

QUARTERLY GROUNDWATER MONITORING THE SCONE WASTE LANDFILL

THE SCONE WASTE LANDFILL

Noblet Road Scone NSW 2337

Upper Hunter Shire Council

DLH1186/0450054_H001709

April 2018



PROJECT NAME Scone Waste Landfill Groundwater Monitoring

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PREPARED FOR Upper Hunter Shire Council

APPROVED FOR RELEASE BY Stephen Challinor

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ABBREVIATIONS

ANZECC Australian and New Zealand Environment and Conservation Council

ARMCANZ Agriculture and Resource Management Council of Australia and New Zealand

DEC Department of Environment and Conservation (NSW)

DLA DLA Environmental Services
EC Electrical Conductivity

EPA Environment Protection Authority (NSW)

ERM Environmental Resources Management (formerly DLA Environmental Services)

NEPCNational Environment Protection CouncilNEPMNational Environment Protection MeasureNHMRCNational Health and Medical Research CouncilNRMMCNatural Resource Management Ministerial Council

NSW New South Wales

OCP Organochlorine Pesticides
TOC Total Organic Carbon



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1.0 INTRODUCTION

1.1 General

ERM Services Australia (ERM) was engaged by Upper Hunter Shire Council (the Client) to conduct annual and quarterly surface and groundwater monitoring of the following area:

Scone Waste Facility Area

Noblet Road Scone NSW 2337 (the Site).

Refer to Figure 1: Site Location Regional and Figure 2: Site Location Local.

The Groundwater Monitoring Report provides an overview of the current condition of groundwater at the Site in relation to the Site Criteria and satisfies the groundwater monitoring requirements of the New South Wales (NSW) Environmental Protection Authority (EPA) Environmental Protection Licence 5863.

The report has been prepared utilising information obtained as part of the investigation process, from previous monitoring reports and from experience, knowledge, and current industry practice in the monitoring of similar sites. It is anticipated that quarterly monitoring will be undertaken in April, July and October with annual reporting undertaken in the January reporting period.

Quarterly groundwater monitoring was undertaken on Tuesday 10th April 2018 by staff of ERM.

1.2 Scope of Works

The scope of work provided by Upper Hunter Shire Council indicates that annual and quarterly groundwater monitoring is required at the following groundwater sampling locations:

- MWA;
- MWB;
- MWC;
- MWD (landfill leachate monitoring well); and
- MWE.

Refer to Figure 3: Site Layout with Sample Locations.



2.0 MONITORING PARAMETERS

The following sample analysis parameters and monitoring frequency were provided by Upper Hunter Shire Council for the groundwater wells. Threshold Criteria are primarily sourced from *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC, 2000), *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1)* ('NEPM', NEPC 2013), and the *Australian Drinking Water Guidelines* (NHMRC / NRMMC, 2011).

Table 2a: Analytes, Threshold Criteria and Monitoring Frequency for Groundwater Monitoring Wells

		Threshold Criteria	
Analytes	Units	NEPM 2013 / ANZECC	Monitoring Frequency
		2000 Fresh Water 95%	
Calcium	mg/L	NA	Quarterly
Alkalinity (total)	mg/L	NA	Quarterly
Chloride	mg/L	NA	Quarterly
Fluoride	mg/L	NA	Quarterly
Iron	mg/L	0.3 ^B	Quarterly
Magnesium	mg/L	NA	Quarterly
Manganese	mg/L	1.9 ^A	Quarterly
Organochlorine pesticides (OCP)	mg/L	0.00001 ^c	Quarterly
Potassium	mg/L	410 ^D	Quarterly
рН	рН	6.5 – 8	Quarterly
Sodium	mg/L	NA	Quarterly
Ammonia	mg/L	0.9 ^A	Quarterly
Nitrate	mg/L	0.7	Quarterly
Sulfate	mg/L	NA	Quarterly
Total organic carbon (TOC)	mg/L	4	Quarterly
Total phenolics	mg/L	0.32	Quarterly
Electrical conductivity (EC)	μS/cm	NA	Quarterly

A – Trigger value may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance

B - Interim working level, in absence of reliable trigger value

C - Trigger value for DDT used in absence of trigger value for total OCP

D – Poor (acceptable) drinking water criteria, World Health Organisation Guidelines for Drinking-water Quality 2009



3.0 SAMPLING METHODOLOGY

3.1 Groundwater Sampling

Groundwater samples were collected from well locations MWA, MWB, MWC, MWD and MWE. Purging and sampling of monitoring wells was conducted in accordance with the NEPM (NEPC, 2013) and the *Guidelines for the Assessment and Management of Groundwater Contamination* (NSW DEC, 2007).

Wells were purged using a disposable bailer whilst being measured for physiochemical stability to indicate the flow of formation water. Physiochemical properties were measured at regular intervals following the purging of each equipment volume using a YSI Quatro Pro Plus Water Quality Meter and a flow through cell. Stable conditions were indicated by monitoring the following parameters for three consecutive readings of:

- pH ± 0.1 unit;
- Electrical Conductivity ± 5%;
- Temperature ± 0.20;
- Redox Potential ± 10%; and
- Dissolved Oxygen ± 10%.

Samples were obtained using a dedicated disposable bailer which was changed between each monitoring well to minimise the potential for cross contamination. Sampling equipment was cleaned prior to sampling and between sample locations to prevent cross contamination. The cleaning procedure included:

- Washing and brush scrub with phosphate free laboratory grade detergent;
- Rinsing with water of a potable quality; and
- Rinsing with deionised water.

Groundwater samples were collected into laboratory prepared and supplied sample containers for specific analytes (i.e. into a combination of plastic unpreserved, plastic preserved, glass amber unpreserved and preserved glass vials). Samples were collected and filled into the respective sample containers so no head space remained in the sample container, with no loss of any preservation agents, where present. Groundwater samples collected for metals analysis were filtered through 0.45um filter. Samples were placed immediately into a chilled cooler to minimise the likelihood for the loss of potential volatile components.

It is opinion of ERM that decontamination procedures were appropriate during groundwater sampling and no cross contamination can be inferred.



4.0 RESULTS

All wells were sampled during the April 2018 sampling event, results are detailed below.

Refer to **Table 4a – Table 4e** for a tabulated summary of the laboratory results.

Refer to **Figure 3** for sampling locations.

Table 4a - Groundwater Results Comparison April 2018

Sampling		Threshold	MWA	MWA	MWA	MWA
Parameter	Units	Criteria	July	Oct	Jan	Apr
		(mg/L)	2017	2017	2018	2018
Calcium	mg/L	NA	640	600	590	640
Alkalinity (total)	mg/L	NA	470	470	490	490
Chloride	mg/L	NA	7900	7600	7200	7100
Fluoride	mg/L	NA	0.12	0.14	0.13	0.13
Iron	mg/L	0.3 ^B	ND	0.034	ND	ND
Magnesium	mg/L	NA	1200	1100	1200	1200
Manganese	mg/L	1.9 ^A	0.007	0.014	0.010	0.02
ОСР	mg/L	0.00001 ^c	ND	ND	ND	ND
Potassium	mg/L	410 ^D	4.3 4.9		4.9	4.4
рН	рН	6.5 – 8	7.0	6.6	7.0	6.9
Sodium	mg/L	NA	2200	2000	2000	2100
Ammonia	mg/L	0.9 ^A	0.07	0.42	0.12	0.16
Nitrate	mg/L	0.7	0.24	0.41	ND	ND
Sulfate	mg/L	NA	42	43	40	41
тос	mg/L	4.0	8.0	5.0	5.6	3.6
Total phenolics	mg/L	0.32	ND	ND	ND	0.02
EC	μS/cm	NA	21000	20000	20000	21000

Samples highlighted in **Bold** exceed threshold criteria

ND = No Detection above Laboratory LOR

A – Trigger value may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance

B - Interim working level, in absence of reliable trigger value

C - Trigger value for DDT used in absence of trigger value for total OCP

D – Poor (acceptable) drinking water criteria, World Health Organisation Guidelines for Drinking-water Quality 2009

NA – Not Applicable



Table 4b - Groundwater Results Comparison April 2018

Sampling Parameter	Units	Threshold Criteria (mg/L)	MWB July 2017	MWB Oct 2017	MWB Jan 2018	MWB Apr 2018
Calcium	mg/L	NA	640	610	600	650
Alkalinity (total)	mg/L	NA	390	380	420	390
Chloride	mg/L	NA	6000	6000	5400	5700
Fluoride	mg/L	NA	0.26	0.26	0.24	0.28
Iron	mg/L	0.3 ^B	ND	0.005	ND	ND
Magnesium	mg/L	NA	820	790	810	810
Manganese	mg/L	1.9 ^A	0.01	0.009	0.005	0.01
ОСР	mg/L	0.00001 ^c	ND	ND	ND	ND
Potassium	mg/L	410 ^D	4.0	4.1	3.6	3.6
рН	рН	6.5 – 8	7.0	6.7	7.0	7.2
Sodium	mg/L	NA	1800	1600	1700	1700
Ammonia	mg/L	0.9 ^A	0.21	0.09	0.09	0.09
Nitrate	mg/L	0.7	0.83	0.75	ND	0.46
Sulfate	mg/L	NA	75	70	66	70
тос	mg/L	4.0	8.2	6.3	6.2	4.8
Total phenolics	mg/L	0.32	ND	ND	ND	ND
EC	μS/cm	NA	16000	16000	16000	16000

ND = No Detection above Laboratory LOR

A – Trigger value may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance

B - Interim working level, in absence of reliable trigger value

C - Trigger value for DDT used in absence of trigger value for total OCP

D – Poor (acceptable) drinking water criteria, World Health Organisation Guidelines for Drinking-water Quality 2009 NA – Not Applicable



Table 4c – Groundwater Results Comparison April 2018

Sampling Parameter	Units	Threshold Criteria (mg/L)	MWC July 2017	MWC Oct 2017	MWC Jan 2018	MWC Apr 2018
Calcium	mg/L	NA	26	35	200	270
Alkalinity (total)	mg/L	NA	640	720	580	550
Chloride	mg/L	NA	370	500	2400	3200
Fluoride	mg/L	NA	0.46	0.41	0.26	0.31
Iron	mg/L	0.3 ^B	0.008	ND	ND	ND
Magnesium	mg/L	NA	52	73	330	440
Manganese	mg/L	1.9 ^A	4.6	4.6	12	15
ОСР	mg/L	0.00001 ^c	ND	ND	ND	ND
Potassium	mg/L	410 ^D	0.8	0.9	1.8	1.8
рН	рН	6.5 – 8	7.2	7.1	6.9	6.9
Sodium	mg/L	NA	430	490	1100	1400
Ammonia	mg/L	0.9 ^A	0.33	0.41	0.16	0.22
Nitrate	mg/L	0.7	0.005	ND	1.7	2.5
Sulfate	mg/L	NA	90	110	110	130
тос	mg/L	4.0	23	19	12	9.0
Total phenolics	mg/L	0.32	ND	ND	ND	ND
EC	μS/cm	NA	2400	3000	8700	11000

ND = No Detection above Laboratory LOR

A – Trigger value may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance

B - Interim working level, in absence of reliable trigger value

C - Trigger value for DDT used in absence of trigger value for total OCP

D – Poor (acceptable) drinking water criteria, World Health Organisation Guidelines for Drinking-water Quality 2009

NA – Not Applicable



Table 4d – Groundwater Results Comparison April 2018

Sampling Parameter	Units	Threshold Criteria (mg/L)	MWD (leachate) July 2017	MWD (leachate) Oct 2017	MWD (leachate) Jan 2018	MWD (leachate) Apr 2018
Calcium	mg/L	NA	150	190	160	120
Alkalinity (total)	mg/L	NA	2500	2500	2400	2500
Chloride	mg/L	NA	2800	3700	3100	3600
Fluoride	mg/L	NA	0.35	0.32	0.30	0.34
Iron	mg/L	0.3 ^B	1.6	0.3	1.1	1.1
Magnesium	mg/L	NA	230	260	270	290
Manganese	mg/L	1.9 ^A	0.42	0.28	0.29	0.18
ОСР	mg/L	0.00001 ^c	ND	ND	ND	ND
Potassium	mg/L	410 ^D	180	210	220	200
рН	рН	6.5 – 8	7.5	7.2	7.7	7.7
Sodium	mg/L	NA	1700	1800	1900	1900
Ammonia	mg/L	0.9 ^A	310	350	330	320
Nitrate	mg/L	0.7	ND	ND	ND	ND
Sulfate	mg/L	NA	100	240	93	110
тос	mg/L	4.0	320	320	340	340
Total phenolics	mg/L	0.32	0.05	0.03	0.03	0.05
EC	μS/cm	NA	12000	13000	13000	14000

ND = No Detection above Laboratory LOR

As MWD is within the perched landfill leachate water table, the Threshold Criteria are only applicable as indicators of general water quality for comparison to the wells surrounding the landfill. Exceedances of the Threshold Criteria for MWD are expected and do not indicate contamination is leaving the Site.

A – Trigger value may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance

B - Interim working level, in absence of reliable trigger value

C - Trigger value for DDT used in absence of trigger value for total OCP

D – Poor (acceptable) drinking water criteria, World Health Organisation Guidelines for Drinking-water Quality 2009

NA - Not Applicable



Table 4e - Groundwater Results Comparison April 2018

Sampling Parameter	Units	Threshold Criteria (mg/L)	MWE July 2017	MWE Oct 2017	MWE Jan 2018	MWE Apr 2018
Calcium	mg/L	NA	60	56	56	59
Alkalinity (total)	mg/L	NA	1200	1100	1200	1200
Chloride	mg/L	NA	340	310	280	280
Fluoride	mg/L	NA	0.5	0.51	0.47	0.56
Iron	mg/L	0.3 ^B	0.077	0.015	0.01	ND
Magnesium	mg/L	NA	65	55	55	53
Manganese	mg/L	1.9 ^A	0.14	0.055	0.24	0.14
ОСР	mg/L	0.00001 ^c	ND	ND	ND	ND
Potassium	mg/L	410 ^D	1.5	1.4	1.6	1.2
рН	рН	6.5 – 8	7.5	7.4	7.4	7.4
Sodium	mg/L	NA	570	520	520	550
Ammonia	mg/L	0.9 ^A	0.1	0.38	0.04	0.07
Nitrate	mg/L	0.7	ND	ND	ND	ND
Sulfate	mg/L	NA	99	110	91	85
Total Organic	mg/L	4.0	26	17	15	7.9
Total phenolics	mg/L	0.32	ND	ND	ND	ND
EC	μS/cm	NA	3100	3000	3000	3200

ND = No Detection above Laboratory LOR

A – Trigger value may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance

B - Interim working level, in absence of reliable trigger value

C - Trigger value for DDT used in absence of trigger value for total OCP

D – Poor (acceptable) drinking water criteria, World Health Organisation Guidelines for Drinking-water Quality 2009 NA – Not Applicable



5.0 DISCUSSION

Due to the sites topography, the inferred hydraulic gradient is generally to the west. Wells MWA, MWB and MWC are located down-hydraulic gradient of the landfill. Well MWE is considered to be up-hydraulic gradient of the landfill. Well MWD is located within the perched landfill water table, being the leachate within the landfill.

The water sampled from well MWD is landfill leachate and as such the Threshold Criteria is not used as a comparison, only as an indicator of current conditions. MWD is to be used as a general indicator of water quality within the landfill for comparison to the external monitoring wells.

The following is a summary of the results of the April 2018 sampling event in relation to the Threshold Criteria. The following exceedances of the Threshold Criteria occurred:

- Nitrate in MWC exceeded the Threshold Criteria (0.7 mg/L) with a concentration of 2.5 mg/L. Nitrate concentrations have been reporting an increasing trend with a concentration of 1.7 mg/L in January 2018 and a non-detection in October 2017. There has been no nitrate detected in leachate well MWD which suggests that the landfill is not the source of the nitrate. The nitrate may be migrating onto the Site through groundwater from the adjoining farmland.
- Manganese in MWC exceeded the Threshold Criteria (1.9 mg/L) with a concentration of 15.0 mg/L. Manganese concentrations have been reporting an increasing trend since July 2017 with concentrations of 12 mg/L in January 2018 and 4.6 mg/L in October and July 2017. Manganese concentrations in leachate well MWD have been consistently below the Threshold Criteria which suggests that the landfill is not the source of the Manganese.
- Total Organic Carbon (TOC) exceeds the Threshold Criteria (4 mg/L) in monitoring wells MWB,
 MWC, MWD and MWE, as follows:
 - TOC in MWB reported a concentration of 4.8 mg/L, decreasing from 6.2 mg/L reported in January 2018;
 - TOC in MWC is displaying an increasing trend, reporting a concentration of 9 mg/L, down from 12 mg/L reported in Jan 2018 and 19mg/L in October 2017;
 - TOC in MWD reported a concentration of 340 mg/L which is equivalent to the concentration reported in January 2018, and;
 - TOC in MWE reported a concentration of 7.9 mg/L, decreasing from 15 mg/L reported in January 2018.

The Threshold Criteria used for TOC is intended for drinking water, not groundwater. Due to the magnitude of the exceedances and the intention of the Threshold Criteria used,

ERM

these exceedances are regarded as minor. The TOC concentration in MWE indicates that TOC is likely to be elevated in the local groundwater.

All other analytes in all other wells reported detections which were within the Threshold Criteria.

The following notable changes occurred within the groundwater analytes in landfill leachate well MWD:

- Ammonia in MWD exceeded the Threshold Criteria (0.9mg/L) with a concentration of 320 mg/L. The concentration of ammonia in MWD have remained elevated, 330 mg/L in January 2018 and 350 mg/L in October 2017. Concentrations of Ammonia in MWD have consistently been substantially higher than in the surrounding wells.
- Iron in MWD exceeded the Threshold Criteria (0.3mg/L) with a concentration of 1.1mg/L. Iron concentrations in MWD have fluctuated over its recent history, but displayed the same elevated result of 1.1mg/L in January 2018.

Refer to **Attachment 3** – Data Log.

The data will be viewed on a trending basis as more results become available.



6.0 CONCLUSIONS

The results of laboratory analysis of the samples collected from the Scone Waste Landfill during the April 2018 quarterly sampling event confirmed several exceedances of the Threshold Criteria in the wells external to the landfill. The Threshold Criteria are sourced from the ANZECC 2000 Guidelines for Fresh Water 95% level of protection, NEPM 2013 and Australian Drinking Water Guidelines 2011.

The following analytes exceeded the Threshold Criteria during the April 2018 sampling event: nitrate and manganese in MWC, and TOC in MWB, MWC and MWE. There were no other exceedances of the Threshold Criteria in the wells surrounding the landfill.

Some exceedances have been explained by local conditions or regarded as minor due to the criteria being Australian Drinking Water Guidelines. Trending of these analytes over time may indicate a seasonal fluctuation of regional groundwater conditions. All remaining exceedances are in MWD which is the leachate monitoring well. Exceeding concentrations in MWD are substantially higher than other wells, this indicates that it is unlikely that releases of landfill leachate into the local groundwater are occurring.

The elevated concentrations of nitrate, manganese and TOC in the monitoring wells external to the landfill do not necessarily indicate the concentrations are due to the landfill leachate, future testing and trending of data will allow for appropriate comparisons. Further monitoring may reveal the source and extent of elevated concentrations of particular analytes. As more data becomes available, it will become clearer which analytes are consistently elevated and may allow for determining the source of contamination.

The next water sampling event will be the quarterly monitoring event undertaken in July 2018.



7.0 REFERENCES

ANZECC/ARMCANZ (2000). *Australian Water Quality Guidelines for Fresh and Marine Water Quality*. Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, Canberra, October 2000.

NEPC (1999). *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No.1)*. National Environment Protection Council.

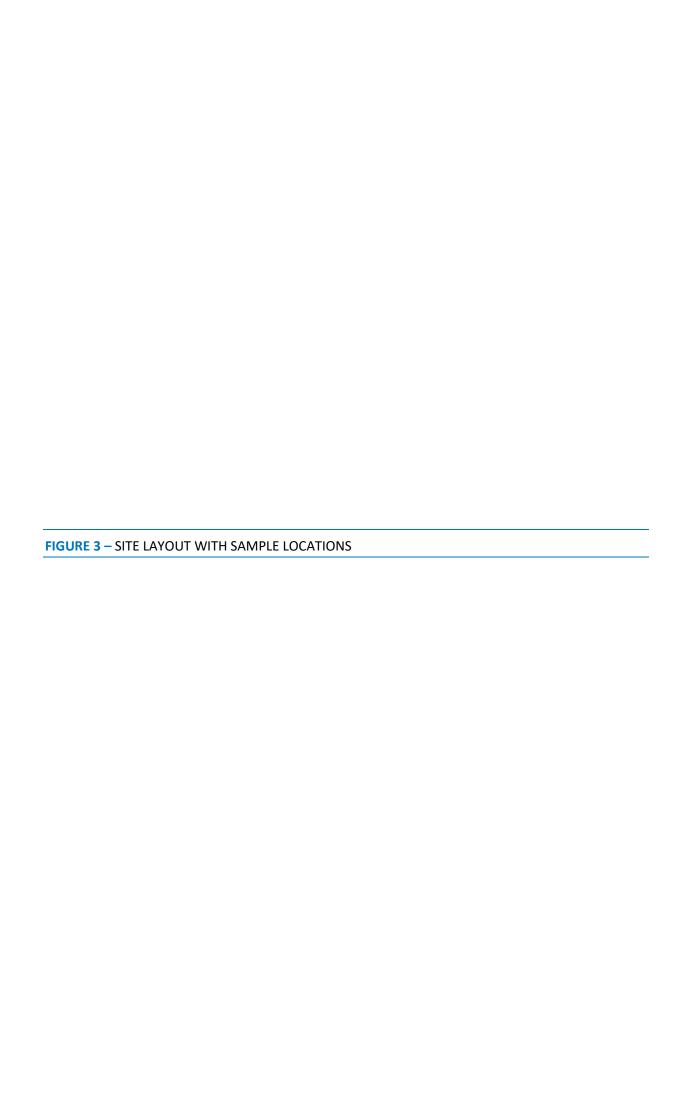
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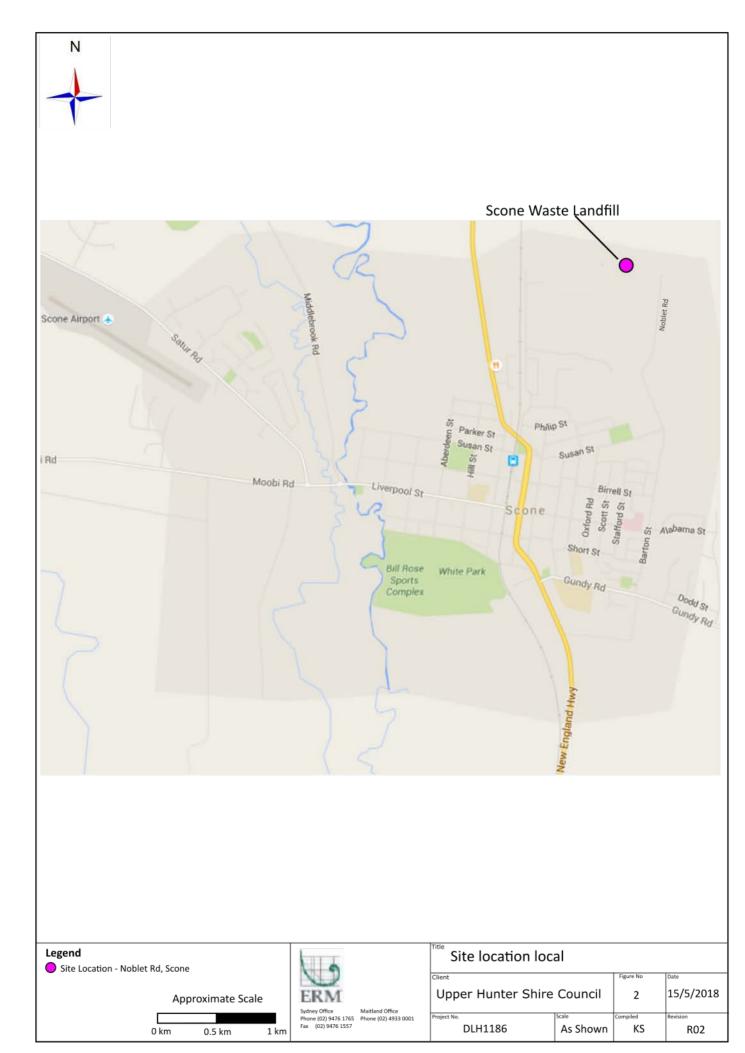
NSW DEC (2007). Contaminated Sites: Guidelines for the Assessment and Management of Groundwater Contamination. New South Wales Department of Environment and Conservation.







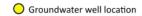














Approximate Scale
Om 50m 100m



Maitland Office Phone (02) 4933 0001

Site layout with sample locations							
Upper Hunter Shire Council	Project No. DLH1186	Figure No	15/5/2018				
	As Shown	Compiled KS	Revision RO2				



ANALYTICAL REPORT





CLIENT DETAILS -

LABORATORY DETAILS

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DLH0450054 Project SGS Reference Order Number (Not specified) Date Received 5 Samples Date Reported

COMMENTS

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Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

Ion Chromatography - The Limit of Reporting (LOR) has been raised for Nitrate-Nitrogen (NO3-N) due to high conductivity of the sample requiring dilution.

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OC Pesticides in Water [AN420] Tested: 17/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	WATER	WATER
			10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
Hexachlorobenzene (HCB)	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDD	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

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Total Phenolics in Water [AN289] Tested: 18/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	WATER	WATER
							-
			10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
Total Phenols	mg/L	0.01	0.02	<0.01	<0.01	0.05	<0.01

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SE177839 R0

Forms of Carbon [AN190] Tested: 17/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	WATER	WATER
							-
			10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
Total Organic Carbon as NPOC	mg/L	0.2	3.6	4.8	9.0	340	7.9

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SE177839 R0

Ammonia Nitrogen by Discrete Analyser (Aquakem) [AN291] Tested: 16/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	WATER	WATER
			10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
Ammonia Nitrogen, NH₃ as N	mg/L	0.01	0.16	0.09	0.22	320	0.07

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SE177839 R0

Anions by Ion Chromatography in Water [AN245] Tested: 16/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	 WATER	WATER
				-	-	-	- WAILK
			10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
Chloride	mg/L	1	7100	5700	3200	3600	280
Sulfate, SO4	mg/L	1	41	70	130	110	85
Fluoride	mg/L	0.1	0.13	0.28	0.31	0.34	0.56
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.10↑	0.46	2.5	<0.050↑	<0.025↑

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SE177839 R0

pH in water [AN101] Tested: 13/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	WATER	WATER
							-
			10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
pH**	No unit	-	6.9	7.2	6.9	7.7	7.4

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SE177839 R0

Conductivity and TDS by Calculation - Water [AN106] Tested: 13/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	WATER	WATER
			10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
Conductivity @ 25 C	μS/cm	2	21000	16000	11000	14000	3200
Total Dissolved Solids (by calculation)	mg/L	2	12000	9900	6500	8500	1900

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SE177839 R0

Alkalinity [AN135] Tested: 13/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	WATER	WATER
			- 10/4/2018	- 10/4/2018	- 10/4/2018	- 10/4/2018	- 10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
Bicarbonate Alkalinity as CaCO3	mg/L	5	490	390	550	2500	1200
Carbonate Alkalinity as CaCO3	mg/L	1	<1	<1	<1	<1	<1
Hydroxide Alkalinity as CaCO3	mg/L	5	<5	<5	<5	<5	<5
Phenolphthalein Alkalinity as CaCO3*	mg/L	5	<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L	5	490	390	550	2500	1200

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SE177839 R0

Acidity and Free CO2 [AN140] Tested: 17/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	WATER	WATER
							-
			10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
Acidity to pH 8.3	mg CaCO3/L	5	170	150	160	270	93

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Metals in Water (Dissolved) by ICPOES [AN320] Tested: 18/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	WATER	WATER
			10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
Calcium, Ca	mg/L	0.1	640	650	270	120	59
Magnesium, Mg	mg/L	0.1	1200	810	440	290	53
Sodium, Na	mg/L	0.1	2100	1700	1400	1900	550
Potassium, K	mg/L	0.2	4.4	3.6	1.8	200	1.2

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Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 16/4/2018

			MWA	MWB	MWC	MWD	MWE
			WATER	WATER	WATER	WATER	WATER
							-
			10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018
PARAMETER	UOM	LOR	SE177839.001	SE177839.002	SE177839.003	SE177839.004	SE177839.005
Iron, Fe	μg/L	5	<5	<5	<5	1100	<5
Manganese, Mn	μg/L	1	20	11	15000	180	140

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Calculation

METHOD SUMMARY

SE177839 R0

METHOD	METHODOLOGY SUMMARY
METHOD —	
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN140	Acidity by Titration: The water sample is titrated with sodium hydroxide to designated pH end point. In a sample containing only carbon dioxide, bicarbonates and carbonates, titration to pH 8.3 at 25°C corresponds to stoichiometric neutralisation of carbonic acid to bicarbonate. Method reference APHA 2310 B.
AN190	TOC and DOC in Water: A homogenised micro portion of sample is injected into a heated reaction chamber packed with an oxidative catalyst that converts organic carbon to carbon dioxide. The CO2 is measured using a non-dispersive infrared detector. The process is fully automated in a commercially available analyser. If required a sugar value can be calculated from the TOC result. Reference APHA 5310 B.
AN190	Chemical oxygen demand can be calculated/estimated based on the O2/C relation as 2.67*NPOC (TOC). This is an estimate only and the factor will vary with sample matrix so results should be interpreted with caution.
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
AN289	Analysis of Total Phenols in Soil Sediment and Water: Steam distillable phenols react with 4-aminoantipyrine at pH 7.9±0.1 in the presence of potassium ferricyanide to form a coloured antipyrine dye analysed by Discrete Analyser. Reference APHA 5530 B/D.
AN291	Ammonia in solution reacts with hypochlorite ions from Sodium Dichloroisocyanuate, and salicylate in the presence of Sodium Nitroprusside to form indophenol blue and measured at 670 nm by Discrete Analyser.
AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN320	Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
AN320	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements . Reference APHA 3120 B.
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

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If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.

Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L.



FOOTNOTES SE177839 R0

FOOTNOTES

NATA accreditation does not cover Not analysed. UOM Unit of Measure. NVL Limit of Reporting. the performance of this service. Not validated. LOR Indicative data, theoretical holding Insufficient sample for analysis. Raised/lowered Limit of IS $\uparrow \downarrow$ time exceeded INR Sample listed, but not received. Reporting.

Samples analysed as received. Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- a. 1 Bq is equivalent to 27 pCi
- b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here:

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Serial No.

Instrument YSI Quatro Pro Plus

13D100015



Air-Met Scientific Pty Ltd 1300 137 067

<u>Item</u>	Test	Pass	Comments
Battery	Charge Condition	V	- Commone
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	1	
	Operation (segments)	Y	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	1	
Connectors	Condition	V	
Sensor	1. pH	V	
	2. mV	✓	
	3. EC	✓	
	4. D.O	4	
	5. Temp	/	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
pH 10		pH 10.0		304261	pH 9.70
1. pH 7.00		pH 7.00		307928	pH 6.84
2. pH 4.00		pH 4.00		307927	pH 4.05
3. mV		231.8mV		306014/391901	231.8mV
4. EC		2.76mS		306341	2.76mS
5. D.O		0.00ppm		5253	0.00ppm
6. Temp		21°C		MultiTherm	20.6°C

Calibrated by:

Kylie Boardman

Calibration date:

29/03/2018

Next calibration due:

28/04/2018



	Threshold Criteria	NA I	IA NA	NA	0.3	NA	1.9	0.00001	NA 6.5-8	NA	0.9	0.7	NA	4 0.	32	NA NA	A N	A 0.015	0.024 (III) 0.013 (V)	0.055 (pH> 6.5)	NA	0.0002	0.09 0.00	0.001	NA	0.0034	0.0006	0.008 0.2	6 0.95	0.18	0.08	NA	NA	6500	0.05 0.	0.000	0.00003	0.016 0.000	02
	Units	mg/L m	g/L mg/L	mg/L	mg/L	mg/L	mg/L	mg/L r	mg/L pH	mg/L	mg/L	mg/L	mg/L r	ng/L m	g/L μ!	S/cm mg	/L mg	/L mg/L	mg/L	mg/L	mg/L	mg/L r	mg/L mg	/L mg/L	mg/L	mg/L	mg/L	ng/L mg	/L mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L mg	g/L mg/l ≌	L mg/L	mg/L mg/	
9	Analytes	Calcium	Alkalinity	Fluoride	Iron	lagnesium	langanese	anochlorine iicides (OCP	otassium	Sodium	Ammonia	Nitrate	Sulfate	organic carb	al pnenolics	ductivity (EC	emical oxyg	demand	ienic III & V	luminium	Barium	Sadmium	Cobalt	romium VI	mium (tota	Lead	Mercury	Zinc TPH	Benzene	Toluene	ylbenzene	total	achlorethen (TCE)	1,1,1- hloroethane (TCA)	chloroether (PCE)	icilioi oetirel iyl Chloride	PCBs	PAHS OPPs	
EDA						2	2	Org	_					Total		conc	Bioch	Ť	Ar					ò	Chrc						풉		Tetr	př.	Tetra	V.			
ERM	Monitoring frequency	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quareny	Quarterly	ļ	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	
Monitoring Well Chemical Report Bate Sampled	Comment																																c	Cs/VOCCs					
MWA 135493 6/10/20 MWB 135493 6/10/20			40 7700 70 6300	0.1	ND ND	1200 840	0.028	ND ND	3.2 6.8 2.6 6.9		0.006 ND	0.76 1.3		4 N		9000 N/ 6000 N/		'A N/A	N/A N/A	N/A N/A	N/A N/A	- '	N/A N/	'A N/A	N/A N/A	N/A N/A		N/A N/			N/A N/A	N/A N/A	N/A N/A		,	/A N/A /A N/A	,	N/A N/A	_
MWC 135493 6/10/20	15	62 7	30 690	0.4	ND	130	2.2	ND	0.6 7.1	670	ND	0.17	350	18 N	ID 3	900 N/	'A N	'A N/A	N/A	N/A	N/A	N/A	N/A N/	'A N/A	N/A	N/A	N/A	N/A N/	A N/A	N/A	N/A	N/A	N/A	N/A	N/A N	/A N/A	N/A	N/A N/A	4
MWD 135493 6/10/20 MWE 135493 6/10/20			100 2800 00 860	0.3	1.8 0.015	220 89	0.46		170 7.6 1.7 7.4		310 0.006	ND ND				1000 N/		'A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N/		N/A N/A	N/A N/A	,	N/A N/ N/A N/			N/A N/A	N/A N/A	N/A N/A		N/A N,			N/A N/A	_
MWA SE148082 14/01/20 MWB SE148082 14/01/20			30 7800 70 6000	ND ND	ND ND		0.01 0.012		4 7 3.5 7	2200 1700	0.2 0.15	0.24 1.3				3000 160 8000 150		D 0.22 D 0.13	0.001	ND ND	0.77		ND N		ND 0.001	ND ND		0.009 NI		ND ND	ND ND	ND ND	ND ND			D ND		ND ND	
MWC SE148082 14/01/20	16	56 7	50 630	0.34	ND	110	4.9	ND	0.9 7.2	590	0.12	ND	300	21 N	ID 4	300 240	00 N	D 0.19	0.003	ND	0.047	ND (0.011 0.0	01 ND	ND	ND	ND	ND NI) ND	ND	ND	ND	ND	ND	ND N	D ND	ND	ND ND)
MWD SE148082 14/01/20 MWE SE148082 14/01/20			200 1000 50 850	0.32	0.33 0.019	110 79	0.87		110 7.3 1.1 7.4		0.12	ND ND		140 0. 10 0.		800 250 600 220		8 0.13 D 0.25	0.017	ND ND	0.49		0.004 N 0.002 N		0.031 ND	ND ND		ND NI		0.0034 ND	0.023 ND	0.0351 ND	ND ND			D 0.005 D ND		0.004 ND ND ND	
MWA 144481 7/04/20 MWB 144481 7/04/20			60 7300 80 6300	0.1	ND 0.02		0.009		3.1 7 2.6 7.1		0.006 ND	0.62 1.3				8000 N/ 5000 N/		'A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N/		N/A N/A	N/A N/A		N/A N/			N/A N/A	N/A N/A	N/A N/A	,	N/A N			N/A N/A	_
MWC 144481 7/04/20	-		60 3700	0.3	0.02	420	3.1		1.4 7.2	1900	ND	4.9				600 N/		'A N/A	N/A	N/A	N/A		N/A N/		N/A	N/A N/A		N/A N/		N/A	N/A	N/A	N/A		,	/A N/A		N/A N/A	_
MWD 144481 7/04/20 MWE 144481 7/04/20			200 2600 90 640	0.3	2.2 0.034		0.45		180 7.7 0.9 7.6	1900 840	210 0.026	ND 0.01				600 N/			N/A N/A	N/A N/A	N/A N/A		N/A N/		N/A N/A	N/A N/A	,	N/A N/ N/A N/		N/A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N			N/A N/A	_
MWA SE154534 6/07/20	-		60 7900	0.12	0.021		0.021		3.7 7.1	_	0.14	0.36				1000 N/		-	N/A	N/A	N/A		N/A N/		N/A	N/A	-	N/A N/		_	N/A	N/A	N/A	,	N/A N			N/A N/A	_
MWB SE154534 6/07/20 MWC SE154534 6/07/20	-		90 6100 30 610	0.24	0.008	820 93	0.008 5.400		3.1 7.1 1.0 7.4	1700 580	0.10	0.95 0.15	69 220			6000 N/ 300 N/		'A N/A 'A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N/		N/A N/A	N/A N/A		N/A N/ N/A N/		N/A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N,	/A N/A /A N/A		N/A N/A	_
MWD SE154534 6/07/20 MWE SE154534 6/07/20			200 1000 70 470	0.14	0.520 0.021		0.960 0.430		120 7.3 1.6 7.6	_	80 0.04	ND ND		140 0.		200 N/			N/A N/A	N/A N/A	N/A N/A	,	N/A N/		N/A N/A	N/A N/A		N/A N/ N/A N/		N/A N/A	N/A N/A	N/A N/A	N/A N/A	-	N/A N	/A N/A /A N/A		N/A N/A	_
MWA SE157863 6/10/20	16		30 7400	0.15	ND	1100	0.020	ND	4.4 6.8	2100	0.14	0.50	37	6.2 0.	22 2	1000 120	100 N	A NA	NA	NA	NA	NA	NA N	A NA	NA	NA	NA	NA N	NA NA	NA	NA	NA	NA	NA	NA N	A NA		NA NA	V.
MWB SE157863 6/10/20 MWC SE157863 6/10/20	16		60 6000 30 770	0.22	ND	120	0.008 5.600	ND	3.6 6.9 1.1 7.1	620	0.09	1.1 ND	180	24 N	ID 3	7000 100 900 240	00 N	A NA	NA NA	NA NA	NA NA		NA N	A NA	NA NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA N	A NA		NA NA	\ \
MWD SE157863 6/10/20 MWE SE157863 6/10/20			500 1600 00 560	0.27	0.001 0.012		0.600		140 7.3 1.3 7.3		150 0.04	ND ND		200 0. 16 0.		800 470 600 210			NA NA	NA NA	NA NA		NA N		NA NA	NA NA		NA NA		NA NA	NA NA	NA NA	NA NA	NA NA		A NA		NA NA	_
MWA SE160904 12/1/20 MWB SE160904 12/1/20			60 8200 80 6300	ND ND	ND ND	1200 850	0.004 ND	ND ND	6 7.3 5 7.2	2100 1700	0.13	0.13	38 70	4 0. 5 0.		9000 140 6000 130			NA NA	ND ND	0.59		ND N		0.001	ND ND		0.008 NI		ND ND	ND ND	ND ND	ND ND			D ND		ND ND	_
MWC SE160904 12/1/20			30 880	0.13	ND ND		7.800		2 7.6		0.10	ND				200 240			NA NA	0.006	0.05		0.013 N		ND	ND ND		ND NI		ND ND	ND	ND ND	ND			D ND		ND ND	_
MWD SE160904 12/1/20 MWE SE160904 12/1/20			300 2800 100 580	ND 0.18	1.100 0.021		0.850		210 7.5 1.8 7.8		250 0.04	ND ND		270 0. 13 N		1000 620		0 0.89 D 0.07	NA NA	0.014 ND	0.91		0.017 N 0.004 0.0		0.03 ND	ND ND		0.035 3	0.002 ND	0.0009 ND	0.0034 ND	0.042 ND	ND ND			D 0.000 D ND		0.017 ND ND ND	_
MWA SE164082 6/4/20		570 4	50 7700	0.14	ND	1100	0.006	ND	3.1 6.8	2200	0.14	0.24	39	6.4 0.	16 2	1000 N/		'A N/A	N/A	N/A	N/A		N/A N/	'A N/A	N/A	N/A	N/A	N/A N/			N/A	N/A	N/A		, ,	/A N/A		N/A N/A	_
MWB SE164082 6/4/20: MWC SE164082 6/4/20:			60 6000 70 520	0.27	ND ND		0.009 7.300		2.8 6.6 0.9 7.1		0.09	0.71 ND				7000 N/ 900 N/		'A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N/		N/A N/A	N/A N/A	,	N/A N/ N/A N/		N/A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N,			N/A N/A	_
MWD SE164082 6/4/20: MWE SE164082 6/4/20:		260 1 34 1	500 2200 100 360	0.28 0.52			0.780 7.300		130 7.3 0.9 7.3	_	210 0.07	ND ND				1400 N/		'A N/A	N/A N/A	N/A N/A	N/A N/A	,	N/A N/		N/A N/A	N/A N/A	-	N/A N/			N/A N/A	N/A N/A	N/A N/A	,	N/A N	/A N/A /A N/A	,,	N/A N/A	_
MWA SE167897 6/7/20:	7	640 4	70 7900	0.12	ND	1200	0.007	ND	4.3 7	2200	0.07	0.24	42	8 1	ID 2	1000 N/	'A N,	'A N/A	N/A	N/A	N/A	N/A	N/A N/	'A N/A	N/A	N/A	N/A	N/A N/	A N/A	N/A	N/A	N/A	N/A	N/A	N/A N	/A N/A	N/A	N/A N/A	4
MWB SE167897 6/7/20: MWC SE167897 6/7/20:	•		90 6000 40 370	0.26			0.01 4.6		4 7 0.8 7.2	1800 430	0.21	0.83				6000 N/ 400 N/		'A N/A 'A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N/		N/A N/A	N/A N/A		N/A N/ N/A N/		N/A N/A	N/A N/A	N/A N/A	N/A N/A		,	/A N/A /A N/A		N/A N/A N/A N/A	_
MWD SE167897 6/7/20: MWE SE167897 6/7/20:			2800	0.35	1.6	230	0.42	ND	180 7.5	1700	310	ND	100	320 0.	05 1	2000 N/			N/A N/A	N/A N/A	N/A N/A		N/A N/		N/A N/A	N/A N/A	,	N/A N/		N/A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N			N/A N/A	_
MWA SE171359 6/10/20	17	600 4	200 340 70 7600	0.14	0.034	1100	0.14	ND	1.5 7.5 4.9 6.6	2000	0.1 0.42	ND 0.41	43	5 N	ID 2	0000 N/	'A N,	'A N/A	N/A	N/A	N/A	N/A	N/A N/	'A N/A	N/A	N/A	N/A	N/A N/	A N/A	N/A	N/A	N/A	N/A	N/A	N/A N	/A N/A	N/A	N/A N/A	4
MWB SE171359 6/10/20 MWC SE171359 6/10/20			80 6000 20 500	0.26	0.005 ND	790 73	0.01 4.60		4.1 6.7 0.9 7.1	1600 490	0.09 0.41	0.75 ND				6000 N/		'A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N/		N/A N/A	N/A N/A		N/A N/ N/A N/		N/A N/A	N/A N/A	N/A N/A	N/A N/A		N/A N	/A N/A /A N/A		N/A N/A	_
MWD SE171359 6/10/20	17 leachate	190 2	3700	0.32	0.300		0.28	ND 2	210.0 7.2	1800	350	ND	240	320 0.	03 1	3000 N/	'A N	'A N/A	N/A	N/A	N/A	N/A	N/A N	'A N/A	N/A	N/A	N/A	N/A N/	A N/A	N/A	N/A	N/A	N/A	N/A	N/A N	/A N/A	N/A	N/A N/A	4
MWE SE171359 6/10/20 MWA SE174394 12/1/20	18	-	100 310 90 7200			55 1200	0.55 0.010		1.4 7.4 4.9 7.0					17 N 5.6 <0		0000 N/ 0000 180		'A N/A D 0.06		N/A ND	N/A 0.62		, ,	A N/A D 0.006				N/A N/ 0.009 NI			-	N/A ND	,		,	/A N/A D ND	N/A ND	N/A N/A ND ND	-
MWB SE174394 12/1/20 MWC SE174394 12/1/20			20 5400 80 2400	0.24		810 330	0.005 12		3.6 7.0 1.8 6.9			ND 1.7		6.2 <0 12 <0		6000 140 700 530		D ND	0.001 ND	ND 0.01	0.54 0.27		ND N 0.024 0.0		0.002 ND	ND ND		ND NI		ND ND	ND ND	ND ND	ND ND			D ND		ND ND	_
MWD SE174394 12/1/20	18 leachate	160 2	100 3100	0.30	1.100	270	0.29	ND	220 7.7	1900	330	ND	93	340 0.	03 1	3000 710	00 2	9 0.06	0.01	ND	1.10	ND (0.032 N	D 0.006	0.050	ND	ND (0.012	0.0035	0.0012	0.027	0.097	ND	ND	ND N	D ND	ND	0.006 ND)
MWE SE174394 12/1/20 MWA SE177839 10/4/20			200 280 90 7100	0.47			0.24		1.6 7.4 4.4 6.9		0.04	ND ND				1000 170 1000 120		D 0.11 'A N/A		ND N/A			0.008 0.0 N/A N/	04 ND 'A N/A	ND N/A	ND N/A		ND NI N/A N/			ND N/A	ND N/A	ND N/A			D ND /A N/A		ND ND N/A N/A	_
MWB SE177839 10/4/20	18		90 5700 50 3200	0.28	ND	810	0.01	ND	3.6 7.2 1.8 6.9	1700	0.09	0.46	70	4.8 <0	.01 1		00 N,	'A N/A	N/A	N/A N/A	N/A N/A	N/A	N/A N/	'A N/A	N/A		N/A	N/A N/	A N/A	N/A		N/A N/A	N/A N/A			/A N/A /A N/A		N/A N/A	4
MWD SE177839 10/4/20	18 leachate	120 2	3600	0.34	1.100	290	0.18	ND 2	200.0 7.7	1900	320.00	ND	110 3	40.0 0.	05 1	4000 850	00 N,	'A N/A	N/A	N/A	N/A	N/A	N/A N/	'A N/A	N/A	N/A	N/A	N/A N/	A N/A	N/A	N/A	N/A	N/A	N/A	N/A N	/A N/A	N/A	N/A N/A	Α
MWE SE177839 10/4/20	18	59 1	200 280	0.56	ND	53	0.14	ND	1.2 7.4	550	0.07	ND	85	7.9 <0	.01 3	200 190	00 N,	'A N/A	N/A	N/A	N/A	N/A	N/A N/	'A N/A	N/A	N/A	N/A	N/A N/	A N/A	N/A	N/A	N/A	N/A	N/A	N/A N	/A N/A	N/A	N/A N/A	
						*A	s MWD is w	ithin the perc	hed landfill lead	nate water tak	ble, the Thres	hold Criteria	are only appli	cable as indic	ators of ge	neral water q	uality for co	omparison to the	e wells surroun	ding the landfi	I. Exceedan	ces of the Thre	eshold Criteria	for MWD are	xpected and o	do not indicat	e contaminati	on is leaving th	e site.										

1		Threshold Criteria			-	0.3	- 1.9	0.000	001 -	6.5– 8	-	0.9	0.7		4	0.32	2 -			0.015	0.024 (III) 0.013 (V)	0.055 (pH> 6.5)		0.0002				÷	0.0034	1 6E-04	0.00	8 0.2	6 0.9!	5 0.18	3 0.08			6500)3 3E-0		0003 (0.016 (0.00002
		Units	mg/L mg/		· ·	· ·	J														mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/	L mg	/L mg/ L	mg/	L mg/L	mg/ L	mg/L	mg/L	mg/	L mg/	/L mg/	L me	g/L i	mg/L	mg/L
	ED M	Analytes	Calcium Alkalinity	Chloride	Fluoride	Iron	Manganese Manganese	Organochlorine pesticides	(OCP) Potassium	Ħ	Sodium	Ammonia	Nitrate	Sulfate	Total organic carbon	Total phenolics	Electrical conductivity	(EC) Total dissolved solids	Biochemical	Phosphate	Arsenic III & V	Aluminium	Barium	Cadmium	Cobalt	Copper	Chromium VI	Chromium (total)	Lead	Mercury	Zinc	H	Benzene	Toluene	Ethylbenzene	total	Tetrachlorethe ne (TCE)	1,1,1- Trichloroethan	Tetrachloroeth	1,2-	Dichloroethene Vinyl Chloride	į	PCBs	PAHS	OPPs
1	EIXIVI	Monitoring frequency	Quarterly Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	, ,	Yearly	Yearly	Yearly
nitorin	Chemical Report Date Sampled	ıment																																			cv	/Cs/VO	CCs						
Mo	Che Re San San	S																																											
S MW.	J	Com	620 440	7700	0.1	ND 12	00 0.028	8 NE	3.2	2 6.8	2400	0.006	0.76	66	4	ND	19000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/	A N/A	A N/A	N/A	N/A	N/A	N/A	N/A	N/A	A N/A	A N,	/A	N/A	N/A
MWA	<u> </u>	Сот	620 440 630 430					_			2400 2200		_	_	4 4.2		19000 5 23000		N/A 0 ND	N/A 0.22	N/A 0.001	N/A ND	N/A 0.77	N/A ND	N/A ND	N/A ND	N/A ND	N/A ND	N/A ND	N/A ND	N/A 0.00	N/9 NI	A N/A	A N/A	N/A ND	N/A ND	N/A ND	N/A ND	_	_	'A N/A		/A ID	N/A ND	N/A ND
MWA	A 135493 6/10/2015 A SE148082 14/01/2016	Сот	630 430	7800	ND	ND 11		. NE) 4	. 7	2200	0.2	0.24	34	4 4.2 3	0.2	_	16000	N/A 0 ND N/A			-	N/A 0.77 N/A	N/A ND N/A			N/A ND N/A	N/A ND N/A	N/A ND N/A	N/A ND N/A					N/A ND N/A			N/A ND N/A	ND	NE) N	ID		
MWA MWA	A 135493 6/10/2015 A SE148082 14/01/2016 A 144481 7/04/2016	Сом	630 430	7800 7300	ND 0.1	ND 11 ND 13	00 0.009	. NE	O 4	. 7 1 7	2200 2800	0.2 0.006	0.24	34 43	4 4.2 3 6.1	0.2! ND	5 23000	16000 N/A	N/A	N/A	0.001	ND	N/A 0.77 N/A N/A	N/A	N/A	N/A					N/A	N/.	A N/A	N/A		N/A	N/A		ND N/A	NE N/	'A N/A	N A N	ID /A	ND	
MWA MWA MWA	A 135493 6/10/2015 A SE148082 14/01/2016 A 144481 7/04/2016	Сод	630 430 700 460	7800 7300 7900	ND 0.1 0.12 0	ND 11 ND 13 .021 12	00 0.009	. NE 9 NE 1 NE	0 4 0 3.1 0 3.7	7 1 7 7 7.1	2200 2800 2200	0.2 0.006	0.24 0.62	34 43 35	3 6.1	0.2! ND 0.03	5 23000	16000 N/A N/A	N/A N/A	N/A N/A	0.001 N/A	ND N/A	N/A 0.77 N/A N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/.	A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	ND N/A	NE N/A	A N/A	NA NA	ID /A /A	ND N/A	ND N/A
MWA MWA MWA MWA	A 135493 6/10/2015 A SE148082 14/01/2016 A 144481 7/04/2016 A SE154534 6/07/2016	Сод	630 430 700 460 620 460	7800 7300 7900 7400	ND 0.1 0.12 0 0.15	ND 11 ND 13 .021 12 ND 11	00 0.01 00 0.009 00 0.021 00 0.020	. NE	0 4 0 3.1 0 3.7 0 4.4	7 1 7 7 7.1 4 6.8	2200 2800 2200 2100	0.2 0.006 0.14 0.14	0.24 0.62 0.36 0.50	34 43 35 37	3 6.1 6.2	0.25 ND 0.03 0.22	5 23000 0 18000 3 21000	16000 N/A N/A 12000	N/A N/A	N/A N/A N/A	0.001 N/A N/A	ND N/A N/A	N/A 0.77 N/A N/A N/A 0.59	N/A N/A N/A	N/A N/A	N/A N/A	N/A N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A N/A	N/2 N/2 N/2	A N/A A N/A	N/A N/A N/A	N/A N/A	N/A N/A N/A	N/A N/A N/A	N/A N/A	ND N/A N/A	NE N/A N/A	A N/A A N/A A N/A	NA NA NA	ID /A /A	ND N/A N/A	ND N/A N/A
MWA MWA MWA MWA	A 135493 6/10/2015 A SE148082 14/01/2016 A 144481 7/04/2016 A SE154534 6/07/2016 A SE157863 6/10/2016	Сод	630 430 700 460 620 460 580 430	7800 7300 7900 7400 8200	ND 0.1 0.12 0 0.15 ND	ND 11 ND 13 .021 12 ND 11 ND 12	00 0.01 00 0.009 00 0.021 00 0.020	. NE 9 NE 1 NE 0 NE 4 NE	3.1 3.7 3.7 3.7 3.7 5.6	7 1 7 7 7.1 4 6.8 6 7.3	2200 2800 2200 2100 2100	0.2 0.006 0.14 0.14 0.13	0.24 0.62 0.36 0.50 0.13	34 43 35 37 38	3 6.1 6.2 3.9	0.2! ND 0.03 0.22 0.03	5 23000 18000 3 21000 2 21000	16000 N/A N/A 12000 14000	N/A N/A 0 N/A	N/A N/A N/A 0.059	0.001 N/A N/A N/A	ND N/A N/A N/A	N/A N/A N/A	N/A N/A N/A ND	N/A N/A N/A ND	N/A N/A N/A ND	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A 0.00	N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/	A N/A A N/A A N/A	N/A N/A N/A N/A	N/A N/A N/A	N/A N/A N/A ND	N/A N/A N/A ND	N/A N/A N/A	ND N/A N/A N/A	NE A N// A N// A N// NE	A N/A N/A N/A N/A N/A N/A	N N N N N N N N N N N N N N N N N N N	ID /A /A /A /A ID	ND N/A N/A N/A	ND N/A N/A N/A
MWA MWA MWA MWA	A 135493 6/10/2015 A SE148082 14/01/2016 A 144481 7/04/2016 A SE154534 6/07/2016 A SE157863 6/10/2016 A SE160904 12/01/2017 A SE164082 6/4/2017	Com	630 430 700 460 620 460 580 430 600 460	7800 7300 7900 7400 8200 7700	ND 0.1 0.12 0 0.15 ND 0.14	ND 11 ND 13 .021 12 ND 11 ND 12 ND 11	00 0.01 00 0.009 00 0.021 00 0.020 00 0.004	. NE 9 NE 1 NE 0 NE 4 NE	0 4 0 3.1 0 3.7 0 4.4 0 5.6 0 3.1	7 1 7 7 7.1 4 6.8 6 7.3 1 6.8	2200 2800 2200 2100 2100	0.2 0.006 0.14 0.14 0.13	0.24 0.62 0.36 0.50 0.13	34 43 35 37 38 39	3 6.1 6.2 3.9	0.25 ND 0.03 0.22 0.03	5 23000 0 18000 3 21000 2 21000 2 19000 6 21000	16000 N/A N/A 12000 14000 N/A	N/A N/A N/A N/A N/A	N/A N/A N/A 0.059 N/A	0.001 N/A N/A N/A NA	ND N/A N/A N/A ND	N/A N/A N/A 0.59	N/A N/A N/A ND	N/A N/A N/A ND	N/A N/A N/A ND	N/A N/A N/A 0.005	N/A N/A N/A 0.001	N/A N/A N/A ND	N/A N/A N/A ND	N/A N/A N/A 0.00	N/A N/A N/A N/A N/A N/A N/A N/A	A N/A A N/A A N/A D ND A N/A	N/A N/A N/A N/A N/A N/A	N/A N/A N/A ND	N/A N/A N/A ND N/A	N/A N/A N/A ND N/A	N/A N/A N/A ND	ND N/A N/A N/A	NE N// N// N// N// NE N//	A N/A A N/A A N/A D ND A N/A	NA	ID /A /A /A /A ID /A /A	ND N/A N/A N/A ND	ND N/A N/A N/A ND
MWA MWA MWA MWA MWA MWA	A 135493 6/10/2015 A SE148082 14/01/2016 A 144481 7/04/2016 A SE154534 6/07/2016 A SE157863 6/10/2016 A SE160904 12/01/2017 A SE164082 6/4/2017	Com	630 430 700 460 620 460 580 430 600 460 570 450	7800 7300 7900 7400 8200 7700 7900	ND 0.11 0.12 0 0.15 ND 0.14 0.12	ND 11 ND 13 .021 12 ND 11 ND 12 ND 11	00 0.01 00 0.009 00 0.022 00 0.026 00 0.006 00 0.006	. NE 9 NE 1 NE 1 NE 4 NE 5 NE	3.1 3.7 3.7 4.4 5.6 3.1 0 4.3	7 1 7 7 7.1 4 6.8 6 7.3 1 6.8 3 7	2200 2800 2200 2100 2100 2200 2200	0.2 0.006 0.14 0.14 0.13	0.24 0.62 0.36 0.50 0.13 0.24 0.24	34 43 35 37 38 39 42	3 6.1 6.2 3.9 6.4	0.25 ND 0.03 0.22 0.03 0.10	5 23000 0 18000 3 21000 2 21000 2 19000 6 21000	16000 N/A N/A 12000 14000 N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A 0.059 N/A N/A	0.001 N/A N/A N/A NA N/A	ND N/A N/A N/A N/A ND N/A	N/A N/A N/A 0.59	N/A N/A N/A ND N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A 0.005	N/A N/A N/A 0.001	N/A N/A N/A ND N/A	N/A N/A N/A ND N/A	N/A N/A N/A 0.00 N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A	A N/A A N/A A N/A D ND A N/A A N/A	N/A N/A N/A N/A N/A N/A	N/A N/A N/A ND N/A	N/A N/A N/A ND N/A N/A N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A ND N/A	ND N/A N/A ND N/A N/A	NE N// N// N// N// NE N//	A N/A A N/A A N/A D ND A N/A A N/A	NA N, A N,	ID /A /A /A ID /A /A /A /A /A	ND N/A N/A N/A ND N/A	ND N/A N/A N/A ND N/A
MWA MWA MWA MWA MWA MWA	A 135493 6/10/2015 A SE148082 14/01/2016 A 144481 7/04/2016 A SE154534 6/07/2016 A SE157863 6/10/2016 A SE160904 12/01/2017 A SE164082 6/4/2017 A SE167897 6/7/2017	Com	630 430 700 460 620 460 580 430 600 460 570 450 640 470	7800 7300 7900 7400 8200 7700 7900 7600	ND 0.11 0.15 ND 0.14 0.12 0.14 0	ND 11 ND 13 .021 12 ND 11 ND 12 ND 11 ND 12 .034 11	00 0.01 00 0.009 00 0.022 00 0.026 00 0.004 00 0.006 00 0.007	NE N	3.1 3.7 3.7 4.4 5.6 3.1 0 4.3 0 4.3	7 1 7 7 7.1 4 6.8 6 7.3 1 6.8 3 7 9 6.6	2200 2800 2200 2100 2100 2200 2200 2000	0.2 0.006 0.14 0.13 0.14 0.07 0.42	0.24 0.62 0.36 0.50 0.13 0.24 0.24 0.41	34 43 35 37 38 39 42 43	3 6.1 6.2 3.9 6.4 8	0.25 ND 0.03 0.22 0.00 0.10 ND	5 23000 18000 3 21000 2 21000 2 19000 6 21000 0 21000	0 16000 0 N/A 0 N/A 12000 14000 0 N/A 0 N/A 0 N/A	N/A N/A 0 N/A 0 ND N/A N/A	N/A N/A N/A 0.059 N/A N/A	0.001 N/A N/A N/A NA N/A	ND N/A N/A N/A ND N/A N/A N/A	N/A N/A N/A 0.59	N/A N/A N/A ND N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A 0.005 N/A N/A	N/A N/A N/A 0.001 N/A N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A 0.00 N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A	A N/A A N/A D ND A N/A A N/A A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A ND N/A N/A N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A ND N/A N/A N/A	N/A N/A N/A ND N/A N/A	ND N/A N/A ND N/A N/A	NE N// N// N// N// NE N// N// N// N// N/	A N/A A N/A A N/A D ND A N/A A N/A A N/A A N/A	N N N N N N N N N N N N N N N N N N N	ID /A /A /A ID /A /A /A /A /A	ND N/A N/A N/A ND N/A N/A N/A	ND N/A N/A N/A ND N/A N/A
MWA MWA MWA MWA MWA MWA MWA	A 135493 6/10/2015 A SE148082 14/01/2016 A 144481 7/04/2016 A SE154534 6/07/2016 A SE157863 6/10/2016 A SE160904 12/01/2017 A SE164082 6/4/2017 A SE167897 6/7/2017 A SE171359 6/10/2017	Com	630 430 700 460 620 460 580 430 600 460 570 450 640 470 600 470	7800 7300 7900 7400 8200 7700 7900 7600 7200	ND 0.1 0.12 0 0.15 ND 0.14 0.12 0.14 0 0.13	ND 11 ND 13 .021 12 ND 11 ND 12 ND 11 ND 12 .034 11 ND 12	00 0.01 00 0.009 00 0.022 00 0.022 00 0.004 00 0.006 00 0.007 00 0.14	NE N	0 4 0 3.1 0 3.7 0 4.4 0 5.6 0 3.1 0 4.3 0 4.9	7 1 7 7 7.1 4 6.8 6 7.3 1 6.8 3 7 9 6.6	2200 2800 2200 2100 2100 2200 2200 2000 20	0.2 0.006 0.14 0.13 0.14 0.07 0.42 0.12	0.24 0.62 0.36 0.50 0.13 0.24 0.24 0.41	34 43 35 37 38 39 42 43	3 6.1 6.2 3.9 6.4 8	0.29 ND 0.03 0.22 0.00 0.10 ND ND	5 23000 0 18000 3 21000 2 21000 2 19000 6 21000 0 20000	0 16000 0 N/A 0 N/A 0 12000 0 14000 0 N/A 0 N/A 0 N/A 0 18000	N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A 0.059 N/A N/A	0.001 N/A N/A N/A NA N/A	ND N/A N/A N/A ND N/A N/A N/A N/A	N/A N/A N/A 0.59	N/A N/A N/A ND N/A N/A N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A ND N/A N/A N/A N/A	N/A N/A N/A 0.005 N/A N/A	N/A N/A N/A 0.001 N/A N/A	N/A N/A N/A ND N/A N/A N/A	N/A N/A N/A ND N/A N/A N/A	N/A N/A N/A 0.00 N/A N/A N/A	N/A	A N/#	N/A	N/A N/A N/A N/A ND N/A N/A N/A N/A N/A	N/A N/A N/A ND N/A N/A N/A N/A N/A ND	N/A N/A N/A ND N/A N/A N/A N/A N/A	N/A N/A N/A ND N/A N/A N/A	ND	NE NE N// N// N// NE N// N// N// N// NE	A N/A A N/A A N/A D ND A N/A A N/A A N/A A N/A D ND	N N N N N N N N N N N N N N N N N N N	ID /A /A /A ID /A	ND N/A N/A N/A N/A N/A N/A N/A N/A N/A	ND N/A N/A N/A ND N/A N/A

i	Threshold Criteria			- 0	.3 -	- 1.9	1E-05	- 6.	5–8 -	0.9	0.7		4 0.32	2 -			0.015	.024 0 (III) (pH> -	0.000	2 0.09	0.001	0	- 0.00	3 6E-04	0.008	0.26	0.95 0	18 0.0	8 -		6500	0.05 0.0	3 0.00	0.0000	0.02	0.00002
	Units	mg/L mg/	. mg/L m	g/L m	g/L mg	/L mg/L	mg/L	mg/L p	oH mg	/L mg/L	. mg/L ı	mg/L m	g/L mg/	L μS/cr	n mg/L	mg/L	mg/L n		6.5) ng/L mg	L mg/L	mg/ L	mg/L m	g/L m	g/L mg/	L mg/l	. mg/L	mg/ L	mg/L ^m	ng/ mg L L	/ mg/L	mg/L	mg/L	mg/L mg	/L mg	/L mg/L	mg/L	mg/L
EDM	Analytes	Calcium Alkalinity	Chloride	Fluoride	Iron Magnocium	Manganese	Organochlorin e pesticides (OCP)	Potassium	Hq miles	Ammonia	Nitrate	Sulfate Total organic	carbon Total phenolics	Electrical conductivity	(EC) Total dissolved solids	Biochemical oxygen	Phosphate	Arsenic III & V	Aluminium	Cadmium	Cobalt	Copper	Chromium VI	(total) Lead	Mercury	Zinc	H _d T	Benzene	Toluene Ethylbenzene	total	Tetrachlorethe ne (TCE)	1,1,1- Trichloroethan e (TCA)	Tetrachloroeth ene (PCE) 1,2-	Dichloroethen Vinvl Chloride	PCBs	PAHs	OPPs
EKIVI	Monitorin g frequency	Quarterl y Quarterl ::	Quarterl y	y Quarterl	y Quarteri	y Quarterl y	Quarterl	Quarterl y	y Quarterl	y Quarteri v	Quarterl	Quarterl y Ouarterl	y Quarterl	y Quarterl v	Yearly	Yearly	Yearly	Yearly	Yearly /	Yearly	Yearly	Yearly	Yearly	Yearly Yearly	Yearly	Yearly	Yearly	Yearly	Yearly Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
Monitorin g Well Chemical Report Date Sampled	Comment																														cv	Cs/VOC	s				
MWB 135493 6/10/2015	5	650 370	6300 ().3 N	ID 84	0.008	ND.	2.6	5.9 19	00 ND	1.3	100	5 ND	1600	0 N/A	N/A	N/A I	N/A I	N/A N/	N/A	N/A	N/A N	I/A N	/A N/	N/A	N/A	N/A	N/A N	/A N/A	A N/A	N/A	N/A	N/A N/	A N/	A N/A	N/A	N/A
MWB SE148082 14/01/201	6	650 370	6000 1	ID N	ID 81	0.012	. ND	3.5	7 17	00 0.15	1.3	69	7 0.33	1 1800	0 15000	ND	0.13 0	.002	ND 0.6	2 ND	ND	ND I	ND 0.	001 NE	ND	0.012	ND	ND N	ID NO) ND	ND	ND	ND NI) NI) ND	ND	ND
MWB 144481 7/04/2016	5	720 380	6300 (0.3	02 88	30 0.007	' ND	2.6	7.1 23	00 ND	1.3	61	4 ND	1500	0 N/A	N/A	N/A I	N/A I	N/A N/	N/A	N/A	N/A N	I/A N	/A N/	N/A	N/A	N/A	N/A N	/A N/	A N/A	N/A	N/A	N/A N/	A N/	A N/A	N/A	N/A
MWB SE154534 6/07/2016	5	650 390	6100 0	.24 0.0	008 82	20 0.008	ND	3.1	7.1 17	00 0.10	0.95	69 7	7.6 ND	1600	0 N/A	N/A	N/A I	N/A I	N/A N/	N/A	N/A	N/A N	I/A N	/A N/	N/A	N/A	N/A	N/A N	/A N/	A N/A	N/A	N/A	N/A N/	A N/	A N/A	N/A	N/A
MWB SE157864 6/10/2016	i i	600 360	6000 0	.22 0.0	006 83	30 0.008	ND	3.6	5.9 18	00 0.09	1.1	69 6	6.6 0.14	1 1700	0 10000	N/A	N/A I	N/A I	N/A N/	N/A	N/A	N/A N	I/A N	/A N/	N/A	N/A	N/A	N/A N	/A N/A	A N/A	N/A	N/A	N/A N/	A N/	A N/A	N/A	N/A
MWB SE160904 12/01/201																															ND	ND	ND NI) NI) ND	ND	ND
MWB SE160904 12/01/201	7	590 380	6300	ID N	ID 85	50 ND	ND	5 7	7.2 17	00 0.10	0.59	70	5 0.04	1 1600	0 13000	ND	0.017	NA	ND 0.5	5 ND	ND	ND I	ND 0.	001 NE	ND	0.007	ND	ND N	ID NE) ND	ND	IND	140 141				
MWB SE164082 6/4/2017		590 380 580 360		ID N .27 N	ID 85		ND ND	2.8	7.2 17 5.6 17			70 77 6	5 0.04 5.8 0.02					NA N/A I	ND 0.5 N/A N/	5 ND A N/A	ND N/A	ND I	ND 0. I/A N	001 NE	ND N/A	0.007 N/A		ND N N/A N	ID NE		N/A	N/A	N/A N/	A N/	A N/A	N/A	N/A
			6000 0			0.009	ND ND ND	5 7 2.8 6 4		00 0.09	0.71			2 1700	0 N/A	N/A			ND 0.5 N/A N/ N/A N/	ND N/A N/A	ND N/A N/A	N/A M	ND 0. I/A N I/A N	001 NC I/A N// I/A N//	ND N/A N/A	0.007 N/A N/A	N/A			A N/A	N/A N/A					N/A N/A	N/A N/A
MWB SE164082 6/4/2017		580 360	6000 0 6000 0	.26 N	ID 76	0.009 0.01		4	5.6 17 7 18	00 0.09	0.71 0.83	75 8	5.8 0.02	2 1700 1600	0 N/A 0 N/A	N/A N/A	N/A I		ND 0.5 N/A N/ N/A N/ N/A N/	5 ND A N/A A N/A A N/A	N/A N/A N/A	ND 1 N/A 1 N/A 1 N/A 1 N/A 1 N/A 1 N/A N	I/A N	001 NE I/A N// I/A N// I/A N//	N/A N/A	N/A	N/A N/A	N/A N	/A N/	A N/A A N/A	N/A N/A N/A	N/A	N/A N/	A N/	A N/A		- '
MWB SE164082 6/4/2017 MWB SE167897 6/7/2017	,	580 360 640 390	6000 0 6000 0	.26 N	ID 76	0.009 0 0.01 0 0.01	ND ND	4 4.1 6	5.6 17 7 18	00 0.09 00 0.21 00 0.09	0.71 0.83 0.75	75 8	6.8 0.02 3.2 ND 6 ND	2 1700 1600	0 N/A 0 N/A 0 N/A	N/A N/A N/A	N/A 1 N/A 1	N/A I N/A I N/A I	ND 0.5 N/A N/ N/A N/ N/A N/ ND 0.5	5 ND A N/A A N/A A N/A 4 ND	ND N/A N/A N/A ND	ND 1 N/A N/A	I/A N	I/A N// I/A N// I/A N//	N/A N/A N/A	N/A N/A	N/A N/A	N/A N N/A N	/A N/	A N/A A N/A A N/A	N/A N/A N/A ND	N/A N/A	N/A N/	A N/	A N/A A N/A	N/A	N/A
MWB SE164082 6/4/2017 MWB SE167897 6/7/2017 MWB SE171359 6/10/2017	3	580 360 640 390 610 380	6000 0 6000 0 6000 0 5400 0	.26 N .26 O.0	ID 76 ID 82 005 79	0.009 0.01 0 0.01 0 0.005	ND ND	4 4.1 3.6	5.6 17 7 18 5.7 16	00 0.09 00 0.21 00 0.09 00 0.09	0.71 0.83 0.75 <0.1	75 8 70 66 6	6.8 0.02 3.2 ND 6 ND	2 1700 1600 1600 1 1600	0 N/A 0 N/A 0 N/A 0 14000	N/A N/A N/A	N/A 1 N/A 1	N/A I N/A I N/A I	N/A N/ N/A N/ N/A N/	5 ND N/A		ND N/A M M N/A M M N/A M M N/A M M M M M M M M M	I/A N I/A N	I/A N// I/A N// I/A N//	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A	N/A N N/A N	/A N/A I/A N/A	A N/A A N/A A N/A	N/A N/A N/A	N/A N/A N/A	N/A N/ N/A N/ N/A N/	A N/	A N/A A N/A D ND	N/A N/A	N/A N/A

ERM	Threshol d Criteria Units Analytes Monitori ng frequence	Calcium	Chloride	Fluoride	lron	Magnesium	Manganese	rganochlorine pesticides	Potassium	표	Sodium	Nitrate	Sulfate	ocal organic carbon	otal phenolics Electrical	conductivity (EC) otal dissolved	solids Biochemical	Phosphate	Arsenic III & V	Aluminium	Barium	Cadmium	Cobalt	Copper	Chromium VI	(total) Lead	Morgin	/L mg,	08 0.2	g/ mg/ L L Benzene	mg/ L Toluene T	rrly Ethylbenzene 7 m 80°0	riy total 기름 . Tetrachlorethe ૠ	1,1,1- me (TCE) 1/2 - 1,1,1- m 99	rily Trichloroethane % 09 (TCA) (TCA)	1,2- T m 0.0	Dichloroethene 7 E	3 0.0000.0 g mg/L هوري	mg/L MaHs half	0.00002 mg/L SddO
Monitori ng Well Chemical Report Date Sampled	Comment			Qua	Qua	Qua	Qua	Qua	Qua							- }	Yes	Yea	Yea	Yea	Yea	Yea	Yea	Yea	Yea	Yez Yez) >	, A	, A	3	Yea	Yea	Yes	CVCs	× ∕voccs	Yes Y	Yea	Yea	Yea	Yea
MWC 135493 6/10/20		62 73	30 690	0.4	ND	130	2.2	ND	0.6	7.1 6	70 NE	0.17	350	18	ND 39	900 N,	'A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A I	I/A N/	A N/	A N/.	A N/	/A N/A	N/A	N/A	N/A N	/A N	1/A 1	I/A N/	A N/A	N/A	N/A	N/A
MWC SE148082 14/01/20		56 75	630	0.34	ND	110	4.9	ND	0.9	7.2 5	90 0.1	2 ND	300	21	ND 43	300 24	00 ND	0.19	0.003	ND	0.047	ND	0.011	0.001	ND	ND NE) N	D NE) NI	D ND	ND	ND	ND N	D N	ND I	ND NI) ND	ND	ND	ND
MWC 144481 7/04/20		290 66	_	0.3	0.038	420	3.1	ND	1.4	7.2 1	_	4.9	_	9	_	_	A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A I	I/A N/	A N/	A N/.	A N/	/A N/A	N/A	N/A	N/A N,	/A N	1/A 1	I/A N/	A N/A	N/A	N/A	N/A
MWC SE154534 6/07/20	_	55 73		0.24	0.006	93	5.4	ND	1.0	7.4 5	_	5 0.15	_	24	_		'A N/A	,	N/A	N/A	N/A	N/A	N/A	N/A	N/A I	I/A N/	A N/	A N/	A N/	/A N/A	N/A	N/A	N/A N	/A N	1/A 1	I/A N/	A N/A	N/A	N/A	N/A
MWC SE157865 6/10/20	_	67 63		_	ND	_	5.6	ND	1.1			4 ND		24	_		00 N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A I		A N/	A N/.	A N/	/A N/A	N/A	N/A	N/A N	_	_	N/A N/	_	N/A	N/A	N/A
MWC SE160904 12/01/20	_	44 83		-	ND	89	7.8	ND	2		_	2 ND	_	_	_	_	_	0.017	NA	0.006	0.05	ND	0.013	ND		ND NE	_	_) NI	D ND	ND	ND	ND N	D N	_	ND NI	_	ND	ND	ND
MWC SE164082 6/4/201		34 67	70 520	0.44	ND	68	7.3	ND	0.9	7.1 5	40 0.0	5 ND	120	23	ND 29	900 N,	A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A I	I/A N/	A N/	A N/.	A N/	/A N/A	N/A	N/A	N/A N,	/A N	1/A 1	I/A N/	A N/A	N/A	N/A	N/A
MWC SE167897 6/7/201	7	26 64	10 370	0.46	0.008	52	4.6	ND	0.8	7.2 4	30 0.3	3 0.01	90	23	ND 24	100 N	'A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A I	I/A N/	A N/	A N/.	A N/	/A N/A	N/A	N/A	N/A N,	/A N	1/A 1	I/A N/	A N/A	N/A	N/A	N/A
MWC SE171359 6/10/20		35 72	20 500	0.41	ND	73	4.60	ND	0.9	7.1 4	90 0.4	1 ND	110	19	ND 30	000 N	'A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A I	I/A N/	A N/		A N/	/A N/A	N/A	N/A	N/A N		1/A 1	N/A N/	A N/A	N/A	N/A	N/A
MWC SE174394 12/1/20	18	200 5	80 2400	0.26	<5	330	12	<0.1	1.8	6.9 1	100 0.1	6 1.7	110	12 <	0.01 8	700 53	00 ND	ND	NR	0.01	0.27	ND	0.024	0.004	ND	ND NE) N	D NE) NI	D ND	ND	ND	ND N	D 1	ND I	ND NI) ND	ND	ND	ND
MWC SE177839 10/4/20	18	270 55	3200	0.31	ND	440	15.00	ND	1.8	6.9 1	400 0.2	2 2.5	130	9.0 <	0.01 11	000 65	00 N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A I	I/A N/	A N/	A N/	A N/	/A N/A	N/A	N/A	N/A N	/A N	1/A 1	N/A N/	A N/A	N/A	N/A	N/A

i		Threshold Criteria				- 0.3	-	1.9	1E-05		6.5-8	-	0.9	0.7 -		4 0.3	2 -	-		- 0.015	(III)	0.055 (pH>	- 0.	.0002	0.09 (0.001	0	- 0.0	003 0.0	0006 0.	.008 0	.26 0.9	95 0	.18 (0.08	-		6500	0.05	0.03	0.0003	3E-05	0.016	0.00002
	н	Units	mg/L r	ng/L m	g/L m	g/L mg/	L mg/l	L mg/L	mg/L	mg/L	рН п	ng/L m	ng/L n	ng/L mg	/L m	g/L mg/	/L μS/cr	m mg/	/L mę	g/L mg/L	n n13 (v) mg/L	e st mg/L	mg/L r	ng/L i	mg/L ı	mg/L n	ng/L m	ıg/L m	g/L m	ıg/L m	ng/L m	g/L mg	g/L m	ıg/L n	ng/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	and the second	Analytes						Manganese	Organochlorine pesticides	Potassium	Hd	Sodium	Ammonia	Nitrate	Total organic		Electrical conductivity	(EC) Total dissolved	solids Biochemical	oxygen demand Phosphate	Arsenic III & V	Aluminium	Barium	Cadmium	Cobalt	Copper	Chromium VI	(total)	read	Mercury	Zinc	ТРН Волгоно		Toluene	Ethylbenzene	total	Tetrachlorethe ne (TCE)	1,1,1- Trichloroethan e (TCA)	Tetrachloroeth ene (PCE)	1,2- Dichloroethene	Vinyl Chloride	PCBs	PAHs	OPPs
ERN	1	Monitorin g frequency	Quarterl	Quarterl y Quarterl	y Quarterl	y Quarterl	y Quarterl	y Quarterl y	Quarterl	Quarterl	Quarterl	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	A dualient	Quarteri y Quarteri	y Quarterl	y Quarterl	y Quarterl	y Yearly		Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	k i i i	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
Monitori ng Well Chemical Report	Date iampled	omment																																				Cs/VOCC						
	٠,	0																																										
MWD 135493	6/10/2015	leachate	150	2400 28	300 C	0.3 1.8	220	0.46	ND	170	7.6 1	700 3	310	ND 6	5 3	30 NE	1100	00 N/A	A N	/A N/A	N/A	N/A	N/A	N/A	N/A	N/A I	N/A N	I/A N	I/A N	N/A N	N/A N	I/A N/	/A N	I/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MWD 135493 MWD SE148082	6/10/2015 14/01/2016	leachate leachate		2400 28 1200 10	300 C	0.3 1.8	3 220 3 110	0.46	ND ND	170 110	7.6 1 7.3 6	700 3 590 1	310 110	ND 6	5 3 :	30 NE 40 0.4	7 5800	00 N/A	A N,	I/A N/A 18 0.13	N/A 0.017	N/A ND	N/A 0.49	N/A ND (N/A 0.004	N/A I	N/A N ND 0.	N/A N	I/A N	N/A N	N/A N	I/A N/	/A N	N/A 0	N/A .023	N/A 0.0351	N/A ND	N/A ND	N/A ND	N/A ND	N/A 0.0059	N/A ND	N/A 0.004	N/A ND
				2400 28 1200 10 2200 26	300 C	0.3 1.8 .32 0.3 0.3 2.2	3 220 3 110 2 230	0.46 0.87 0.45	ND ND ND	170 110 180	7.6 1 7.3 6 7.7 1	700 3 590 1	310 110 210	ND 60 ND 18 ND 35	5 3 :	30 NE 40 0.4 90 NE	7 5800 9600	00 N/A 0 250 0 N/A	A N,	I/A N/A 18 0.13 I/A N/A	N/A 0.017 N/A	N/A ND N/A	N/A 0.49 N/A	N/A ND (N/A 0.004 N/A	N/A I ND N/A I	N/A N ND 0. N/A N	N/A N 031 N N/A N	I/A N	N/A N ND 0.	N/A N .026 :	I/A N/ 34 0.00 I/A N/	/A N 028 0.0 /A N	I/A 0034 0 I/A	N/A .023 (N/A 0.0351 N/A	N/A ND N/A	N/A ND N/A	N/A ND N/A	N/A ND N/A	N/A 0.0059 N/A	N/A ND N/A	N/A 0.004 N/A	N/A ND N/A
MWD SE148082	14/01/2016	leachate		2400 28 1200 10 2200 26 1200 10	300 C 000 0 500 C	0.3 1.8 .32 0.3 0.3 2.2 .14 5.2	3 220 3 110 2 230 2 120	0.46 0.87 0.45 0.96	ND ND ND	170 110 180 120	7.6 1 7.3 6 7.7 1 7.3 6	700 3 590 1 900 2	310 110 210 80	ND 60 ND 18 ND 35 ND 14	5 3: 3 1: 5 2: 0 1:	30 NE 40 0.4 90 NE 40 0.0	7 5800 9600 1 5200	00 N// 0 250 0 N// 0 N//	'A N, 00 4 'A N, 'A N,	I/A N/A 18 0.13 I/A N/A I/A N/A	N/A 0.017 N/A N/A	N/A ND N/A N/A	N/A 0.49 N/A N/A	N/A ND (N/A N/A	N/A 0.004 N/A N/A	N/A I ND N/A I N/A I	N/A N ND 0. N/A N N/A N	N/A N 031 N N/A N	I/A N ID I I/A N	ND 0. NA N	N/A N .026 3 N/A N N/A N	I/A N/ 34 0.00 I/A N/ I/A N/	/A N 028 0.0 /A N /A N	I/A 0034 0 I/A	N/A .023 (N/A N/A	N/A 0.0351 N/A N/A	N/A ND N/A N/A	N/A ND N/A N/A	N/A ND N/A N/A	N/A ND N/A N/A	N/A 0.0059 N/A N/A	N/A ND N/A N/A		N/A ND N/A N/A
MWD SE148082 MWD 144481	14/01/2016 7/04/2016	leachate leachate		2400 28 1200 10 2200 26 1200 10 1600 16	300 C 000 0 500 C 000 0	0.3 1.8 .32 0.3 0.3 2.2 .14 5.2 .27 0.00	3 220 3 110 2 230 2 120 01 150	0.46 0.87 0.45 0.96 0.600	ND ND ND ND	170 110 180 120 140	7.6 1 7.3 6 7.7 1 7.3 6 7.3 1	700 3 590 1 900 2 530	310 110 210 80 150	ND 66 ND 18 ND 39 ND 14 ND 11	5 3: 3 1: 5 2: 0 1: 0 2:	30 NE 40 0.4 90 NE 40 0.0 00 0.0	7 5800 9600 1 5200 7 7800	00 N/n 0 250 0 N/n 0 N/n 0 470	'A N, 'DO 4 'A N, 'A N, 'DO N,	I/A N/A 18 0.13 I/A N/A I/A N/A I/A N/A	N/A 0.017 N/A N/A N/A	N/A ND N/A N/A	N/A 0.49 N/A N/A N/A	N/A ND (N/A N/A N/A	N/A 0.004 N/A N/A N/A	N/A I ND N/A I N/A I	N/A N ND 0. N/A N N/A N	N/A N 031 N N/A N N/A N	I/A N I/A N I/A N I/A N	N/A N ND 0. N/A N N/A N	N/A N .026 3 N/A N N/A N	I/A N/ 34 0.00 I/A N/ I/A N/	/A N 028 0.0 /A N /A N	I/A 0034 0 I/A I/A	N/A .023 (N/A N/A N/A	N/A 0.0351 N/A N/A N/A	N/A ND N/A N/A	N/A ND N/A N/A N/A	N/A ND N/A N/A	N/A ND N/A N/A N/A	N/A 0.0059 N/A N/A N/A	N/A	N/A	N/A
MWD SE148082 MWD 144481 MWD SE154534	14/01/2016 7/04/2016 6/07/2016	leachate leachate leachate	170 1 160 2 250 1 210 1	2400 28 1200 10 2200 26 1200 10 1600 16 2300 28	800 C 000 0 500 C 000 0	0.3 1.8 .32 0.3 0.3 2.2 .14 5.2 .27 0.00 ND 1.10	3 220 3 110 2 230 2 120 01 150 00 230	0.46 0.87 0.45 0.96 0.600 0.850	ND ND ND ND ND	170 110 180 120 140 210	7.6 1 7.3 6 7.7 1 7.3 6 7.3 1 7.5 1	700 3 590 1 900 2 530 000 1	310 110 210 80 150 250	ND 60 ND 10 ND 33 ND 14 ND 11 ND 33	5 3: 3 1: 5 2: 0 1: 0 2: 0 2:	30 NE 40 0.4 90 NE 40 0.0 00 0.0 70 0.0	7 5800 9600 1 5200 7 7800 4 1100	00 N// 0 250 0 N// 0 N// 0 470 00 620	A N, 00 4 A N, A N, A N, A N, O N, O N, O 1	I/A N/A 18 0.13 I/A N/A I/A N/A I/A N/A I/A N/A 70 0.89	N/A 0.017 N/A N/A N/A NA	N/A ND N/A N/A N/A 0.014	N/A 0.49 N/A N/A N/A 0.91	N/A ND C N/A N/A N/A N/A ND C	N/A 0.004 N/A N/A N/A N/A 0.017	N/A I N/A I N/A I N/A I N/A I N/A I	N/A N ND 0. N/A N N/A N N/A N	N/A N 031 N N/A N N/A N N/A N	A\ N	N/A N ND 0. N/A N N/A N N/A N	N/A N .026 3 N/A N N/A N N/A N	I/A N/ 34 0.00 I/A N/ I/A N/ I/A N/ 3 0.0	/A N 028 0.0 /A N /A N /A N 02 0.0	0034 0 0/A 0 1/A 0 1/A 0 1/A 0 1/A 0 1/A 0	N/A .023 (N/A N/A N/A N/A 0034	N/A 0.0351 N/A N/A N/A 0.042	N/A ND N/A N/A N/A ND	N/A ND N/A N/A N/A	N/A ND N/A N/A N/A	N/A ND N/A N/A N/A ND	N/A 0.0059 N/A N/A N/A 0.0004	N/A N/A N/A	N/A N/A	N/A N/A
MWD SE148082 MWD 144481 MWD SE154534 MWD SE157866	14/01/2016 7/04/2016 6/07/2016 6/10/2016	leachate leachate leachate leachate	170 1 160 2 250 1 210 1 260 2	2200 26 1200 10 1600 16	800 C 000 0 500 C 000 0 500 0 800 M	0.3 1.8 .32 0.3 0.3 2.2 .14 5.2 .27 0.00 ND 1.10	3 220 3 110 2 230 2 120 01 150 00 230	0.46 0.87 0.45 0.96 0.600 0.850	ND ND ND ND ND ND	170 110 180 120 140 210	7.6 1 7.3 6 7.7 1 7.3 6 7.3 1 7.5 1 7.3 1		310 110 210 80 150 250	ND 66 ND 18 ND 39 ND 14 ND 11 ND 33 ND 33	5 3: 8 1: 5 2: 0 1: 0 2: 0 2: 0 1:	30 NE 40 0.4 90 NE 40 0.0 00 0.0 70 0.0 50 0.1	7 5800 9600 1 5200 7 7800 4 1100 9 9400	00 N// 0 250 0 N// 0 N// 0 470 00 620 0 N//	A N, 00 4 A N, A N, A N, DO N, DO 1. A N, A N	I/A N/A I/A N/A I/A N/A	N/A 0.017 N/A N/A N/A NA N/A	N/A ND N/A N/A N/A 0.014 N/A	N/A 0.49 N/A N/A N/A 0.91 N/A	N/A ND C N/A N/A N/A N/A ND C N/A	N/A 0.004 N/A N/A N/A 0.017 N/A	N/A I ND N/A I	N/A N ND 0. N/A N N/A N N/A N ND 0	N/A N 031 N N/A N N/A N N/A N N/A N	A N N N N N N N N N	N/A N ND 0. N/A N N/A N N/A N N/A N N/A N	N/A N .026 : N/A N N/A N N/A N .035	I/A N/ 34 0.00 I/A N/ I/A N/ I/A N/ 3 0.0 I/A N/	/A N 028 0.0 /A N	I/A	N/A .023 (N/A N/A N/A 0034 N/A	N/A 0.0351 N/A N/A N/A 0.042 N/A	N/A ND N/A N/A N/A ND	N/A ND N/A N/A N/A ND	N/A ND N/A N/A N/A ND	N/A ND N/A N/A N/A ND	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A
MWD SE148082 MWD 144481 MWD SE154534 MWD SE157866 MWD SE160904	14/01/2016 7/04/2016 6/07/2016 6/10/2016 12/01/2017	leachate leachate leachate leachate leachate	170 : 160 : 250 : 210 : 260 : 260 : 2	2200 26 1200 10 1600 16 2300 28 1500 22	800 C 000 0 500 C 000 0 800 N 200 0	0.3 1.8 .32 0.3 0.3 2.2 .14 5.2 .27 0.00 ND 1.10 .28 0.92 .35 1.6	3 220 3 110 2 230 2 120 01 150 00 230 6 230	0.46 0.87 0.45 0.96 0.600 0.850 0.780	ND	170 110 180 120 140 210 130	7.6 1 7.3 6 7.7 1 7.3 6 7.3 1 7.5 1 7.5 1 7.5 1			ND 66 ND 18 ND 39 ND 14 ND 11 ND 33 ND 31 ND 31	5 33 8 14 5 29 0 14 0 20 0 2 0 19 0 3	30 NE 40 0.4 90 NE 40 0.0 00 0.0 70 0.0 50 0.1 20 0.0	7 5800 9600 1 5200 7 7800 4 1100 9 9400 5 1200	00 N// 0 250 0 N// 0 N// 0 N// 0 470 0 620 0 N//	A N, 00 4 N, (A N, 00 N, 00 1 T) (A N, 04	I/A N/A I/A N/A I/A N/A 70 0.89	N/A 0.017 N/A N/A N/A NA N/A	N/A ND N/A N/A N/A 0.014 N/A N/A	N/A 0.49 N/A N/A N/A 0.91 N/A N/A	N/A ND (0 N/A N/A N/A N/A ND (0 N/A N/A N/A	N/A 0.004 N/A N/A N/A 0.017 N/A N/A	N/A I ND N/A I	N/A N ND 0. N/A N N/A N N/A N ND 0 N/A N N/A N	N/A N 031 N N/A N N/A N N/A N N/A N N/A N N/A N	I/A N	N/A N ND 0. N/A N	N/A N .026 3 N/A N N/A N N/A N .035 N/A N N/A N	I/A N/ 34 0.00 I/A N/ I/A N/ I/A N/ I/A N/ I/A N/ I/A N/	/A N 028 0.0 /A N /A N /A N 02 0.0 /A N /A N /A N 02 0.0 /A N /A N	I/A 0034 0 I/A I/A I/A 0009 0. I/A	N/A .023 (N/A N/A N/A 0034 N/A	N/A 0.0351 N/A N/A N/A 0.042 N/A N/A	N/A ND N/A N/A N/A ND N/A	N/A ND N/A N/A N/A ND N/A	N/A ND N/A N/A N/A ND N/A	N/A ND N/A N/A N/A ND N/A	N/A N/A N/A	N/A N/A N/A ND	N/A N/A N/A 0.017	N/A N/A N/A ND
MWD SE148082 MWD 144481 MWD SE154534 MWD SE157866 MWD SE160904 MWD SE164082	14/01/2016 7/04/2016 6/07/2016 6/10/2016 12/01/2017 6/4/2017	leachate leachate leachate leachate leachate	170 2 160 2 250 2 210 2 260 2 150 2	2200 26 1200 10 1600 16 2300 28 1500 22	800 C 000 0 500 C 000 0 500 0 500 0 500 0 500 0 600 0	0.3 1.8 .32 0.3 0.3 2.2 .14 5.2 .27 0.00 ND 1.10 .28 0.92 .35 1.6 .32 0.30	3 220 3 110 2 230 2 120 01 150 00 230 00 190 5 230	0.46 0.87 0.45 0.96 0.600 0.850 0.780 0.42	ND	170 110 180 120 140 210 130 180 210.0	7.3 1 7.5 1	200 2	210 310	ND 66 ND 18 ND 35 ND 14 ND 11 ND 33 ND 31 ND 30 ND 10	5 33 8 14 5 29 0 14 0 20 0 20 0 19 0 33 0 33	30 NE 40 0.4 90 NE 40 0.0 00 0.0 70 0.0 50 0.1 20 0.0	7 5800 9600 1 5200 7 7800 4 1100 9 9400 5 1200 3 1300	0 N// 0 N// 0 470 00 620 0 N//	A N, 200 4 N, 200 N, 200 1. 2 N, 200 N, 200 1. 2 N, 200 N, 200 1. 2 N, 200 N, 2	/A N/A I/A N/A I/A N/A 70 0.89 I/A N/A	N/A 0.017 N/A N/A N/A N/A N/A N/A	N/A ND N/A N/A N/A 0.014 N/A N/A	N/A 0.49 N/A N/A N/A 0.91 N/A N/A N/A	N/A ND (0 N/A N/A N/A ND (0 N/A ND (0 N/A N/A N/A N/A	N/A 0.004 N/A N/A N/A 0.017 N/A N/A N/A	N/A I ND N/A I	N/A N ND 0. N/A N N/A N N/A N ND 0 N/A N N/A N N/A N	N/A N 031 N N/A N N/A N N/A N N/A N N/A N N/A N	I/A N	N/A N ND 0. N/A N	N/A N .026 3 N/A N N/A N N/A N .035 N/A N N/A N N/A N	I/A N/ 34 0.00 I/A N/ I/A N/ I/A N/ 3 0.0 I/A N/ I/A N/ I/A N/	/A N 028 0.0 /A N /A N /A N 02 0.0 /A N	I/A	N/A .023 N/A N/A N/A N/A 0034 N/A N/A N/A	N/A 0.0351 N/A N/A N/A 0.042 N/A N/A	N/A ND N/A N/A N/A ND N/A N/A	N/A ND N/A N/A N/A N/A ND N/A N/A N/A N/A	N/A ND N/A N/A N/A ND N/A N/A	N/A ND N/A N/A N/A N/A ND N/A N/A N/A N/A	N/A N/A N/A	N/A N/A N/A ND N/A	N/A N/A N/A 0.017	N/A N/A N/A ND N/A
MWD SE148082 MWD 144481 MWD SE154534 MWD SE157866 MWD SE160904 MWD SE1664082 MWD SE167897	14/01/2016 7/04/2016 6/07/2016 6/10/2016 12/01/2017 6/4/2017 6/7/2017	leachate leachate leachate leachate leachate leachate	170 2 160 2 250 2 210 2 260 2 150 2	2200 26 1200 10 1600 16 2300 28 1500 22 2500 28	800 C 000 0 500 C 000 0 500 0 800 N 200 0 8100 0	0.3 1.8 0.3 0.3 0.3 2.2 1.4 5.2 0.7 0.00 ND 1.10 0.28 0.92 0.35 1.6 0.30 0.30	3 220 3 110 2 230 2 120 01 150 00 230 00 190 5 230 00 260 00 27	0.780	ND	170 110 180 120 140 210 130 180 210.0	7.3 1 7.5 1 7.2 1	200 2	210	ND 66 ND 18 ND 39 ND 14 ND 11 ND 33 ND 31 ND 10 ND 24	5 33 8 14 5 29 0 14 0 20 0 2 0 19 0 3 0 3 93	20 0.0	7 5800 7 5800 9600 1 5200 7 7800 4 1100 9 9400 5 1200 3 1300	0 N// 0 N// 0 470 00 620 0 N//	A N, 00 4 A N, A N, A N, A N, CO N,	/A N/A I/A N/A I/A N/A 70 0.89 I/A N/A I/A N/A	N/A 0.017 N/A N/A N/A N/A N/A N/A N/A N/A	N/A ND N/A N/A N/A 0.014 N/A N/A N/A	N/A 0.49 N/A N/A N/A 0.91 N/A N/A N/A N/A	N/A ND (0 N/A	N/A 0.004 N/A N/A N/A 0.017 N/A N/A N/A N/A N/A	N/A I ND N/A I N/A I N/A I ND N/A I ND N/A I	N/A N ND 0. N/A N	N/A N 031 N N/A N N/A N N/A N N/A N N/A N N/A N N/A N	//A N ND 1 N/A N N/A N N/A N ND 1 N/A N N N/A N N N N N N N N N N N N N N N N N N N	N/A N ND 0. N/A N N N/A N N N/A N N N N N N N N N N N N N N N N N N N	N/A N .026 :: N/A N N/A N N/A N .035 N N/A N N/A N N/A N N/A N N/A N	I/A N/ 34 0.00 I/A N/ I/A N/	/A N 028 0.0 /A N /A N /A N 02 0.0 /A N 04 N 05 0.0 /A N 06 N 07	I/A 0034 0 0 0 0 0 0 0 0 0	N/A .023 N/A N/A N/A N/A 0034 N/A N/A N/A N/A	N/A 0.0351 N/A N/A N/A 0.042 N/A N/A N/A 0.097	N/A ND N/A N/A N/A ND N/A N/A N/A N/A	N/A ND N/A N/A N/A N/A ND N/A N/A N/A N/A N/A N/A N/A ND	N/A ND N/A N/A N/A ND N/A N/A N/A N/A	N/A ND N/A N/A N/A N/A ND N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A 0.017	N/A N/A N/A ND N/A N/A
MWD SE148082 MWD 144481 MWD SE154534 MWD SE157866 MWD SE160904 MWD SE164082 MWD SE167897 MWD SE171359	14/01/2016 7/04/2016 6/07/2016 6/10/2016 12/01/2017 6/4/2017 6/7/2017 6/10/2017	leachate leachate leachate leachate leachate leachate leachate leachate	170 2 160 2 250 2 210 2 260 2 150 2	2200 26 1200 10 1600 16 2300 28 1500 22 2500 28	800 C 000 0 500 C 000 0 500 0 800 N 200 0 800 0 8100 C	0.3 1.8 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	3 220 3 110 2 230 2 120 01 150 00 230 00 190 00 260 00 27 00 290	0.780 0.42 0.28	ND		7.3 1 7.5 1 7.2 1	200 2 700 3 800 3	210	ND 60 ND 14 ND 33 ND 14 ND 31 ND 33 ND 31 ND 30 ND 24 0.005	5 3: 8 16 5 29 0 16 0 20 0 20 0 19 0 3: 0 3: 0 34	20 0.0	7 5800 7 5800 9 9600 1 5200 7 7800 4 1100 9 9400 5 1200 3 1300 03 1300 5 1400	0 N// 0 N// 0 470 00 620 0 N//	(A N, 00 4 N, 00 N, 00 N, 00 N, 00 1: (A N, 00 N	/A N/A I/A N/A I/A N/A 70 0.89 I/A N/A I/A N/A	N/A 0.017 N/A	N/A ND N/A N/A N/A 0.014 N/A N/A N/A N/A N/A	N/A 0.49 N/A N/A N/A 0.91 N/A N/A N/A N/A N/A	N/A	N/A D.004 N/A N/A N/A N/A N/A N/A D.017 N/A	N/A I ND N/A I	N/A N ND 0. N/A N	N/A N 031 N/A N N/A N	//A N I I I I I I I I I I I I I I I I I I I	N/A N ND 0. N/A N	N/A N.O26 :: N/A N.V/A N	I/A N/ 34 0.00 I/A N/	/A	I/A	N/A .023 1 N/A N/A N/A 0034 N/A N/A N/A N/A N/A	N/A 0.0351 N/A N/A N/A 0.042 N/A N/A N/A 0.097	N/A N/A N/A	N/A ND N/A N/A N/A ND N/A N/A N/A N/A N/A N/A N/A N/A ND N/A	N/A ND N/A N/A N/A N/A ND N/A N/A N/A N/A N/A N/A N/A N/A	N/A ND N/A N/A N/A ND N/A N/A ND N/A N/A N/A N/A N/A ND N/A ND	N/A N/A N/A	N/A N/A N/A ND N/A N/A	N/A N/A N/A 0.017	N/A N/A N/A ND N/A N/A

^{*}As MWD is within the perched landfill leachate water table, the Threshold Criteria are only applicable as indicators of general water quality for comparison to the wells surrounding the landfill. Exceedances of the Threshold Criteria for MWD are expected and do not indicate contamination is leaving the site.

in the second se	EI	RN	1	Threshold Criteria Units Analytes Monitoring frequency	Calcinm J	Alkalinity	/ mg	/L mg	/L ^m	g/ mg	Organochlori a	ne pesticides % (OCP)	Potassium 7 gm	pH 「 돕	ng/ L unipos	Ammonia P	Nitrate Nitrate	Sulfate 7 g	Total organic B	Total	Electrical T	conductivity " %	dissolved T/a	oxygen T/ga	Phosphate T/8m	Vearly Arsenic III & V 20.0 mg/L V 3 mg/L V 3 mg/L	Aluminium Aluminium	Barium Barium	Cadmium Cadmium	Cobalt	. mg/ Cobber	Chromium VI	Chromium	(total) Lead	Mercury	Zinc	ТРН	Benzene	Toluene	Ethylbenzene	total	etrachlorem ene (TCE)	Trichloroetha	Tetrachloroet	1,2- Dichloroethe	Vinyl Chloride	Yearly PCBs Tygm	Yearly PAHs &	2 0.l	Yearly OPPs T/8m
Monitori	ng We	Chemic Repor	Date Sample	Comme																																						cv	Cs/VO	CCs						
MV	WE 1	35493	6/10/2015		75	700 86	0 0.	5 0.0	15 8	9 0.4	44	ND	1.7	7.4	730 (0.006	ND	140	8	NI	40	1 00	N/A I	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A N/	A N/	A N/A	N/A	N/A	N/A	A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Α	N/A
MV	WE SE	148082	14/01/2016		80	750 85	0 0.3	5 0.0	19 7	9 0.2	23	ND	1.1	7.4	590	0.12	ND	200	10	0.0	2 46	00 2	200	ND	0.25	0.005	ND	0.048	ND	0.002	ND	N	D NE) ND	ND	ND	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE)	ND
M۷	WE 1	44481	7/04/2016		67	890 64	0 0.	5 0.0	34 7	2 0.2	24	ND	0.9	7.6	340 (0.026	0.01	160	7	NI	32	1 00	N/A I	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A N/	'A N/	A N/A	N/A	N/A	N/A	A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Α	N/A
MV	WE SE	154534	6/07/2016		57	970 47	0.3	0.0	21 6	6 0.4	43	ND	1.6	7.6	510	0.04 <	0.005	110	16	NI	31	1 00.	N/A I	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A N/	'A N/	A N/A	N/A	N/A	N/A	A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A	N/A
MV	WE SE	157867	6/10/2016		61	900 56	0.4	1 0.0	12 6	7 0.1	10	ND	1.3	7.3	550	0.04 <	0.025	120	16	0.0	1 36	00 2	100 I	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A N/	'A N/	A N/A	N/A	N/A	N/A	A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A	N/A
MV	WE SE	160904	12/01/2017		70 1	100 58	0.1	8 0.0	21 7	6 0.2	27	ND	1.8	7.8	510	0.04	ND	130	13	NI	35	00 2	100	ND	0.07	NA	ND	0.054	ND	0.004	1 0.00	10 N	D NE) ND	ND	0.0	1 NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE)	ND
MV	WE SE	164082	6/4/2017		34 1	100 36	0.5	2 0.0	06 6	7 7.3	00	ND	0.9	7.3	530	0.07	ND	110	20	NI	32	1 00	N/A I	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A N/	'A N/	A N/A	N/A	N/A	N/A	A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A	N/A
MV	WE SE	167897	6/7/2017		60 1	200 34	0 0.	5 0.0	77 6	5 0.:	14	ND	1.5	7.5	570	0.1	ND	99	26	NI	31	1 00.	N/A I	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A N/	'A N/	A N/A	N/A	N/A	N/A	A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A	N/A
MV	WE SE	171359	6/10/2017		56 1	100 31	0.5	1 0.0	15 5	5 0.!	55	ND	1.4	7.4	520	0.38	ND	110	17	NI	30		N/A I	-		N/A	N/A	N/A	N/A	N/A	N/A	A N/	'A N/	A N/A	N/A	N/A	N/A	A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A	N/A
MV	WE SE	174394	12/1/2018		56 1	200 28	0.4	17 0.0	010	55 0.2	240 NI	D	1.6	7.4	520	0.04	ND	91	1	5 ND	30	000 1	700	ND	0.11	NR	ND	0.04	0.0002	0.008	0.00	14 N	D NE) ND	ND	ND	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE)	ND
			10/4/2018		59 1	200 20		_ 1		3 0.1		ND		7.4		0.07		85	7.9		1 32					N/A	N/A	N/A	N/A	N/A	N/A			A N/A	81/6	N/A						N1 / A	N/A	N/A		N/A	N/A	N/A	Λ.	N/A





DLA Project Code: DLH1186	
Project: The Scone Waste Landfill	Sample ID: MWA
	Well Collar RL:
The second of the control of the con	Sampler(s): 75
Address: Noblet Rd, Scone NSW 2289 BH ID: MWA	Signature:
01110,	Date: (2) (1/8
Well Status	70-7-18

well Status						
Monument damaged:	YES (NO / N/A				_	
Locked well casing:	~~~~~	Well ID visible:			YES/NO/N/	Δ
Cement footing damaged:	YES (NO/N/A	Cap on PVC casi	-		(YE\$ / NO / N/	
Standing water, vegetation around monument:	YES (NO)/ N/A	Water in monur	ment casing;		YES THO / N/	
Well Damaged:	YES (NO) N/A	Internal obstruc	tion in casing:		YES NO NA	
Nearby works:	YES NO / N/A	Odours from gro	oundwater:		YES (NO / N/	
1014	<u>*************************************</u>	**** **********************************	**********			
Comments:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	P & \$ > 6 2 7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	****			
***************************************	apriocent galass becamb file out sevice adteint	* *** 6 *** 1 7 * *** 5 * * * * * * * * * * * * * * *	*********			
Casing above ground: U . & g		************************				
Standing water level: 6. 77. (5.8	ත ^{magi}	Weather Condit	tions:			
Total well depth:	in ogi	Temperature	15-20 🗍 🦞	20 25 F		
Initial well volume:	m bgi		25-30 D	>30 🖂	- 1	
Water level after purging:	L					
Volume of water purged:	m bgl	(Clear	Partly clou	udy 🔲	Overcast	П
Water level at time of sampling: Balance	Ļ			•	0.010830	u
Well purged dry:	m bgl	(calm∕ L	Slight bree	eze □	Moderate bre	A20 [7]
Purging equipment: Barlur	YES (NO)	-	Windy			-26 []
Sample equipment:						ļ
	diameter nine = 1 ec. /-	F(ne 🗆) 1. All measurements below	Showers		Rain	
	2.20 Pipe - 2.30 Un	i. All measurements below	v well collar			

Water Quality Details:

Time am/pm	DO (mg/L ⁻¹)	EC (μS cm ⁻¹)	рН	Redox (mV)	Temp (°C)	Salinity (% Refract)	Comments
10:22	2.56	20453	7.49	100.30	22.1	12.19	
0:14	2.06	20462	7.29	103.4	22.8	12.20	
10:26	1.90	20918	7:70	103.9	23	12.22	

Additional Comments:	



DLA Project Code: DLH1186 Project: The Scone Waste Landfill	Sample ID:	
- Tota Larianii	Well Collar RL:	
The second of th	Sampler(s):	
Address: Noblet Rd, Scone NSW 2289 BH ID: MWB	Signature:	
DICID. MITTO	Date:	

Monument damaged:	Vec (() () ()					
Locked well casing:	YES (NO) N/A	Well ID visible:			(YESY NO / N/	Α
Cement footing damaged:	YES (NO) N/A	Cap on PVC casi			(YES/NO/N/	
Standing water, vegetation around monument:	YES (NO)/ N/A	Water in monun			YES / NO / N/	
Well Damaged:	YES (NO) N/A	internal obstruc			YES / NO / N/	٨
Nearby works:	YES (NO)/ N/A	Odours from gro	undwater:		YES / NOY N/A	4
	WA	************************************	*********			
Comments:	······································					
Cloudy with 1	alt brown	Cire fee				
Casing above ground: G-85	The state of the s		ener of	10.0	odan	
The state of the s	1	141-141		* • • •		
	m agl	Weather Condit	ions:	700	Janua,	
Standing water level: $6.85(6.0)$) m bgl	Weather Condit Temperature	ions: 15-20 □	20-25	,	
Standing water level: 6.85 (6.0) Total well depth: (15.15) Initial well volume: 17.30	1)	
Standing water level: 6.85 (6.0) Total well depth: (15.15) Initial well volume: 17.30	m bgl m bgl L			20-25)	
Standing water level: 6.85 (6.0) Total well depth: (15.15) Initial well volume: 17.30 Water level after purging: 8.65) m bgl			20-25 ☐ >30 ☐)	
Standing water level: 6.85 (6.0) Total well depth: (15.15) Initial well volume: 17.30 Water level after purging: 8.65 Volume of water purged: 154	m bg/ m bg/ L m bg/ L	Temperature	15-20 🗆 25-30 🗓	20-25 ☐ >30 ☐	,	
Standing water level: 6.85 (6.0) Total well depth: (15.15) Initial well volume: 17.30 Water level after purging: 8.65	m bgl m bgl L m bgl L m bgl L m bgl	Temperature	15-20 🗆 25-30 🗓	20-25 🗆 >30 🗖 udy 🗖	,	
Standing water level: 6.85 (6.0) Total well depth: (15.15) Initial well volume: 17.30 Water level after purging: £, 65 Volume of water purged: 151 Water level at time of sampling:	m bg/ m bg/ L m bg/ L	Temperature	15-20 [] 25-30 [] Partly clo	20-25 🗆 >30 🗖 udy 🗖	Overcast	
Standing water level: 6.85 (6.0) Total well depth: (5.15) Initial well volume: 7.30 Water level after purging: 8.65 Volume of water purged: 151 Water level at time of sampling: Well purged dry:	m bgl m bgl L m bgl L m bgl L m bgl	Temperature	25-30 D Partly clo	20-25 C >30 C udy C	Overcast	

Water Quality Details:

Time	DO	EC	рН	Redox	1	T	
am/pm	(mg/L ⁻¹)	(μS cm ⁻¹)	Pii	(mV)	Temp	Salinity	Comments
10-48	2.92	11.00	261		(°C)	(% Refract)	
10 10		1400p	170	84.90	22.0	8.0b	
10:470	2.57	14895	7.66	83:30	02.40	~ 17	
10:52	2 K (A	UCIP			66-10	8.60	
10,20	1.49	1400	752	81.30	22.60	9 -165	
		<i>'</i>				0 00	1/4/14
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1							
		———— <u>—————————————————————————————————</u>					

Additional Comments:	



DLA Project Code: DLH1186	
Project: The Scone Waste Landfill	Sample ID: MWC
	Well Collar RL:
	Sampler(s): TS.
Address: Noblet Rd, Scone NSW 2289	Signature:
BH ID: MWC	Date: 10-4-18
	10 4 -18

Well Status						
Monument damaged:	YES NO / N/A	Well ID visible:				
Locked well casing:	YES (NB) / N/A				(E)/NO/N/	
Cement footing damaged:	YES /NO / N/A	Cap on PVC casi	-		(YES/NO/N/	
Standing water, vegetation around monument:	YES (NO)/ N/A	Water in monun			YES /(Rg) / N//	4
Well Damaged:	VEC 155 1	Internal obstruc			YES (ND / N/A	4
Nearby works:	1137(NG) N/A	Odours from gro	undwater:		YES /(ND / N/A	4
Nearby works:	WA	******************************	*********		_	
Comments:	- Dorb Oa				م ا	
to and anything the strength of the strength o	***************************************	ya oyour	eloen	en f	· (Lea	,,,]
Casing above ground: 6:75						77)
Standing water level: 5 75 (6	m agl	Weather Condit	tions:			
Total well depth: 12.61 (14.36	m bgl	Temperature	15-20 🗆	20-25 🗆	•	
Initial well volume: • • • • • • • • • • • • • • • •	<i>y.</i>		25-30 E)	>30 🗆		
Water level after purging: 5.29 (4.54) Volume of water purged:	L					
Volume of water purged:	m bgl	Stear D	Partly clo	udy 🗆	Overcast	D
Water level at time of sampling:						_
Well purged dry:	m bgl	(Calm 🗆)	Slight bre	eze 🗆	Moderate bre	eze 🗇
Purging equipment:	YES / NO.		Windy		-	
Sample equipment:						
Note: 50mm Internal	diameter plan = 1 ec : /-	Fine D	Showers		Rain	
		i. Ali measurements belov	v well collar		····	

Water Quality Details:

Time am/pm	DO (mg/L ⁻¹)	EC (μS cm ⁻¹)	рН	Redox (mV)	Temp (°C)	Salinity (% Refract)	Comments
11:(0	2.33	63,90	7.37		22	3.46	
11:12	2:15	6329	7.25	89.20	22.1	3.46	
11:14	11:5	6336	7.06	83.60	22	3.46	
w							

A B AND A	
Additional Comments:	

Nes-



DLA Proje	ect Code:	DI H1186	~		Famor	i. in				
Project:		one Waste L	andfill		Sample ID: Well Collar RL:					
Client: €		Hunter Shire		cil						
Address:		I, Scone NS\			Sampler(s): Signature:					
BH ID:	MWD				Date:					
		····	········		1 2010.			****	······································	
Well St										
Monument da	_			YES / NO / N/A	W	ell ID visible:			YES / NO / N/A	TIII
Locked well ca Cement footin				YES / NO / N/A		p on PVC casin			YES / NO / N/A	
				YES / NO / N/A	W	ater in monum	ent casing:		YES / NO / N/A	
Well Damaged		round monume	nt:	YES / NO / N/A	int	ternal obstructi	on in casing:		YES / NO / N/A	
_		•••		YES / NO / N/A	Oc	lours from grou	ındwater:		YES / NO / N/A	
***************************************	** (4**************	*******************		******************	*************	** *** *** *** *** *** *** *** ***				
Comments:	********************	**********************	** *** * * * * * * * * * * * * * * * * *		***********	*********************	145 pp44			
		**********************		m agl		ther Conditi				
Standing water	r level:	****************	*****	m bgl		mperature	15-20 🗆	20-25	1	
Total well dept	:h:			m bgl			25-30 🗆	>30 🗆		
Initial well volu	ıme:	***************	*****	L			25.50	/30 L		
		*******************		m bgl		Clear 🗆	Partly clo	udv 🗖	Overcast	_
		*****************		L				,	Overtast	
Water level at	time of samplir	ng;	******	m bgl		Calm 🗆	Slight bro	eeze 🗆	Moderate bree:	ا ۵
Well purged dr				YES / NO			Windy		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ا سا عه
Purging equipn							·			
Sample equipm	ent:			711.		Fine 🗆	Showers		Rain	
		Note: 50mm	i Internal d	liameter pipe = 1.96 t	/m. All mea	surements below	well collar			
Water C	Quality Deta	ils:								
Water C	Quality Deta	ils: EC	На	Redox	Temp	Salinity	Comm	onto		
		T	рН	Redox (mV)	Temp (°C)	Salinity (% Refract	Comm	ents		
Time	DO	EC	рН		Temp (°C)	Salinity (% Refract		ents		
Time	DO	EC	рН		,			ents		
Time	DO	EC	рН		,			ents		
Time	DO	EC	На		,			ents		
Time	DO	EC	рН		,			ents		
Time	DO	EC	рН		,			ents		
Time	DO	EC	рН		,			ents		
Time	DO	EC	Н		,			ents		
Time	DO	EC	pH		,			ents		
Time	DO	EC	pH		,			ents		
Time	DO	EC	рН		,			ents		
Time	DO	EC	pH		,			ents		
Time	DO	EC	pH		,			ents		
Time am/pm	DO (mg/L-1)	EC (μS cm ⁻¹)	pH		,			ents		
Time am/pm	DO	EC (μS cm ⁻¹)	pH		,			ents		
Time am / pm	DO (mg/L-1)	EC (μS cm ⁻¹)	pH		,			ents		



DLA Project Code: DLH1186	Sample ID:
Project: The Scone Waste Landfill	Well Collar RL:
Client: Dpper Hunter Shire Council	Sampler(s): TS
Address: Noblet Rd, Scone NSW 2289	Signature:
BH ID: MWE	Date: 16-4-18

BH ID: MWE		Date: 10-4	-18
Well Status			
	5/(vi)x/N/A	Well ID visible:	YES/NO/N/A
	5/NO)/N/A	Cap on PVC casing:	JES /NDY N/A
	A/N / (OLD)	Water in monument	
	i/∰ / N/A	Internal obstruction	in casing: YES NO/ N/A
	S/NO)N/A	Odours from ground	
Nearby works:			
Comments:	7 -		oda,
Comments:	//1	16/0W2 FO	edu ant
	,		
Casing above ground: 0.75	m agl	Weather Condition	
Standing water level: $4.17.(3.42)$ Total well depth: $9.49.(8.74)$	m bgl	•	.5-20 □ 20-25 □
	m bgl	(*	5-30 >30 □
Initial well volume:	L		
Water level after purging: 250	m bgl	(lear 1)	Partly cloudy 🗆 Overcast 🗆
Volume of water purged: 9	L		and the state of t
Water level at time of sampling:	m bgl	(Calm [])	Slight breeze Moderate breeze
Well purged dry:	YES / NO		Windy 🗆
Purging equipment: Sample equipment: Puile Puile			
		Fine Z	Showers Rain
Note: 30mm internal dian	neter pipe = 1.56 t/i	m. All measurements below w	ven conar
Water Quality Details:			
Time DO EC pH	Redox	Temp Salinity	Comments
am / pm (mg/L-1) (μS cm-1)	(mV)	(°C) (% Refract)	
168 2:37 7601 729	-9.0	95 189	
130 6 7 300 1 1.4	7 0		
17:00 1.97 3585 7-69	<u>→> · l 2</u>	2.70 1.89	
12.67 1 CA 3591 7(7)	-7.90 17	2.30 1.89	
		(10)	
Additional Comments:			