of Factual Background

- 1.1. We act for Ansevata (our client). Our client owns and operates a farm at its property known as “Marapana” at Loop Road, Walkerville. Marapana is about 400 hectares in size.
- 1.2. In about 1990 the then Shire of Woorayl acquired about 2.585 hectares of our client’s land to construct a retarding basin or dam (**dam**) to receive storm water drainage and treated septic effluent from an area known as the Promontory Views Estate at Walkerville (**Estate**).
- 1.3. We are instructed that the dam is unfenced but the retarding basin is fenced. The dam is located off Panoramic Drive, Walkerville, approximately 200 m north of the local CFA building on the basin land. The dam was designed with dimensions of 120 metres x 200 metres and a storage capacity of 15 ML. – See plan 30-158 dated 16/11/1987
- 1.4. The dam captures flows from the Estate. The Estate covers approximately 25 ha, including 380 lots, of which approximately three quarters have dwellings most of which are holiday homes. The dam receives storm water from the majority, but not the entirety, of the Estate. There is no reticulated water supply or sewerage. Domestic wastewater is treated and reused/disposed on each individual site.
- 1.5. Our client uses the farm to graze cattle and conduct a vineyard. Our client has used the water in the dam to irrigate its crops and pastures and water stock. Our client breeds cattle and sheep on the property. Currently they have 220 breeding cows, 2400 cross ewes and 40 rams. The vineyard is a Pinot Noir area of approximately 2 hectares. Our clients have a windmill pump next to the retarding basin dam connected to an underground water pipe of about 1 KM which takes the water from the retarding basin to the home dam as required.

-
- 1.6. By an agreement dated 8 May 1990 our client and the Shire agreed that our client had an entitlement to use the water in the dam for the purpose of irrigation of pasture and crops and watering of stock (**Agreement**). The Agreement sets out the rights and obligations of the parties. We enclose a copy of the Agreement. We refer you in particular to clauses 6 and 8 of the Agreement.
- 1.7. Pursuant to the Agreement the Shire has undertaken various tests of the water in the dam. Copies of all of the tests results which have been provided to our client by the Shire are attached.

2. Material Provided

- 2.1. We enclose the following materials for your consideration:
- 2.1.1. Expert Witness Cod of Conduct for the Court of Victoria (Form 44A).
 - 2.1.2. Extract of the Civil Procedure Act 2010 (Vic) about the obligations on expert witnesses in Victorian Courts.
 - 2.1.3. Agreement for taking water dated 8, May 1990
 - 2.1.4. Deed of variation to the water agreement dated 28, November 2016
 - 2.1.5. Storage capacity area and location plan 30-158 dated 16, November 1887
 - 2.1.6. Walkerville basin feature level survey dated 27, January 2016 by Mackie Surveying
 - 2.1.7. Copies of certificates of analysis as per the schedule attached
 - 2.1.8. Aerial site view
 - 2.1.9. Basin sampling locations SP1 to SP4: SP1 and SP3 are water outlets of the North West and South West corner of the dam: SP2 is the stormwater outlet of the South East corner of the dam from the Estate by underground pipe

3. Opinion Required

We are instructed to request that you provide us with a written report containing your opinion as to the following matters

- 3.1. What are the "methods recommended by the Environmental Protection Authority", as at 1990 and now, for testing biological and chemical pollution referred to in clause 8 of the agreement? Have the methods recommended by the Environmental Protection Authority been followed?

-
- 3.2. Is there an appropriate, common or standard methodology or regime for collecting samples of water from a dam for testing? Has that methodology been followed?
 - 3.3. What if any are the standards to assess whether water in the dam is suitable for the purpose of irrigation of pasture and crops or watering of stock?
 - 3.4. Based on the tests result attached to this letter, is the water in the dam suitable for the purpose of irrigation of pasture and crops and watering of stock?
 - 3.5. If in your opinion the water of the dam is not suitable for the purpose of irrigation of pasture and crops and watering of stock, what are the likely causes of the water not meeting that purpose?
 - 3.6. What external controls exist to regulate dam water quality?

4. Contents of report

4.1 Please ensure that you include the following in the report:

- a) An acknowledgement from you that you have read and agree to be bound by the Expert Witness Code of Conduct for the Supreme Court of Victoria (a copy is enclosed). Please note that paragraph three of the Code specifies matters that your report must contain including the declaration in paragraph 3(i) of the code.
- b) An acknowledgement of the obligations on an expert witness imposed by the Civil Procedure Act 2010 and that you have complied with those obligations in preparing your report.

5. Your Duties and Responsibilities as an Expert Witness:

5.1. The Report ultimately prepared by you must be prepared in accordance with the Expert Witness Code of Conduct. In particular, we note that you are required to include in your report the following matters:

- a) your name and address;
- b) your qualifications as an expert on the issue the subject of the report
- c) a statement identifying your areas of expertise
- d) a statement setting out your expertise to make the report
- e) all instructions that define the scope of the report (original and supplementary and whether in writing or oral);

-
- f) the facts, matters and all assumptions of fact, on which the opinions are based on which the report proceeds;
 - g) your reasons for each opinion expressed;
 - h) reference to those documents and other literature or materials you have been instructed to consider or take into account in preparing your report and the literature or other materials used in making the report.
 - i) any examinations, tests or other investigations upon which you relied in the making of the report, including details of the identity and qualifications of the person who carried out the examinations, tests or other investigations;
 - j) a summary of your opinion or opinions (to be located at the beginning of the report); and
 - k) a statement setting out any questions falling outside your expertise and also a statement indicating whether the report is incomplete or inaccurate in any respect.

6. Terms of Engagement

6.1. The terms of your retainer are set out in the Schedule A enclosed. Please sign and return a copy of the Terms of Engagement.

You are instructed to undertake such inquiries as you may regard as appropriate to enable you to respond to the questions set out above. In particular, if you require any further information please let us know.

If we have requested that you express an opinion on a matter which is outside your area of expertise, please inform us.

We look forward to receiving your report.

Yours faithfully,

WISEWOULD MAHONY

Partner: Robert McGirr

Contact: Rob McGirr – Partner

Email: rob.mcgirr@wisemah.com.au

Phone: (03) 9612 7209

Enc.

Schedule of Copies of Certificate of Analysis

Date of Issue	Document	Laboratory	Nata Approved	Level of E. coli org/100ml	Sample Time	pH (Units)	Test Date	Sealed Container	Other
10/03/2016	Certificate of Analysis	ALS Water	Yes	380	02/02/2016	7.2	No test date	No mention	Batch no. 16-06822
16/03/2016	Certificate of Analysis	ALS Water	Yes	440	08/03/2016	7.2	No test date	No mention	Batch no. 16-12750
29/03/2016	Certificate of Analysis	ALS Water	Yes	4400	18/03/2016	7.6	No Test date	No mention	Batch 16-14804
30/05/2016	Certificate of Analysis	ALS Water	Yes	260	24/05/2016	7.7	No Test date	No mention	Batch No. 16-39325
13/09/2016	Certificate of Analysis	ALS Water	Yes	430/130	06/09/2016	7.3/7.1	No test date	No Mention	Batch no. 16-41090
20/10/2016	Certificate of Analysis	ALS Water	Yes	820	11/10/2016	7.2	No test date	No mention	Batch no. 16-46351
14/03/2017	Certificate of Analysis	ALS Water	Yes	110	07/03/2017	8.2	No test date	No mention	Batch no. 17-12392
14/03/2017	Certificate of Analysis	ALS Water	Yes	54	07/03/2017	8	No test date	No mention	Batch no. 17-12396
23/05/2017	Certificate of Analysis	ALS Water	Yes	330	16/05/2017	7.3	No test date	No Mention	Batch no. 17-23516
25/07/2017	Certificate Of Analysis	ALS Water	Yes	440	18/07/2017	6.9	No test date	No mention	Batch no. 17-33391
18/09/2017	Certificate of Analysis	ALS Water	Yes	200	12/09/2017	6.7	No test date	No mention	Batch no. 17-41320
18/09/2017	Certificate of Analysis	ALS Water	Yes	200	12/09/2017	6.7	No test date	No Mention	Batch no. 17-41322
21/11/2017	Certificate of Analysis	ALS Water	Yes	94	14/11/2017	7.0	No test date	No mention	Batch no. 17-50258
21/11/2017	Certificate of Analysis	ALS Water	Yes	63	14/11/2017	6.9	No test date	No mention	Batch no. 17-50259
23/01/2018	Certificate of Analysis	ALS Water	Yes	120	16/01/2018	7.5	No test date	No mention	18-04813

SCHEDULE A

Terms of Engagement

Your engagement will be on the following terms:

1 Your fees/accounts

- 1.1 Prior to undertaking any work please provide an estimate of your fees prior to undertaking this retainer. Ansevata Pty Ltd will only pay fees that have our prior approval in writing;
- 1.2 You will be required to provide a tax invoice for work performed in relation to this matter each month, by the second last business day of each month. Any tax invoice must:
 - 1.2.1 Provide a detailed breakdown of the specific tasks performed by you and time spent by you in performing each of those tasks; and
 - 1.2.2 Set out the total fees and disbursements (including those being invoiced at the time) incurred to date in this matter.
- 1.3 Your accounts will be paid when Ansevata Pty Ltd has put us in funds to meet payment. In that regard, we advise that we intend to issue accounts to Ansevata Pty Ltd on a monthly cycle and for payment to be made within a month from date of issue. The result is that there can be a delay of an equivalent period between you rendering an account and it being paid.
- 1.4 Given point 1.1.1 above, you acknowledge and agree that payment to you of any fees comprised in any tax invoice rendered to us under the terms of this letter is conditional upon Wisewould Mahony receiving a corresponding payment in respect of that invoice from Ansevata Pty Ltd.

2 Disbursements

- 2.1 You will be required to advise us of any anticipated disbursements so that Ansevata Pty Ltd can agree to them prior to expenditure.
- 2.2 Ansevata Pty Ltd will only pay for expenses that have our prior approval in writing.

3 Legal professional privilege

- 3.1 All information, instructions and communications provided to you are confidential and are not to be used by you for any purpose other than for the purpose of your engagement under this letter.

3.2 Any communications by Ansevata Pty Ltd or us with you concerning the assistance you are providing in this matter are subject to legal professional privilege. Such communications include written documents, oral communications, electronic communications, video communications etc. For example, privilege will attach to:

3.2.1 Letters to you;

3.2.2 Notes you make of meetings or discussions with Ansevata Pty Ltd, us or with any other member of the legal team, including counsel, experts etc.;

3.2.3 Notes you make in the course of preparing any document or statement;

3.2.4 Drafts of any statements;

3.2.5 Your copies of any final statements.

3.3 If you are ever called upon to produce such documents to a third party (whether by subpoena or otherwise) you must contact us immediately, so that steps may be taken to preserve that privilege on behalf of our client.

3.4 You acknowledge that you owe a fiduciary duty to Ansevata Pty Ltd pursuant to your engagement under this letter not to use any information you have obtained for any purpose other than for the purpose of your engagement under this letter.

3.5 You must do everything reasonably necessary to protect the confidentiality of all information acquired during the course of your engagement under this letter so as not to waive legal professional privilege.

4 Confidential information

4.1 By virtue of your retainer you may become aware of information relating to the business affairs of SGSC and its subsidiaries, the business affairs of Ansevata and Wisewould Mahony, including but not limited to technical information, financial information and information about staff and clients (**Confidential Information**).

4.2 Confidential Information relating to:

4.2.1 SGSC and its subsidiaries remains the sole property of SGSC;

4.2.2 The Ansevata Pty Ltd Parties remains the sole property of the Ansevata Pty Ltd Parties; and

4.2.3 Wisewould Mahony remains the sole property of Wisewould Mahony.

4.3 You must not either during (except in the lawful discharge of your duties) or after your retainer has ceased, without the prior written consent of Ansevata Pty Ltd or Wisewould Mahony as the case may be, directly or indirectly, disclose to any person the Confidential Information for your own or another's benefit. That

consent may be withheld or given on such terms as Ansevata Pty Ltd or Wisewould Mahony in their sole and unfettered discretion consider appropriate.

4.4 You must immediately notify Wisewould Mahony if you suspect misuse of any Confidential Information and assist in any proceedings taken for alleged misuse of Confidential Information.

4.5 Further, the Proceeding may be sensitive and you acknowledge that you must not make any statements (oral, written or otherwise) in public or the media in relation to the Proceeding.

4.6 The terms of the retainer are and remain confidential.

5 Intellectual Property

5.1 You acknowledge and agree that Ansevata Pty Ltd is the exclusive owner of all copyright, databases and other intellectual property related to works created or designed by you in the course of your assistance under this letter.

5.2 The restraints contained in this clause are separate, distinct and several so that the unenforceability of any restraint does not affect the enforceability of other restraints.

6 Termination

6.1 Wisewould Mahony on the instructions of Ansevata Pty Ltd , may terminate your assistance under this letter without cause at any time.

6.2 You may terminate the retainer by giving Wisewould Mahony not less than one month's notice in writing during the term of the retainer.

6.3 On termination, you must return to Wisewould Mahony all documents, computer disks, files and other material, including draft copies and final copies of any reports that came into existence pursuant to your engagement under this letter, either provided to you or created by you in respect of your assistance under this letter and your engagement under this letter.

7 Acknowledgement of terms of engagement

7.1 A copy of these terms is enclosed for your approval. If you accept these terms of engagement, please sign the copy provided and return.

7.2 In the absence of receipt by us of the signed acknowledgment your acceptance of our instructions will serve as acceptance of these terms.

Dated

Signed

SUPREME COURT OF VICTORIA

Form 44A

Rule 44.01

EXPERT WITNESS CODE OF CONDUCT**Application of Code**

1. This Code of Conduct applies to any expert witness engaged or appointed—
 - (a) to provide an expert's report for use as evidence in proceedings or proposed proceedings; or
 - (b) to give opinion evidence in proceedings or proposed proceedings.

General Duties to the Court

2. An expert witness is not an advocate for a party and has a paramount duty, overriding any duty to the party to the proceedings or other person retaining the expert witness, to assist the Court impartially on matters relevant to the area of expertise of the witness.

Content of Report

3. Every report prepared by an expert witness for use in Court shall clearly state the opinion or opinions of the expert and shall state, specify or provide—
 - (a) the name and address of the expert;
 - (b) an acknowledgment that the expert has read this code and agrees to be bound by it;
 - (c) the qualifications of the expert to prepare the report;
 - (d) the assumptions and material facts on which each opinion expressed in the report is based (a letter of instructions may be annexed);
 - (e) the reasons for and any literature or other materials utilised in support of each such opinion;

- (f) (if applicable) that a particular question, issue or matter falls outside the expert's field of expertise;
- (g) any examinations, tests or other investigations on which the expert has relied, identifying the person who carried them out and that person's qualifications;
- (h) to the extent to which any opinion which the expert has expressed involves the acceptance of another person's opinion, the identification of that other person and opinion expressed by that other person;
- (i) a declaration that the expert has made all the inquiries which the expert believes are desirable and appropriate (save for any matters identified explicitly in the report) and that no matters of significance which the expert regards as relevant have, to the knowledge of the expert, been withheld from the Court;
- (j) any qualification of an opinion expressed in the report without which the report is or may be incomplete or inaccurate;
- (k) whether any opinion expressed in the report is not a concluded opinion because of insufficient research or insufficient data or for any other reason; and
- (l) where the report is lengthy or complex, a brief summary of the report at the beginning of the report.

Supplementary Report Following Change of Opinion

4. Where an expert witness has provided to a party (or that party's legal representative) a report for use in Court, and the expert thereafter changes his or her opinion on a material matter, the expert shall forthwith provide to the party (or that party's legal representative) a supplementary report which shall state, specify or provide the information referred to in paragraphs (a), (d), (e), (g), (h), (i), (j), (k) and (l) of clause 3 of this code and, if applicable, paragraph (f) of that clause.
5. In any subsequent report (whether prepared in accordance with clause 4 or not) the expert may refer to material contained in the earlier report without repeating it.

Duty to Comply with the Court's Directions

6. If directed to do so by the Court, an expert witness shall—
 - (a) confer with any other expert witness;
 - (b) provide the Court with a joint report specifying (as the case requires) matters agreed and matters not agreed and the reasons for the experts not agreeing; and
 - (c) abide in a timely way by any direction of the Court.

Conference of Experts

7. Each expert witness shall—
 - (a) exercise his or her independent judgment in relation to every conference in which the expert participates pursuant to a direction of the Court and in relation to each report thereafter provided, and shall not act on any instruction or request to withhold or avoid agreement; and
 - (b) endeavour to reach agreement with the other expert witness (or witnesses) on any issue in dispute between them, or failing agreement, endeavour to identify and clarify the basis of disagreement on the issues which are in dispute.

THE CIVIL PROCEDURE ACT 2010

PART 2.3—THE OVERARCHING OBLIGATIONS

16 Paramount duty

Each person to whom the overarching obligations apply has a paramount duty to the court to further the administration of justice in relation to any civil proceeding in which that person is involved, including, but not limited to—

- (a) any interlocutory application or interlocutory proceeding;
- (b) any appeal from an order or a judgment in a civil proceeding;
- (c) any appropriate dispute resolution undertaken in relation to a civil proceeding.

17 Overarching obligation to act honestly

A person to whom the overarching obligations apply must act honestly at all times in relation to a civil proceeding.

18 Overarching obligation—requirement of proper basis

A person to whom the overarching obligations apply must not make any claim or make a response to any claim in a civil proceeding that—

- (a) is frivolous; or
- (b) is vexatious; or
- (c) is an abuse of process; or
- (d) does not, on the factual and legal material available to the person at the time of making the claim or responding to the claim, as the case requires, have a proper basis.

19 Overarching obligation to only take steps to resolve or determine dispute

For the purpose of avoiding undue delay and expense, a person to whom the overarching obligations apply must not take any step in connection with any claim or response to any claim in a civil proceeding unless the person reasonably believes that the step is necessary to facilitate the resolution or determination of the proceeding.

20 Overarching obligation to cooperate in the conduct of civil proceeding

A person to whom the overarching obligations apply must cooperate with the parties to a civil proceeding and the court in connection with the conduct of that proceeding.

21 Overarching obligation not to mislead or deceive

A person to whom the overarching obligations apply must not, in respect of a civil proceeding, engage in conduct which is—

- (a) misleading or deceptive; or
- (b) likely to mislead or deceive.

22 Overarching obligation to use reasonable endeavours to resolve dispute

A person to whom the overarching obligations apply must use reasonable endeavours to resolve a dispute by agreement between the

persons in dispute, including, if appropriate, by appropriate dispute resolution, unless—

- (a) it is not in the interests of justice to do so; or
- (b) the dispute is of such a nature that only judicial determination is appropriate.

Example

A proceeding where a civil penalty is sought may be of such a nature that only judicial determination is appropriate.

23 Overarching obligation to narrow the issues in dispute

If a person to whom the overarching obligations apply cannot resolve a dispute wholly by agreement, the person must use reasonable endeavours to—

- (a) resolve by agreement any issues in dispute which can be resolved in that way; and
- (b) narrow the scope of the remaining issues in dispute—

unless—

- (c) it is not in the interests of justice to do so; or
- (d) the dispute is of such a nature that only judicial determination is appropriate.

24 Overarching obligation to ensure costs are reasonable and proportionate

A person to whom the overarching obligations apply must use reasonable endeavours to ensure that legal costs and other costs incurred in connection with the civil proceeding are reasonable and proportionate to—

- (a) the complexity or importance of the issues in dispute; and
- (b) the amount in dispute.

25 Overarching obligation to minimise delay

For the purpose of ensuring the prompt conduct of a civil proceeding, a person to whom the overarching obligations apply must use reasonable endeavours in connection with the civil proceeding to—

- (a) act promptly; and
- (b) minimise delay.

26 Overarching obligation to disclose existence of documents

- (1) Subject to subsection (3), a person to whom the overarching obligations apply must disclose to each party the existence of all documents that are, or have been, in that person's possession, custody or control—

- (a) of which the person is aware; and
- (b) which the person considers, or ought reasonably consider, are critical to the resolution of the dispute.

- (2) Disclosure under subsection (1) must occur at—

- (a) the earliest reasonable time after the person becomes aware of the existence of the document; or

- (b) such other time as a court may direct.
- (3) Subsection (1) does not apply to any document which is protected from disclosure—
 - (a) on the grounds of privilege which has not been expressly or impliedly waived; or
 - (b) under any Act (including any Commonwealth Act) or other law.
- (4) The overarching obligation imposed by this section—
 - (a) is an ongoing obligation for the duration of the civil proceeding; and
 - (b) does not limit or affect a party's obligations in relation to discovery.

27 Protection and use of information and documents disclosed under overarching obligation in section 26

- (1) A person who receives any information or documents provided by another person involved in the civil proceeding as a result of disclosure in compliance with the overarching obligation in section 26 is subject to an obligation not to use the information or documents, or permit the information or documents to be used, for a purpose other than in connection with the civil proceeding.
- (2) The obligation under subsection (1) is taken to be an obligation to the court, contravention of which constitutes contempt of court.
- (3) A person—
 - (a) may agree in writing to the use of information or documents otherwise protected under subsection (1); or
 - (b) may be released from the obligation imposed under subsection (1) by leave of the court.
- (4) Without limiting this section or discovery in any civil proceeding any information or documents exchanged in compliance with the overarching obligation in section 26 is required to be discovered in the civil proceeding to be admissible in that proceeding.
- (5) Nothing in this section limits any other undertaking to a court (implied or specific) whether at common law or otherwise, in relation to information or documents disclosed or discovered in a civil proceeding.

PART 2.4—SANCTIONS FOR CONTRAVENING THE OVERARCHING OBLIGATIONS

28 Court may take contravention of overarching obligations into account

- (1) In exercising any power in relation to a civil proceeding, a court may take into account any contravention of the overarching obligations.
- (2) Without limiting subsection (1), in exercising its discretion as to costs, a court may take into account any contravention of the overarching obligations.

29 Court may make certain orders

- (1) If a court is satisfied that, on the balance of probabilities, a person has contravened any overarching obligation, the court may make any order it considers appropriate in the interests of justice including, but not limited to—

- (a) an order that the person pay some or all of the legal costs or other costs or expenses of any person arising from the contravention of the overarching obligation;
 - (b) an order that the legal costs or other costs or expenses of any person be payable immediately and be enforceable immediately;
 - (c) an order that the person compensate any person for any financial loss or other loss which was materially contributed to by the contravention of the overarching obligation, including—
 - (i) an order for penalty interest in accordance with the penalty interest rate in respect of any delay in the payment of an amount claimed in the civil proceeding; or
 - (ii) an order for no interest or reduced interest;
 - (d) an order that the person take any steps specified in the order which are reasonably necessary to remedy any contravention of the overarching obligations by the person;
 - (e) an order that the person not be permitted to take specified steps in the civil proceeding;
 - (f) any other order that the court considers to be in the interests of any person who has been prejudicially affected by the contravention of the overarching obligations.
- (2) An order under this section may be made—
- (a) on the application of—
 - (i) any party to the civil proceeding; or
 - (ii) any other person who, in the opinion of the court, has a sufficient interest in the proceeding; or
 - (b) on the court's own motion.
- (3) This section does not limit any other power of a court to make any order, including any order as to costs.

30 Applications for orders under section 29

- (1) An application for an order under section 29 is to be made—
 - (a) in the court in which the civil proceeding was, or is being, heard; and
 - (b) in accordance with the rules of court.
- (2) An application for an order under section 29 must be made prior to the finalisation of the civil proceeding to which the application relates (excluding any period for appeals).
- (3) For the purposes of subsection (2), if an order, including an order in respect of costs, is made after the date of finalisation of the civil proceeding to which the application relates, the date of making of the last of the orders is taken to be the date of finalisation of that proceeding.

31 Extension of time for application

- (1) Despite section 30(2), a person may apply to the court for an extension of time to apply for an order under section 29 after the finalisation of the civil proceeding.

- (2) The court may grant an extension of time for making an application under section 29 if satisfied that the party making the application was not aware of the contravention of the overarching obligations until after the end of the period specified in section 30(2).

3

**ANNEXURE A
Water Agreement**



TAYLOR SPLATT & PARTNERS
LAWYERS
FRANKSTON

AGREEMENT FOR TAKING OF WATER

THIS AGREEMENT made the 8th day of May 19~~82~~⁹⁰
BETWEEN THE PRESIDENT COUNCILLORS AND RATEPAYERS OF THE SHIRE
OF WOORAYL of 9 Smith Street Leongatha in the State of Victoria
a municipality incorporated under the Local Government Act
(hereinafter called "the Shire" which expression shall include
its successors and the successors of the basin land as
hereinafter defined and each and every part thereof) of the one
part and ANSEVATA NOMINEES PTY. LTD. of 492 St. Kilda Road
Melbourne in the State of Victoria (hereinafter called "the
Licensee" which expression shall include the said Ansevata
Nominees Pty. Ltd. and its receivers liquidators and assigns and
the registered proprietor or proprietors for the time being and
from time to time of the Licensee's land as hereinafter defined,
and each and every part thereof) of the other part WITNESSES THAT
WHEREAS:-

- A. The Shire is empowered pursuant to the Local Government Act to undertake drainage works for the provision, inter alia, of adequate storm water control;
- B. The Shire has approved a scheme pursuant to Section 651 of the Local Government Act for the construction of an underground storm water drainage scheme and retarding basin to receive storm water and treated septic tank effluent from the area known as Promontory Views Estate at Walkerville within the municipal district of the Shire;

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- C. The Licensee is the registered proprietor of all that piece of land comprises Lots 1 and 2 on Plan of Subdivision No. 212161J Parish of Waratah being the land comprised in Certificates of Title Volume 9829 Folios 950 and 951 ("the Licensee's land" which expression shall not include "the basin land" hereinafter described, where the context so requires);
- D. The Shire has agreed with the Licensee to purchase that part of the licensee's land comprising 2.7 hectares of Lot 1 aforesaid delineated and coloured red on the plan in Schedule 1 to this Agreement ("the basin land") for the construction and maintenance of a storm water retarding basin ("the dam"). The precise dimensions of the basin land are being surveyed by or under direction of the Shire;
- E. The sale and transfer by the Licensee to the Shire of the basin land is conditional on the execution and exchange of this Agreement and the Shire making available all water to be stored in the dam free of charge to the Licensee for irrigation and stock watering purposes in accordance with this Agreement,

NOW THEREFORE IT IS EXPRESSLY AGREED by and between the parties hereto as follows:-

1. This Agreement shall bind the Shire and the Licensee and come into full force and effect upon:-
 - 1.1 The approval of the Scheme for the drainage of Promontory Views Estate pursuant to Section 651 or any other appropriate provisions of the Local Government Act 1958, and

3

- 1.2 The exchange of a Contract of Sale in the form of Schedule 2 executed by the Licensee as vendor and the Shire as purchaser of the basin land including a condition that it is subject to this Agreement, and the delivery to the Shire of a registrable form of Transfer of the basin land free of encumbrances save for any presently registered easements and the covenant and easement and profit à prendre hereinafter described, and the Licensee doing all acts, matters or things required to enable the Shire to become registered as the proprietor of the basin land, subject as aforesaid.
- 1.3 The Shire shall prepare a Plan of Survey of the basin land in sufficient form for registration in the Land Titles Office.

2. The Shire shall, within six months from the date of commencement of this Agreement as provided in 1 hereof:-

2.1 Erect a stock proof post and wire fence on the common boundary between the basin land and the Licensee's land and in any event before commencement of any dam construction works referred to in Clause 2.2;

2.2 Not before erection of the fence referred to in 2.1, construct a dam having a capacity of not less than 13.5 megalitres on the basin land in accordance with sound engineering knowledge and practice generally as shown in Schedule 3.

3. The Shire shall, after construction of the dam:

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3.1 Properly maintain and repair the said fence and the dam and ensure that the same does not in any way become or cause a nuisance;

3.2 Not without the consent of the Licensee use the basin land for any purpose other than for the collection, storage and disposal of water in or from the dam and purposes necessarily incidental thereto, including the purposes authorized by this Agreement. It is expressly agreed that this restriction shall run with the land in favour of the Licensee's land and each and every part thereof (save for the basin land) and shall be registered as a covenant against the title of the basin land to issue to the Shire after registration of the Transfer thereof from the Licensee. Such covenant shall be incorporated in the Transfer of the basin land in registrable form.

4. In part consideration for the transfer of the basin land from the Licensee to the Shire and conditionally upon such transfer, the Shire agrees, and hereby grants to the Licensee, the right hereinafter described in perpetuity or until, with the Licensee's consent as provided in the immediately preceding paragraph, the basin land is no longer used for the purpose therein described PROVIDED THAT should it become necessary, by reason of any declaration or order by any Court of appropriate jurisdiction or for any other legal reason, to read down or reduce the period of this right, it is expressly agreed that this right shall continue

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for a period of 80 years from the date of commencement of this Agreement unless earlier terminated with the consent of the Licensee. The right hereby given is for the Licensee free of any charge by the Shire:-

amended

4.1 To take water from the dam in such quantities and at such times as the Licensee requires for irrigation of and watering of stock on, the Licensee's land without causing nuisance or negligence but the Licensee shall not take more than 50% of the water in the dam at intervals of not less than 30 days;

4.2 To construct or place on or within that part of the basin land and into the water of the dam (as may be required from time to time) such pipes, pumps and equipment and facilities as are reasonably necessary for the purpose described in 4.1 hereof and to maintain, repair, replace and/or remove the same as the Licensee deems fit without causing or creating nuisance or negligence and without damaging the dam structure or any fences constructed on the basin land or its boundaries by the Shire PROVIDED THAT the Licensee may enter the basin land for the aforesaid purposes described in 4.1 and 4.2 hereof through a gate to be constructed and maintained at the Shire's expense on the common boundary between the basin land and the Licensee's land. The Licensee shall be entitled to place such pipe, pumps, etc. at one or more points on the basin land as may be required and the gate shall be constructed in such place as directed by the

6

Licensee.

5. It is expressly agreed that the right described in paragraph 4 hereof is not only a personal right but the benefit of it shall run with and attach to the Licensee's land and each and every part thereof whether or not the present Licensee, Ansevata Nominees Pty, Ltd., continues to be the registered proprietor thereof.
6. It is expressly agreed that the water from the dam shall not be suitable for human consumption and the Shire gives no warranty or representation that the waters from the dam will be suitable for any purpose other than the irrigation of pasture and crops and watering of stock.
7. Nothing herein contained authorizes or permits the Shire by any act or omission to be negligent or cause any nuisance or breach of statutory duty or any other breach of the law in relation to:
- 7.1 The construction and/or maintenance of the dam;
 - 7.2 The quality of the water in the dam or to be in the dam;
 - 7.3 The collection or discharge of water to/from the dam;
 - 7.4 The Shire's ownership/occupation of the basin land.
8. The Shire shall, at least six times per year at no less an interval than one calendar month, and at such other times when the Licensee has reasonable grounds to believe that the

7

waters of the dam may be polluted, take samples of such waters and have them tested for biological and chemical pollution in accordance with methods recommended by the Environment Protection Authority and make the results of such tests available to the licensee. *Testing* It is expressly agreed that the Shire shall take all necessary action to prevent untreated septic tank effluent being discharged into the dam.

9. It is the intention of the Shire and the Licensee that the right given to the Licensee described in paragraph 4 of this Agreement, is a right in the nature of an easement and/or profit á prendre and the Licensee has the right to register notifications thereof on the title to issue to the basin land by registering an easement or profit á prendre in favour of the Licensee's land over such part of the basin land as is described in paragraph ~~4~~^{4.1} or to register a Caveat against the title to issue in respect of the basin land giving notice of such right.

10. The Shire shall pay all costs and disbursements of the Licensee incurred in the preparation of this Agreement and the registration or notification of any easement and/or profit á prendre or Caveat against the title to issue in respect of the basin land.

IN WITNESS WHEREOF the parties have hereunto set their hands and seals the day and year first hereinbefore written.

THE COMMON SEAL of THE PRESIDENT
 COUNCILLORS AND RATEPAYERS OF THE
 SHIRE OF WOORAYL was hereunto
 affixed in the presence of:

President *[Signature]*
 Councillor *[Signature]*
 Shire Secretary *[Signature]*

THE COMMON SEAL of ANSEVATA
 NOMINEES PTY. LTD. was hereunto
 affixed in accordance with its
 Articles of Association in the
 presence of:

Director
 Secretary

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ANNEXURE A
Deed of Variation

THIS DEED OF VARIATION is made on

2016

PARTIES

- 1 **ANSEVATA NOMINEES PTY LTD**
ACN 004 686 131
of 240 Bay Street Brighton 3186
("Ansevata")
- 2 **SOUTH GIPPSLAND SHIRE COUNCIL**
of 9 Smith Street, Leongatha, VIC 3953
("Council")

RECITALS

- A On 8 May 1990, Council's predecessor entered into an agreement with Ansevata which gave Ansevata the right to use water from a retarding basin ("the dam") for agricultural purposes without charge ("Water Agreement"). The Water Agreement is annexed to this Deed and marked "Annexure A".
- B Differing interpretations of the terms of the Water Agreement led to a dispute between the Parties as to their respective rights and obligations under the Water Agreement.
- C This Deed of Variation varies the Water Agreement to clarify the rights and obligations of the Parties.

THE PARTIES AGREE THAT:

1. The Parties agree that this Deed amends the Water Agreement and that the terms of the Water Agreement not amended by this Deed are hereby confirmed.
2. The following clause is inserted in the Water Agreement after Clause 3.2:
 - 3.3 *Not take or use water from the basin land, provided however:*
 - 3.3.1 *water may only be disposed of for the management, repair and maintenance of the Dam, and only via the Dam's existing external drain;*
 - 3.3.2 *disposal for the purposes of this agreement means the Council may not take or use the water for any other purpose other than set out in clauses 3.3.1 and 3.3.3 ;*
 - 3.3.3 *that the Shire may request, and the Licensee at its discretion may consent, to the taking of water by the Shire for other purposes.*
3. The variations in this Deed prevail to the extent of any inconsistency with any other clause of the Water Agreement.
4. The variations in this Deed take effect upon the Parties executing this Deed.

EXECUTED as a Deed.

Dated: 28th NOVEMBER 2016

2

SIGNED, SEALED AND DELIVERED by ANSEVATA NOMINEES PTY LTD in accordance with section 127(1) of the Corporations Act 2001 (Cth) by being signed by authorised persons:



Director [Signature]

[Signature]
*Director/company secretary
*Date (whichever is inapplicable)

JACQUES RICH
Full Name

JEREMY BENJAMIN RICH
Full Name

240 BAY ST, BRIGHTON, VIC 3186
Usual Address

240 BAY ST, BRIGHTON, VIC 3186
Usual Address

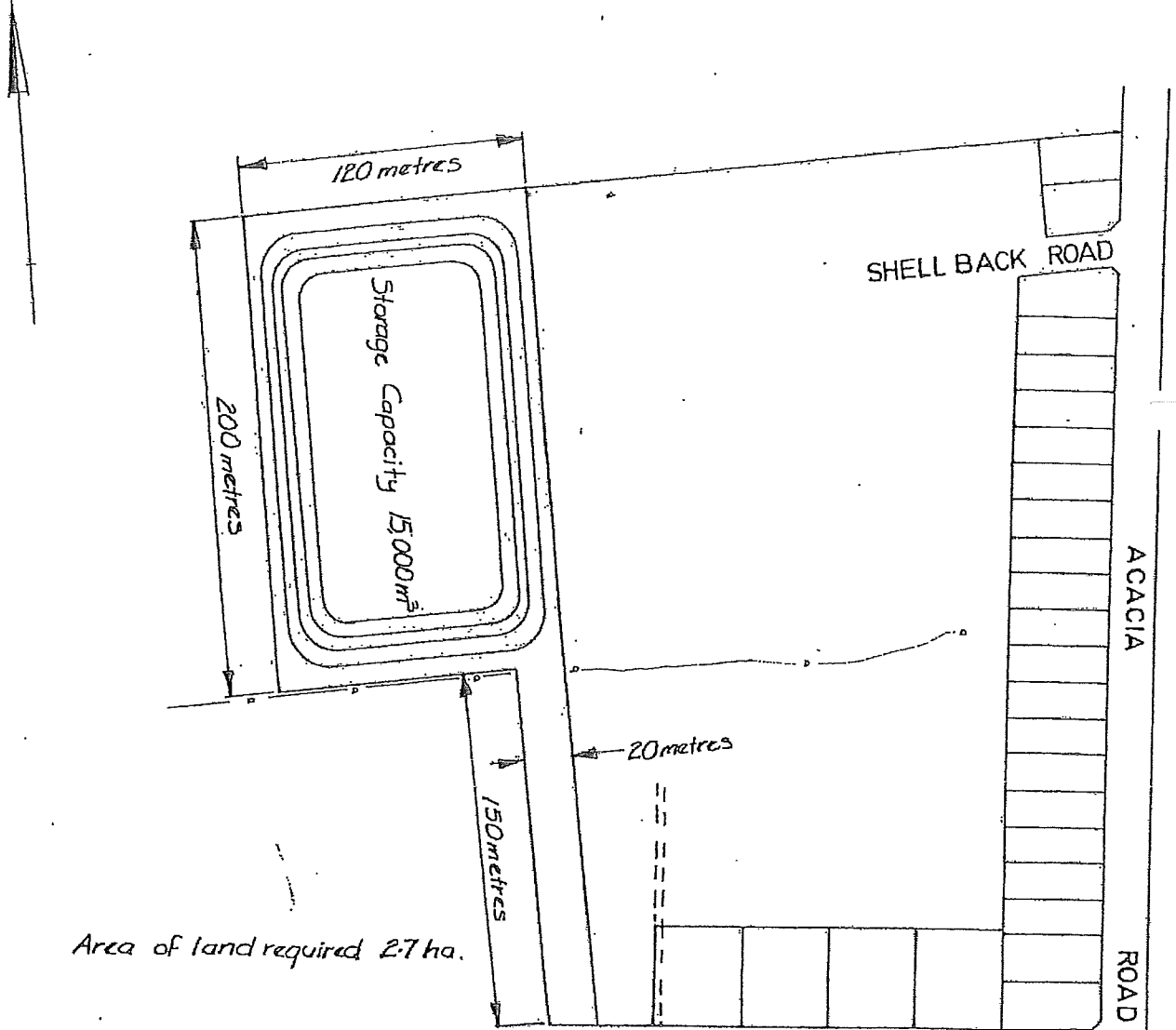
SIGNED SEALED AND DELIVERED by the Chief Executive Officer for and on behalf of SOUTH GIPPSLAND SHIRE COUNCIL pursuant to the power delegated to that person in the presence of:

[Signature]

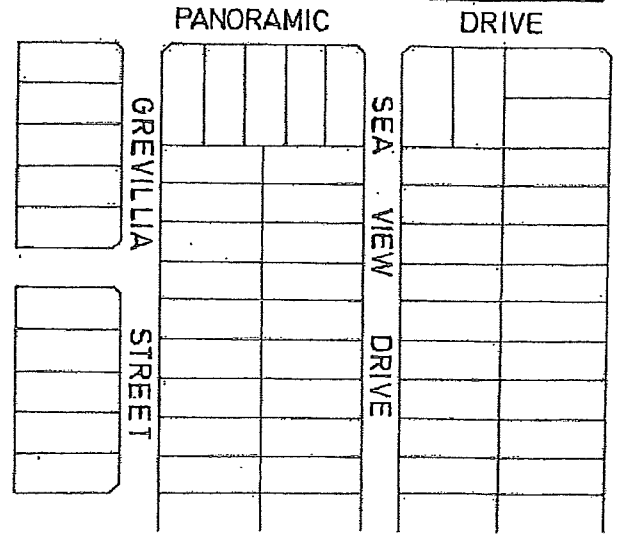


AUDREY WADDINGTON
Full Name

Witness [Signature]

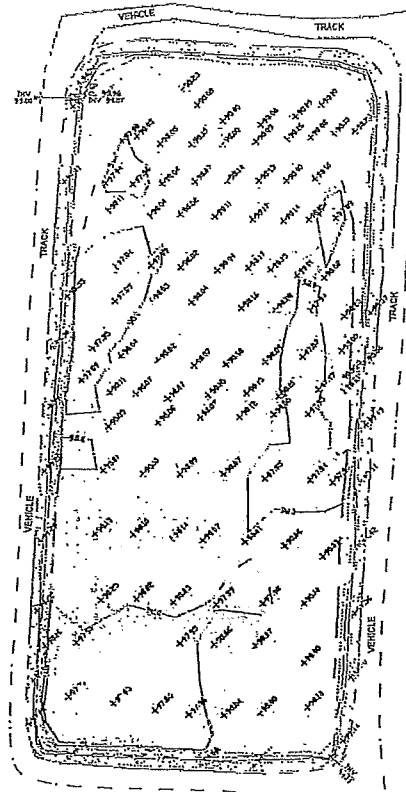


Area of land required 2.7 ha.



Plan amended 23-12-87

SHIRE OF WOORAYL Ordinary Meeting of Council No. 423 - 30 May 2018 PROPOSED STORMWATER RETARDING BASIN STORAGE CAPACITY AREA AND LOCATION	SCALE	1: 2000	DATE	LEVEL BOOK	FILE No 310210
	DESIGN	A.E.C.	16.11.87	APPROVED	PLAN FILE No 458
	DRAWN	A.E.C.	16.11.87	SHIRE ENGINEER	30-158



BASIN CAPACITY
13000m³

WATER VOLUME
ON 27/01/2016
3000m³



LEGEND		
SYM	LINE	LAYER NAME
A	—	Contour
x	—	Top of Bank
	—	Top of Bank
	—	Historical Surface
x	—	Contour
	—	110 Baseline
	—	500 Contour
	—	310 Contour
x	—	Limit of EPP/PA
	—	Edge of Concrete
x	—	CFR Boundary
x	—	Water Level

NOTATIONS
This Plan must be read together with the attached Licensed Surveyor's Report.
All grey lines representing neighbouring property boundaries are from Vicmap Property and are indicative only.

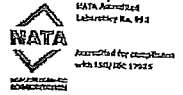
Levels are to an ARBITRARY BRIGHT DATUM.
Certain items have been frozen for clarity but can be thawed if required.

CLIENT
South Otago Regional Council
PROJECT
Wakarusa Basin
Yateville
PROJECT DETAILS
Feature and Level Survey

Scale: 1:500	Sheet Size: A1
Date: 27/01/2016	Date of Survey: 27/01/2016
Drawn: BK	Surveyed: BK
Licensed Surveyor: Luke Mackie	
Sheet 1 of 1	Drawing No: 155000000
Version A	

Mackie Surveying

150 Victoria Street
Dunedin 9011
Ph: 03 478 4171
E: l.mackie@mackiesurveying.com



CERTIFICATE OF ANALYSIS

Batch No:	16-06822	Page	Page 1 of 2
Replacement Report	546722	Laboratory	Scoresby Laboratory
This report replaces Report Number:	540929	Address	22 Dalmore Drive, Scoresby, VIC 3179
Client:	South Gippsland Shire Council	Phone	03 8756 8000
Contact:	Tim Brown	Fax	03 9763 1862
Address:	9 Smith St (Private Bag 4) LEONGATHA VIC 3953	Contact:	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
PO No:	28492	Date Sampled:	02-Feb-2016
Sampler Name:	J Lambert	Date Samples Received:	02-Feb-2016
ALS Program Ref:	SUNDRY_MEL	Date Issued:	10-Mar-2016
Program Description:	Sundry Customer Program for Melbourne		
Client Ref:	Sample No 1242		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

Analysis	Method	Laboratory	Analysis	Method	Laboratory
BOD5	EP030WRG	Scoresby	Colilert (2000)	MM514	Scoresby
pH	CM060 B	Scoresby	SS at 104+/- 2°C	EA025WRG	Scoresby

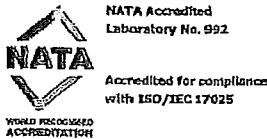
Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

Name	Title	Name	Title
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Joel Nicholson	Analyst		



Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Microbiological testing was commenced on the day of receipt and within 24 hours of sampling unless otherwise stated.
 MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.
 MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.
 Calculated results are based on raw data.

Page: Page 2 of 2
 Batch No: 16-06822
 Report Number: 546722
 Client: South Gippsland Shire Council
 ALS Program Ref: SUNDRY_MEL
 Program Description: Sundry Customer Program for Melbourne



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
4643395		Walkerville Retention Basin - Sampling Point 1	WATER	02/02/16 09:15

Analysis - Analyte	Sample No, Site Code Units	4643395
pH - pH, units	Units	7.2
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	5
SS at 104±2°C - Suspended Solids	mg/L	15
ColiPert (2000) - E.coli MPN ColiPert	orgs/100mL	380

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	16-12750	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	547688	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
<i>PO No:</i>	29516	<i>Date Sampled:</i>	08-Mar-2016
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	08-Mar-2016
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	16-Mar-2016
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	Walkerville SIN:1246		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>	<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>
BOD5	EP030WRG	Scoresby	Colliert (2000)	MM514	Scoresby
pH	CM060 B	Scoresby	SS at 104+/- 2°C	EA025WRG	Scoresby

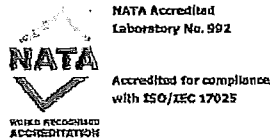
Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

<i>Name</i>	<i>Title</i>	<i>Name</i>	<i>Title</i>
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Joel Nicholson	Analyst		



Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Microbiological testing was commenced on the day of receipt and within 24 hours of sampling unless otherwise stated.
MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.
MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.
Calculated results are based on raw data.

Page: Page 2 of 2
 Batch No: 16-12750
 Report Number: 547686
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
4689763		Walkerville Retention Basin - Sampling Point 1	WATER	08/03/16 09:40
4689764		Walkerville Retention Basin - Sampling Point 1	WATER	08/03/16 09:40

Analysis - Analyte	Sample No.	4689763	4689764
	Site Code		
	Units		
pH - pH, units	Units	7.5	
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	3	
SS at 104+- 2°C - Suspended Solids	mg/L	40	
Colilert (2000) - E.coli MPN Colilert	orgs/100ml		440

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	16-14804	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	549622	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
<i>PO No:</i>	Not Available	<i>Date Sampled:</i>	18-Mar-2016
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	18-Mar-2016
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	29-Mar-2016
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	SIN:1247 Walkerville		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

Analysis	Method	Laboratory	Analysis	Method	Laboratory
BOD5	EP030WRG	Scoresby	Colilert (2000)	MM514	Scoresby
pH	CM060 B	Scoresby	SS at 104 +/- 2°C	EA025WRG	Scoresby
Turbidity	CM013	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

Name	Title	Name	Title
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Tracy Prout	Analyst		



NATA Accredited
Laboratory No. 992
Accredited for compliance
with ISO/IEC 17025

Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. *Microbiological testing was commenced on the day of receipt and within 24 hours of sampling unless otherwise stated.*
MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.
MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.
Calculated results are based on raw data.

Page: Page 2 of 2
 Batch No: 16-14804
 Report Number: 549622
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
4704459		Sampling Point 1-S/N:1247	WATER	18/03/16 09:10

Analysis - Analyte	Sample No. Site Code Units	4704459
pH - pH, units	Units	7.6
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	30
SS at 104± 2°C - Suspended Solids	mg/L	76
Turbidity - Turbidity, NTU	NTU	82
ColiIert (2000) - E.coli MPN ColiIert	orgs/100mL	4400

A blank space indicates no test performed.

CHAIN OF CUSTODY
Water Resources Group

Melbourne Office:
22 Dalmore Drive
Scoresby VIC 3179
Phone: 03 8756 8000
Fax: 03 9763 1862
Email: melbournewrg@alsglobal.com

Bendigo Office:
Gate 6 Sharon Street,
La Trobe University,
Bendigo VIC 3550
Phone: 03 5441 0700
Fax: 03 5444 5208
bendigowrg@alsglobal.com

Geelong Office:
49 Carr Street,
Geelong VIC 3220
Phone: 03 5246 9403
Email: geelongwrg@alsglobal.com

Wangaratta Office:
48 Faithfull Street,
Wangaratta VIC 3677
Phone: 03 5722 2888
Fax: 03 5722 4727
Mobile: 0419 007 749
wangarattawrg@alsglobal.com

Traralgon Office:
4/55 Hazelwood Rd.,
PO Box 1469
Traralgon VIC 3844
Phone: 03 5176 4170
Fax: 03 5176 4473
trarl.wliffen@alsglobal.com

ABN: 94 105 060 320
Pageof.....

Client: SOUTH GIPPSLAND SHIRE COUNCIL		Office use only	
Contact: (results) JOHN LAMBERT (john@southgippsland.vic.gov.au)		Lab Work Order No:	
Address: (invoice) TIM BROWN (timb@southgippsland.vic.gov.au)		LIMS Program Code:	
Phone: 0409936707		TESTS REQUIRED	
Email: Results to : john@southgippsland.vic.gov.au		PH	
P/O No.:		BOD 5	
T/A Time:		SUSPENDED SOLIDS	
Job/Proj Ref: WALKERVILLE RETARDING BASIN. SAMPLING POINT 1: SIN: 1247		e-coli	
Lab Sample ID		TURBIDITY	
Sample Description	No of Containers	Date Sampled	Matrix
WALKERVILLE RETENTION BASIN, Sampling Point 1	2	18/3/16	Liquid
WALKERVILLE RETENTION BASIN, Sampling Point 1	2	18/3/16	Stabilised: Na2S2O3
Special Instructions: Please note Temperature °C at time of delivery 50.0°C		Received By: J Lambert	Time:
Relinquished By: J LAMBERT	Company: SGSC	Date: 18 th MAR2016	Time:
	Company: ALS W4	Date: 18/2/16	Time: 14:45

LAB USE ONLY

Sample conditions: Samples received undamaged (Yes/No)
Samples adequately preserved (Yes/No)
Samples within recommended holding times: (Yes/No)
Samples transported at appropriate temperature (Yes/No)

This form is for recording of sample data after prior consultation with an analyst regarding sampling procedures and does not over-ride pricing agreements, OHS requirements and our terms and conditions.

As an Occupational Health and Safety consideration, it is a requirement of ALS Water Resources Group that all samples received be undamaged and prior advice given in writing of any potential health risks.



CERTIFICATE OF ANALYSIS

Batch No:	16-32752	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	569866	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
<i>PO No:</i>	Not Available	<i>Date Sampled:</i>	12-Jul-2016
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	12-Jul-2016
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	18-Jul-2016
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	Walkerville S/N 1251		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>	<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>
BOD5	EP030WRG	Scoresby	Colliert (2000)	MM514	Scoresby
pH	CM060 B	Scoresby	SS at 104+/- 2°C	EA025WRG	Scoresby
Turbidity	CM013	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

<i>Name</i>	<i>Title</i>	<i>Name</i>	<i>Title</i>
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Tracy Prout	Analyst		



Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Microbiological testing was commenced on the day of receipt and within 24 hours of sampling unless otherwise stated. MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate. MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate. Calculated results are based on raw data.

Page: Page 2 of 2
Batch No: 16-32752
Report Number: 569866
Client: South Gippsland Shire Council
ALS Program Ref: SGSCMISC
Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
4841853		Walkerville Retention Basin - Sampling Point 1	WATER	12/07/16 09:15
4841854		Walkerville Retention Basin - Sampling Point 1	WATER	12/07/16 09:15

Analysis - Analyte	Sample No. Site Code Units	4841853	4841854
		pH - pH, units	Units
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	2	
SS at 104+- 2°C - Suspended Solids	mg/L	<2	
Turbidity - Turbidity, NTU	NTU	12	
Colliert (2000) - E.coli MPN Colliert	orgs/100mL		330

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	16-39325	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	577576	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
<i>PO No:</i>	Not Available	<i>Date Sampled:</i>	23-Aug-2016
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	23-Aug-2016
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	30-Aug-2016
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	Walkerville S/N: 1252		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>	<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>
BOD5	EP030WRG	Scoresby	Colilert (2000)	MM514	Scoresby
pH	CM060 B	Scoresby	SS at 104+/- 2°C	EA025WRG	Scoresby
Turbidity	CM013	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

<i>Name</i>	<i>Title</i>	<i>Name</i>	<i>Title</i>
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Tanya Dukhno	Analyst		



NATA Accredited
Laboratory No. 992
Accredited for compliance
with ISO/IEC 17025
- Testing

Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Microbiological testing was commenced on the day of receipt and within 24 hours of sampling unless otherwise stated.
MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.
MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.
Calculated results are based on raw data.

Page: Page 2 of 2
 Batch No: 16-39325
 Report Number: 677576
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
4893051		Walkkerville Retention Basin - Sampling Point 1	WATER	23/08/16 09:20
4893052		Walkkerville Retention Basin - Sampling Point 1	WATER	23/08/16 09:20

Analysis - Analyte	Sample No.	4893051	4893052
	Site Code Units		
pH - pH, units	Units	7.0	
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	3	
SS at 104 +/- 2°C - Suspended Solids	mg/L	4	
Turbidity - Turbidity, NTU	NTU	13	
Coliart (2000) - E.coli MPN Coliart	orgs/100mL		920

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	16-41090	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	579524	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Susan Cassar Client Manager Susan.Cassar@alsglobal.com
<i>PO No:</i>	Not Available	<i>Date Sampled:</i>	06-Sep-2016
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	06-Sep-2016
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	13-Sep-2016
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	S/N:1253/1254 Walkerville		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>	<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>
BOD5	EP030WRG	Scoresby	Colilert (2000)	MM514	Scoresby
pH	CM060 B	Scoresby	SS at 104+/- 2°C	EA025WRG	Scoresby
Turbidity	CM013	Scoresby			

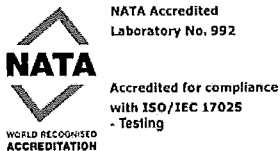
Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

<i>Name</i>	<i>Title</i>	<i>Name</i>	<i>Title</i>
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Tanya Dukhno	Analyst		



Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. *Microbiological testing was commenced on the day of receipt and within 24 hours of sampling unless otherwise stated.*
 MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.
 MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.
 Calculated results are based on raw data.

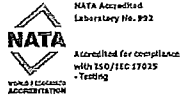
Page: Page 2 of 2
 Batch No: 16-41090
 Report Number: 579524
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
4906941		Sampling Point 1 - 1253	WATER	06/09/16 09:40
4906942		Sampling Point 3 - 1254	WATER	06/09/16 09:50

Analysis - Analyte	Sample No.	4906941	4906942
	Site Code Units		
pH - pH, units	Units	7.3	7.1
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	<2	<2
SS at 104 +/- 2°C - Suspended Solids	mg/L	2	<2
Turbidity - Turbidity, NTU	NTU	14	14
Colilert (2000) - E.coli MPN Colilert	orgs/100mL	430	130

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	16-46351	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	585767	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
<i>PO No:</i>	Not Available	<i>Date Sampled:</i>	11-Oct-2016
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	11-Oct-2016
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	20-Oct-2016
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	Walkerville S/N 1255		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>	<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>
BOD5	EP030WRG	Scoresby	Colilert (2000)	MM514	Scoresby
pH	CM060 B	Scoresby	SS at 104+/- 2°C	EA025WRG	Scoresby
Turbidity	CM013	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

<i>Name</i>	<i>Title</i>	<i>Name</i>	<i>Title</i>
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Tracy Prout	Analyst		



NATA Accredited
Laboratory No. 992

Accredited for compliance
with ISO/IEC 17025
- Testing

WORLD RECOGNISED
ACCREDITATION

Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. *Microbiological testing was commenced on the day of receipt and within 24 hours of sampling unless otherwise stated.*

MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.

MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.

Calculated results are based on raw data.

Page: Page 2 of 2
 Batch No: 16-46351
 Report Number: 585767
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
4948656		Walkerville Retention Basin - Sampling Point 1	WATER	11/10/16 10:05

Analysis - Analyte	Sample No. Site Code Units	4948656
pH - pH, units	Units	7.2
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	<2
SS at 104 +/- 2°C - Suspended Solids	mg/L	<2
Turbidity - Turbidity, NTU	NTU	11
Coliart (2000) - E.coli MPN Coliart	orgs/100mL	820

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	16-52016	Page	Page 1 of 2
Final Report	592631	Laboratory	Scoresby Laboratory
Client:	South Gippsland Shire Council	Address	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
Contact:	John Lambert	Phone	03 8756 8000
Address:	Private Bag 4 LEONGATHA VIC 3953	Fax	03 9763 1862
PO No:	Not Available	Contact:	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
Sampler Name:	John Lambert	Date Sampled:	15-Nov-2016
ALS Program Ref:	SGSCMISC	Date Samples Received:	16-Nov-2016
Program Description:	Miscellaneous Analysis for South Gippsland Shire Council	Date Issued:	22-Nov-2016
Client Ref:	Walkerville S/N 1257		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service

Analysis	Method	Laboratory	Analysis	Method	Laboratory
BOD5	EP030WRG	Scoresby	Colilert (2000)	MM514	Scoresby
pH	CM080 B	Scoresby	SS at 104+/- 2°C	EA025WRG	Scoresby
Turbidity	CM013	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable. Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

Name	Title	Name	Title
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Tracy Prout	Analyst		



Samples not collected by ALS and are tested as received.
Soil results expressed in mg/kg dry weight unless specified otherwise. Microbiological testing was commenced on the day of receipt and within 24 hours of sampling unless otherwise stated.
MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.
MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.
Calculated results are based on raw data.

Page: Page 2 of 2
Batch No: 16-52018
Report Number: 592631
Client: South Gippsland Shire Council
ALS Program Ref: SGSCMISC
Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
4991486		Walkerville Retention Basin - Sampling Point 1	WATER	15/11/16 10:30
4991487		Walkerville Retention Basin - Sampling Point 1	WATER	15/11/16 10:30

Analysis - Analyte	Sample No.	4991486	4991487
	Site Code Units		
pH - pH, units	Units	7.3	
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	<2	
SS at 104 +/- 2°C - Suspended Solids	mg/L	2	
Turbidity - Turbidity, NTU	NTU	8.1	
Coliart (2000) - E.coli MPN Coliart	orgs/100mL		98

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	17-12392	Page	Page 1 of 2
Final Report	614149	Laboratory	Scoresby Laboratory
Client:	South Gippsland Shire Council	Address	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
Contact:	John Lambert	Phone	03 8756 8000
Address:	Private Bag 4 LEONGATHA VIC 3953	Fax	03 9763 1862
		Contact:	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
PO No:	Not Available	Date Sampled:	07-Mar-2017
Sampler Name:	John Lambert	Date Samples Received:	07-Mar-2017
ALS Program Ref:	SGSCMISC	Date Issued:	14-Mar-2017
Program Description:	Miscellaneous Analysis for South Gippsland Shire Council		
Client Ref:	Walkerville SN:1265		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

Analysis	Method	Laboratory	Analysis	Method	Laboratory
BOD5	WP030	Scoresby	Collert (2000)	MM514	Scoresby
pH	CM060 B	Scoresby	SS at 104+/- 2°C	WA025	Scoresby
Turbidity	WA045	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable. Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

Name	Title	Name	Title
Chatura Parera	Team Leader Nutrients	Joseph De Alwis	Analyst
Toni Gaal	Team Leader Microbiology		



Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Microbiological testing was commenced on the day of receipt and within 24 hours of sampling unless otherwise stated. MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate. MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate. Calculated results are based on raw data.

Page: Page 2 of 2
 Batch No: 17-12392
 Report Number: 614149
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
5124494		Walkerville Retention Basin - Sampling Point 1	WATER	07/03/17

Analysis - Analyte	Sample No. Site Code Units	5124494
pH - pH, units	Units	8.2
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	<2
SS at 104+- 2°C - Suspended Solids	mg/L	2
Turbidity - Turbidity, NTU	NTU	1.5
Colliert (2000) - E.coli MPN Colliert	orgs/100mL	110

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	17-12396	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	614151	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Scoresby Laboratory Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Camrin DePalma Client Manager Camrin.DePalma@alsglobal.com
<i>PO No:</i>	Not Available	<i>Date Sampled:</i>	07-Mar-2017
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	07-Mar-2017
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	14-Mar-2017
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	Walkerville S/N:1266		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>	<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>
BOD5	WP030	Scoresby	Colilert (2000)	MM514	Scoresby
pH	CM060 B	Scoresby	SS at 104+/- 2°C	WA025	Scoresby
Turbidity	WA045	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable. Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

<i>Name</i>	<i>Title</i>	<i>Name</i>	<i>Title</i>
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Toni Gaal	Team Leader Microbiology		



Accreditation No. 992
Accredited for compliance with
ISO/IEC 17025 - Testing

Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Microbiological testing was commenced on the day of receipt and within 24 hours of sampling unless otherwise stated. MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate. MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate. Calculated results are based on raw data.

Page: 2 Page 2 of 2
 Batch No: 17-12396
 Report Number: 614151
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
5124505		Walkerville Retention Basin - Sampling Point 3	WATER	07/03/17 10:00

Analysis - Analyte	Sample No. Site Code Units	5124505
pH - pH, units	Units	8.0
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	<2
SS at 104 +/- 2°C - Suspended Solids	mg/L	2
Turbidity - Turbidity, NTU	NTU	1.4
Colliert (2000) - E.coli MPN Colliert	orgs/100mL	54

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	17-23516	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	626387	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
<i>PO No:</i>	Not Available	<i>Date Sampled:</i>	16-May-2017
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	16-May-2017
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	23-May-2017
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	Walkerville S/N: 1269		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

Analysis	Method	Laboratory	Analysis	Method	Laboratory
BOD5	WP030	Scoresby	Colliert (2000)	MM514	Scoresby
pH	CM060 B	Scoresby	SS at 104 +/- 2°C	WA025	Scoresby
Turbidity	WA045	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable. Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

Name	Title	Name	Title
Chatura Perera	Team Leader Nutrients	Chatura Perera	Team Leader Nutrients
Joseph De Alwis	Analyst	Tanya Dukhno	Analyst



Accreditation No. 992
Accredited for compliance with
ISO/IEC 17025 - Testing

Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Soil microbiological testing was commenced within 48 hours from the day received unless otherwise stated. Water microbiological testing was commenced on the day received and within 24 hours of sampling unless otherwise stated.
MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.
MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.

Page: Page 2 of 2
 Batch No: 17-23516
 Report Number: 628387
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
5209656		Walkerville Retention Basin - Sampling Point 3	WATER	16/05/17 09:20
5209657		Walkerville Retention Basin - Sampling Point 3	WATER	16/05/17 09:20

Analysis - Analyte	Sample No.	5209656	5209657
	Site Code		
	Units		
pH - pH, units	Units	7.3	
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	<2	
SS at 104 +/- 2°C - Suspended Solids	mg/L	<2	
Turbidity - Turbidity, NTU	NTU	0.9	
Colifert (2000) - E.coli MPN Colifert	orgs/100mL		330

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	17-33391	Page	Page 1 of 2
Final Report	637041	Laboratory	Scoresby Laboratory
Client:	South Gippsland Shire Council	Address	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
Contact:	John Lambert	Phone	03 8756 8000
Address:	Private Bag 4 LEONGATHA VIC 3953	Fax	03 9763 1862
		Contact:	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
PO No:	Not Available	Date Sampled:	18-Jul-2017
Sampler Name:	John Lambert	Date Samples Received:	18-Jul-2017
ALS Program Ref:	SGSCMISC	Date Issued:	25-Jul-2017
Program Description:	Miscellaneous Analysis for South Gippsland Shire Council		
Client Ref:	Walkerville S/N:1270		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

Analysis	Method	Laboratory	Analysis	Method	Laboratory
BOD5	WP030	Scoresby	Collert (2000)	MM514	Scoresby
pH	WA005	Scoresby	SS at 104+/- 2°C	WA025	Scoresby
Turbidity	WA045	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable. Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

Name	Title	Name	Title
Chatura Perera	Team Leader Nutrients	Tanya Dukhno	Analyst



Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Soil microbiological testing was commenced within 48 hours from the day received unless otherwise stated. Water microbiological testing was commenced on the day received and within 24 hours of sampling unless otherwise stated.

MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.

MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.

Page: Page 2 of 2
 Batch No: 17-33381
 Report Number: 637041
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
5286191		Walkerville Retention Basin - Sampling Point 3	WATER	18/07/17 09:00

Analysis	Analyte	Sample No. Site Code Units	5286191
pH	pH, units	Units	6.9
BOD5	Biochemical Oxygen Demand, 5 Day	mg/L	<2
SS at 104±2°C	Suspended Solids	mg/L	<2
Turbidity	Turbidity, NTU	NTU	3.8
Coli-2000	E.coli MPN Coli-2000	orgs/100mL	440

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	17-41322	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	646560	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
<i>PO No:</i>	Not Available	<i>Date Sampled:</i>	12-Sep-2017
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	12-Sep-2017
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	18-Sep-2017
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	Walkerville SN:1271		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service

<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>	<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>
BOD5	WP030	Scoresby	Colilert (2000)	MM514	Scoresby
pH	WA005	Scoresby	SS at 104+/- 2°C	WA025	Scoresby
Turbidity	WA045	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable. Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

<i>Name</i>	<i>Title</i>	<i>Name</i>	<i>Title</i>
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Tanya Dukhno	Analyst		



Accreditation No. 992
Accredited for compliance with
ISO/IEC 17025 - Testing

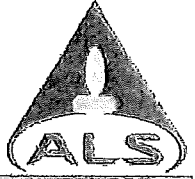
Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Soil microbiological testing was commenced within 48 hours from the day received unless otherwise stated. Water microbiological testing was commenced on the day received and within 24 hours of sampling unless otherwise stated.

MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.

MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.

Page: Page 2 of 2
 Batch No: 17-41322
 Report Number: 646560
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
5351436		Walkerville Retention Basin - Sampling Point 1	WATER	12/09/17 09:00

Analysis - Analyte	Sample No. Site Code Units	5351436
pH - pH, units	Units	6.7
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	<2
SS at 104+/- 2°C - Suspended Solids	mg/L	14
Turbidity - Turbidity, NTU	NTU	24
Coliart (2000) - E.coli MPN Coliart	orgs/100mL	200

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	17-41320	Page	Page 1 of 2
Final Report	646569	Laboratory	Scoresby Laboratory
Client:	South Gippsland Shire Council	Address	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
Contact:	John Lambert	Phone	03 8756 8000
Address:	Private Bag 4 LEONGATHA VIC 3953	Fax	03 9763 1862
		Contact:	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
PO No:	Not Available	Date Sampled:	12-Sep-2017
Sampler Name:	J. Lambert	Date Samples Received:	12-Sep-2017
ALS Program Ref:	SGSCMISC	Date Issued:	18-Sep-2017
Program Description:	Miscellaneous Analysis for South Gippsland Shire Council		
Client Ref:	Walkerville Pt 3 S/N:1272		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

Analysis	Method	Laboratory	Analysis	Method	Laboratory
BOD5	WP030	Scoresby	Colilert (2000)	MMS14	Scoresby
pH	WA005	Scoresby	SS at 104+/- 2°C	WA025	Scoresby
Turbidity	WA045	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

Name	Title	Name	Title
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Tanya Dukhno	Analyst		



Accreditation No. 992
Accredited for compliance with
ISO/IEC 17025 - Testing

Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Soil microbiological testing was commenced within 48 hours from the day received unless otherwise stated. Water microbiological testing was commenced on the day received and within 24 hours of sampling unless otherwise stated.

MMS24: Plate count results <10 per mL and >300 per mL are deemed as approximate.

MMS26: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.

Page: Page 2 of 2
 Batch No: 17-41320
 Report Number: 646569
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
5351395		Walkerville Retention Basin - Point 3	WATER	12/09/17 09:07

Analysis - Analyte	Sample No. Site Code Units	5351395
pH - pH, units	Units	6.6
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	<2
SS at 104 +/- 2°C - Suspended Solids	mg/L	6
Turbidity - Turbidity, NTU	NTU	16
Colliert (2000) - E.coli MPN Colliert	orgs/100mL	200

A blank space indicates no test performed.



CERTIFICATE OF ANALYSIS

Batch No:	17-50258	Page	Page 1 of 2
Final Report	657856	Laboratory	Scoresby Laboratory
Client:	South Gippsland Shire Council	Address	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
Contact:	John Lambert	Phone	03 8756 8000
Address:	Private Bag 4 LEONGATHA VIC 3953	Fax	03 9763 1882
		Contact:	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
PO No:	Not Available	Date Sampled:	14-Nov-2017
Sampler Name:	John Lambert	Date Samples Received:	14-Nov-2017
ALS Program Ref:	SGSCMISC	Date Issued:	21-Nov-2017
Program Description:	Miscellaneous Analysis for South Gippsland Shire Council		
Client Ref:	Walkerville S/N 1273		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

Analysis	Method	Laboratory	Analysis	Method	Laboratory
BOD5	WP030	Scoresby	Colilert (2000)	MM514	Scoresby
pH	WA005	Scoresby	SS at 104+/- 2°C	WA025	Scoresby
Turbidity	WA045	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

Name	Title	Name	Title
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Mario Solorzano	Analyst	Tanya Dukhno	Analyst



Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Soil microbiological testing was commenced within 48 hours from the day received unless otherwise stated. Water microbiological testing was commenced on the day received and within 24 hours of sampling unless otherwise stated.
 MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.
 MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.

Measurement Uncertainties values for your compliance results are available at this link

Page: Page 2 of 2
 Batch No: 17-50258
 Report Number: 657856
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
5427107		Walkerville Retention Basin - Sampling Point 1	WATER	14/11/17 09:07
5427108		Walkerville Retention Basin - Sampling Point 1	WATER	14/11/17 09:07

Analysis - Analyte	Sample No.	5427107	5427108
	Site Code		
	Units		
pH - pH, units	Units	7.0	
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	3	
SS at 104 +/- 2°C - Suspended Solids	mg/L	2	
Turbidity - Turbidity, NTU	NTU	7.8	
Colliert (2000) - E.coli MPN Colliert	orgs/100mL		94

A blank space indicates no test performed.

CHAIN OF CUSTODY
Water Resources Group

Melbourne Office:
22 Dalmore Drive
Scoresby VIC 3179
Phone: 03 8756 8000
Fax: 03 9763 1882
Email: melbournwrg@alsglobal.com

Bendigo Office:
Gate 6 Sharon Street,
La Trobe University,
Bendigo VIC 3550
Phone: 03 5441 0700
Fax: 03 5444 5208
bendigowrg@alsglobal.com

Geelong Office:
49 Carr Street,
Geelong VIC 3220
Phone: 03 5246 9403
Email: geelongwrg@alsglobal.com

Wangaratta Office:
48 Faithfull Street,
Wangaratta VIC 3677
Phone: 03 5722 2688
Fax: 03 5722 4727
Mobile: 0419 007 749
wangaratawrg@alsglobal.com

Traralgon Office
4/55 Hazelwood Rd,
PO Box 1469
Traralgon VIC 3844
Phone: 03 5176 4170
Fax: 03 5176 4473
pau.whiffan@alsglobal.com

Page of

Client: SOUTH GIPPSLAND SHIRE COUNCIL		Office use only 17-50288	
Contact: (results) JOHN LAMBERT (johnl@southgippsland.vic.gov.au)		Lab Work Order No:	
Address: (invoice) TIM BROWN (timb@southgippsland.vic.gov.au)		LIMS Program Code:	
Phone: 9 Smith St, LEONGATHA, VIC 3953		TESTS REQUIRED	
Quote No.: SC-129-15		PH	
Sampler: JOHN LAMBERT		BOD ₅	
Job/Proj Ref: WALKERVILLE RETARDING BASIN. SAMPLING POINT 1: S/N: 1273		SUSPENDED SOLIDS	
Lab Sample ID: 542107		e-coli	
Sample Description: WALKERVILLE RETENTION BASIN, Sampling Point 1		Turbidity	
No of Containers: 2			
Date Sampled: 14/11/17			
Time sampled: 9:07			
Matrix: Liquid			
Lab Sample ID: 08			
Date Sampled: 14/11/17			
Time sampled: 9:07			
Matrix: Liquid			
Special Instructions: Please note Temperature °C at time of delivery.			
Relinquished By: J LAMBERT		Received By: Guy Hill	
Company: SGSC		Company: ALS Scoresby	
Date: 14th NOV2017		Date: 14/11/2017	
Time:		Time: 16:00	
LAB USE ONLY			
Sample conditions:		Sample conditions:	
Samples received undamaged [Yes/No]		Samples received undamaged [Yes/No]	
Samples within recommended holding times: [Yes/No]		Samples adequately preserved [Yes/No]	
Samples transported at appropriate temperature [Yes/No]		Samples within recommended holding times: [Yes/No]	
Samples transported at appropriate temperature [Yes/No]		Samples transported at appropriate temperature [Yes/No]	

This form is for recording of sample data after prior consultation with an analyst regarding sampling procedures and does not over-ride pricing agreements, OHS requirements and our terms and conditions.
As an Occupational Health and Safety consideration, it is a requirement of ALS Water Resources Group that all samples received be undamaged and prior advice given in writing of any potential health risks.



CERTIFICATE OF ANALYSIS

Batch No:	17-50259	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	657857	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
<i>PO No:</i>	Not Available	<i>Date Sampled:</i>	14-Nov-2017
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	14-Nov-2017
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	21-Nov-2017
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	Walkerville S/N 1274		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>	<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>
BOD5	WP030	Scoresby	Colilert (2000)	MM514	Scoresby
pH	WA005	Scoresby	SS at 104+/- 2°C	WA025	Scoresby
Turbidity	WA045	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

<i>Name</i>	<i>Title</i>	<i>Name</i>	<i>Title</i>
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Mario Solorzano	Analyst	Tanya Dukhno	Analyst



Accreditation No. 992
Accredited for compliance with
ISO/IEC 17025 - Testing

Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Soil microbiological testing was commenced within 48 hours from the day received unless otherwise stated. Water microbiological testing was commenced on the day received and within 24 hours of sampling unless otherwise stated.

MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.

MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.

Measurement Uncertainties values for your compliance results are available at this link

Page: Page 2 of 2
 Batch No: 17-50259
 Report Number: 657857
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
5427109		Walkerville Retention Basin - Sampling Point 3	WATER	14/11/17 09:00
5427110		Walkerville Retention Basin - Sampling Point 3	WATER	14/11/17 09:00

Analysis - Analyte	Sample No. Site Code Units	5427109	5427110
		pH - pH, units	Units
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	2	
SS at 104 +/- 2°C - Suspended Solids	mg/L	2	
Turbidity - Turbidity, NTU	NTU	8.7	
Colilert (2000) - E.coli MPN Colilert	orgs/100mL		63

A blank space indicates no test performed.

CHAIN OF CUSTODY
Water Resources Group

ABN: 94 105 060 320
Page.....of.....

Melbourne Office:
22 Dalmore Drive
Scoresby VIC 3179
Phone: 03 8756 8000
Fax: 03 8763 1862
Email: melbournewrg@alsglobal.com

Bendigo Office:
Gate 6 Sharon Street,
La Trobe University,
Bendigo VIC 3550
Phone: 03 5441 0700
Fax: 03 5444 5208
bendigowrg@alsglobal.com

Geelong Office:
49 Carr Street,
Geelong VIC 3220
Phone: 03 5246 9403
Email: geelongwrg@alsglobal.com

Wangaratta Office:
48 Faithful Street,
Wangaratta VIC 3877
Phone: 03 5722 2688
Fax: 03 5722 4727
Mobile: 04-19 007 749
wangarattawrg@alsglobal.com

Traralgon Office:
4/55 Hazelwood Rd,
PO Box 1469
Traralgon VIC 3844
Phone: 03 5176 4170
Fax: 03 5176 4473
paul.whiffen@alsglobal.com

Client: SOUTH GIPPSLAND SHIRE COUNCIL		Office use only 17-80259	
Contact: (results) JOHN LAMBERT (john@southgippsland.vic.gov.au)		Lab Work Order No:	
Address: (invoice) TIM BROWN (timb@southgippsland.vic.gov.au)		LIMS Program Code:	
Phone: 9 Smith St, LEONGATHA, VIC 3953		TESTS REQUIRED	
Quote No.: SC-129-15		SUSPENDED SOLIDS	
Sampler: JOHN LAMBERT		BOD 5	
Job/Proj Ref: WALKERVILLE RETARDING BASIN. SAMPLING POINT 3: S/N: 1274		e-coli	
Lab Sample ID: 5427109		Turbidity	
Sample Description: WALKERVILLE RETENTION BASIN, Sampling Point 3	No of Containers: 2	Date Sampled: 14/11/17	Time sampled: 9:00
Matrix: Liquid			
Stabilised: Na2S2O3	Containers: 1	Date Sampled: 14/11/17	Time sampled: 9:00
Special Instructions: Please note Temperature °C at time of delivery.			
Relinquished By: J LAMBERT	Company: SGSC	Date: 14th NOV2017	Received By: [Signature]
		Time:	Time:

LAB USE ONLY

Sample conditions: Samples received undamaged [Yes/No]
Samples adequately preserved [Yes/No]
Samples within recommended holding times: [Yes/No]
Samples transported at appropriate temperature: [Yes/No]

This form is for recording of sample data after prior consultation with an analyst regarding sampling procedures and does not over-ride pricing agreements, CHS requirements and our terms and conditions.
As an Occupational Health and Safety consideration, it is a requirement of ALS Water Resources Group that all samples received be undamaged and prior advice given in writing of any potential health risks.



CERTIFICATE OF ANALYSIS

Batch No:	18-04813	<i>Page</i>	Page 1 of 2
<i>Final Report</i>	669684	<i>Laboratory</i>	Scoresby Laboratory
<i>Client:</i>	South Gippsland Shire Council	<i>Address</i>	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
<i>Contact:</i>	John Lambert	<i>Phone</i>	03 8756 8000
<i>Address:</i>	Private Bag 4 LEONGATHA VIC 3953	<i>Fax</i>	03 9763 1862
		<i>Contact:</i>	Carmin DePalma Client Manager Carmin.DePalma@alsglobal.com
<i>PO No:</i>	Not Available	<i>Date Sampled:</i>	16-Jan-2018
<i>Sampler Name:</i>	John Lambert	<i>Date Samples Received:</i>	16-Jan-2018
<i>ALS Program Ref:</i>	SGSCMISC	<i>Date Issued:</i>	23-Jan-2018
<i>Program Description:</i>	Miscellaneous Analysis for South Gippsland Shire Council		
<i>Client Ref:</i>	Walkerville S/N:1275		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>	<i>Analysis</i>	<i>Method</i>	<i>Laboratory</i>
BOD5	WP030	Scoresby	Colilert (2000)	MM514	Scoresby
pH	WA005	Scoresby	SS at 104+/- 2°C	WA025	Scoresby
Turbidity	WA045	Scoresby			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

<i>Name</i>	<i>Title</i>	<i>Name</i>	<i>Title</i>
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
Mario Solorzano	Analyst	Ali Shaukat	Analyst



Samples not collected by ALS and are tested as received.
Soil results expressed in mg/kg dry weight unless specified otherwise. Soil microbiological testing was commenced within 48 hours from the day received unless otherwise stated. Water microbiological testing was commenced on the day received and within 24 hours of sampling unless otherwise stated.
MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.
MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.
Calculated results are based on raw data.
Legionella species refers to Legionella species other than Legionella pneumophila
Measurement Uncertainties values for your compliance results are available at this link

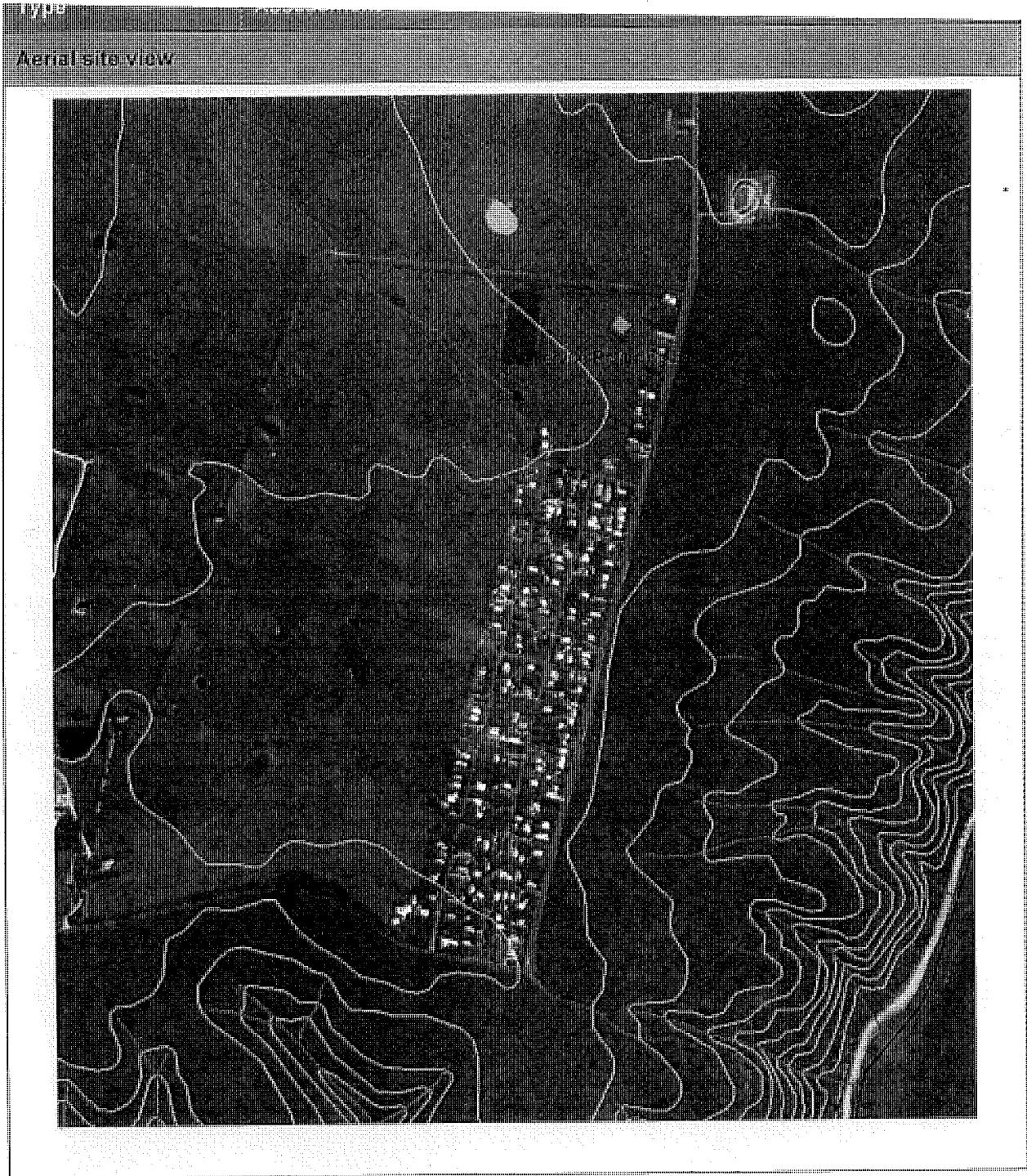
Page: Page 2 of 2
 Batch No: 18-04813
 Report Number: 669684
 Client: South Gippsland Shire Council
 ALS Program Ref: SGSCMISC
 Program Description: Miscellaneous Analysis for South Gippsland Shire Council



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
5508714		Walkerville Retention Basin - Sampling Point 3	WATER	16/01/18 09:45
5508715		Walkerville Retention Basin - Sampling Point 3	WATER	16/01/18 09:45

Analysis - Analyte	Sample No.	5508714	5508715
	Site Code Units		
pH - pH, units	Units	7.5	
BOD5 - Biochemical Oxygen Demand, 5 Day	mg/L	2	
SS at 104±2°C - Suspended Solids	mg/L	<2	
Turbidity - Turbidity, NTU	NTU	1.9	
Colilert (2000) - E.coli MPN Colilert	orgs/100mL		120

A blank space indicates no test performed.



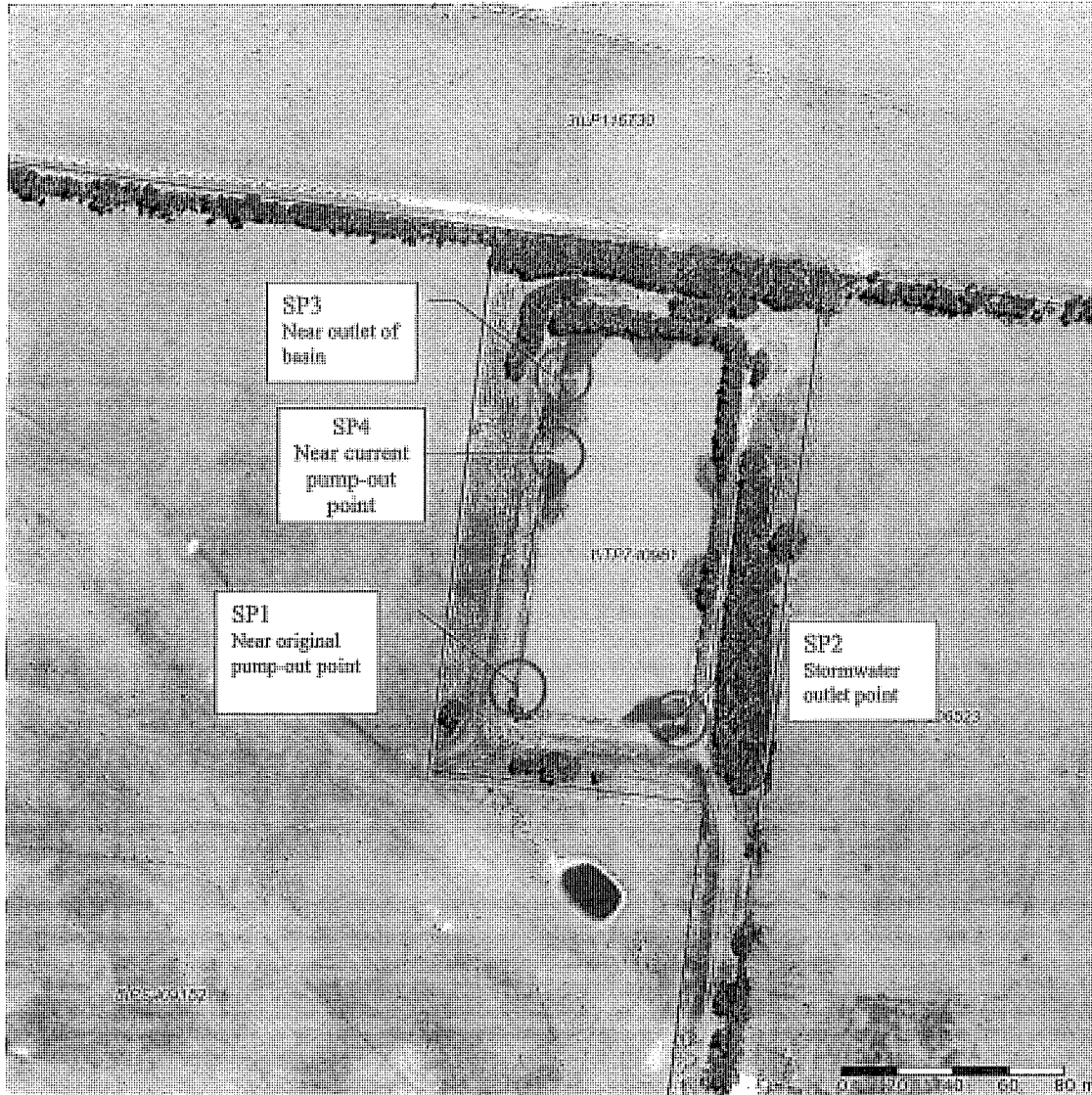


Figure 3-1: Basin sampling locations

The water and sediment samples have been tested for a range of parameters including microbial pathogens, nutrients, salinity and heavy metals. Details are provided in Sections 4 and 5.

As there has been no identification as to the specific 'toxic' nature of the sediment, the sampling and testing proposed can be considered an initial screen to determine if there are any general indicators of contaminants in the sediment that could cause harm to stock or irrigated land/crops. The sampling and testing set has been used to determine if further detailed analysis is warranted.

Sampling of stormwater in the drains was not undertaken. This can only be conducted during a rain event and the water quality during an event is likely to have high variability (e.g. first flush will be of different quality to sustained flow). Multiple events would need to be sampled to provide statistically relevant data.

Sampling and testing of drain water quality was undertaken by the South Gippsland Shire following rainfall in September 2017. This has been considered, but given it relates to only one rainfall event, it is difficult to draw meaningful conclusions.



PETER J RAMSAY
& ASSOCIATES