	ACCUMULATED METHANE GAS (% v/v)				Action Level = 1.2 % v/v Methane					
	Landfill		STP							
SAMPLE ROUND	Site Shed	Weighbridge	Office	Green Shed	Pump Room	Switchroom 1	Switchroom 2	Sludge Belt Room	UV Room	Comments
14-Mar-16	0	0	0	0	0	0	0	0	0	
26-Apr-16	0	0	0.00001	0	0	0	0	0	0	
11-May-16	0	0	0	0	0	0	0	0.0198	0	
15-Jun-16	0	0	0	0	0	0	0	0	0	
14-Jul-16	0	0	0	0	0	0	0	0	0	
19-Aug-16	0	0	0	0	0	0	0	0	0	
7-Sep-16	0	0	0	0	0.0003	0	0	0.0003	0	
12-Oct-16	0	0	0	0.001	0.0006	0.0003	0.0003	0.0006	0	Sewage pumping at time of sampling
25-Oct-16	0	-	0	0	0	0	0	0.0076	0.0017	
15-Dec-16	0.0003	0	0	0	0	0	0	0	0.0003	
24-Jan-17	0	0	0	0	0	0	0	0	0	
15-Feb-17	0.00048	0.00024	0.00021	0.00032	0.00024	0.00031	0.00027	0.00025	0.00025	
28-Mar-17	0.0017	0	0	0	0	0	0	0	0	
28-Apr-17	0.0052	0	0	0	0	0	0	0	0.001	
28-Jun-17	0	0	0	0	0	0	0	0	0	
MIN	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
MAX	**0.0052**	**0.00024**	**0.00021**	**0.001**	**0.0006**	**0.00031**	**0.0003**	**0.0198**	**0.0017**	
MEAN	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	

*** recorded result in % v/v**

	ACCUMULATED METHANE GAS (% v/v)				Action Level = 1.2 % v/v Methane					
	Landfill		STP							
SAMPLE ROUND	Site Shed	Weighbridge	Office	Green Shed	Pump Room	Switchroom 1	Switchroom 2	Sludge Belt Room	UV Room	Comments
14-Mar-16	0	0	0	0	0	0	0	0	0	
26-Apr-16	0	0	0.00001	0	0	0	0	0	0	
11-May-16	0	0	0	0	0	0	0	0.0198	0	
15-Jun-16	0	0	0	0	0	0	0	0	0	
14-Jul-16	0	0	0	0	0	0	0	0	0	
19-Aug-16	0	0	0	0	0	0	0	0	0	
7-Sep-16	0	0	0	0	0.0003	0	0	0.0003	0	
12-Oct-16	0	0	0	0.001	0.0006	0.0003	0.0003	0.0006	0	Sewage pumping at time of sampling
25-Oct-16	0	-	0	0	0	0	0	0.0076	0.0017	
15-Dec-16	0.0003	0	0	0	0	0	0	0	0.0003	
24-Jan-17	0	0	0	0	0	0	0	0	0	
15-Feb-17	0.00048	0.00024	0.00021	0.00032	0.00024	0.00031	0.00027	0.00025	0.00025	
MIN	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
MAX	**0.00048**	**0.00024**	**0.00021**	**0.001**	**0.0006**	**0.00031**	**0.0003**	**0.0198**	**0.0017**	
MEAN	-	-	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	

*** recorded result in % v/v**

	ACCUMULATED METHANE GAS (% v/v)		Action Level = 1.2 % v/v Methane							
	Landfill		STP							
SAMPLE ROUND	Site Shed	Weighbridge	Office	Green Shed	Pump Room	Switchroom 1	Switchroom 2	Sludge Belt Room	UV Room	Comments
14-Mar-16	0	0	0	0	0	0	0	0	0	
26-Apr-16	0	0	0.00001	0	0	0	0	0	0	
11-May-16	0	0	0	0	0	0	0	0.0198	0	
15-Jun-16	0	0	0	0	0	0	0	0	0	
14-Jul-16	0	0	0	0	0	0	0	0	0	
19-Aug-16	0	0	0	0	0	0	0	0	0	
7-Sep-16	0	0	0	0	0.0003	0	0	0.0003	0	
12-Oct-16	0	0	0	0.001	0.0006	0.0003	0.0003	0.0006	0	Sewage pumping at time of sampling
25-Oct-16	0	-	0	0	0	0	0	0.0076	0.0017	
15-Dec-16	0.0003	0	0	0	0	0	0	0	0.0003	
24-Jan-17	0	0	0	0	0	0	0	0	0	
MIN	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
MAX	**0.0003**	**0**	**0.00001**	**0.001**	**0.0006**	**0.0003**	**0.0003**	**0.0198**	**0.0017**	
MEAN	**-**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	

*** recorded result in % v/v**

November 2016 Monitoring Round			Halogenated Benzenes	Inorganics													Metals									
			Hexachlorobenzene	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Ammonia as N	Chloride	Electrical conductivity *(lab)	Fluoride	Nitrate (as N)	pH (Lab)	Phosphate total (P)	Sodium	Sulphate	TDS	TOC	TSS	Calcium	Chromium (hexavalent)	Chromium (III+VI)	Chromium (III+VI) (Filtered)	Iron	Iron (Filtered)	Magnesium	Manganese	Manganese (Filtered)	Potassium
			µg/L	mg/L	mg/L	µg/L	mg/L	uS/cm	mg/L	mg/L	pH_Units	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
EQL			0.1	20	10	10	1	1	0.5	0.02	0.1	0.05	0.5	5	10	5	1	0.5	0.001	0.001	0.001	0.05	0.05	0.5	0.005	0.005	0.5
ADWG 2015 Aesthetic						500	250						180	250	600							0.3	0.3		0.1	0.1	
ADWG 2015 Health									1.5	50									0.05						0.5	0.5	
ANZECC 2000 Irrigation Criteria						175		900			6.5-8.5		115							0.1	0.1	0.2	0.2		0.2	0.2	
ANZECC 2000 Stock Watering									2	90																	
ANZECC 2000 FW 95%						900		125-2200		0.159	5.0-9.0				2000			1000	0.001	1	1	20	20		1.9	1.9	
Location Code	**Sampled Date**	**Lab Report**																									
LW01	24/11/2016	525426	<0.1	220	<10	110	230	1200	<0.5	0.96	7.8	<0.05	97	53	660	11	2.6	67	<0.001	<0.001	-	0.36	-	28	0.8	-	40
MB01	24/11/2016	525426	<2	<20	<10	180	13	52	<0.5	0.12	6.6	0.12	4.2	7.1	44	14	3600	2.1	<0.001	-	<0.001	-	0.45	1.9	-	0.01	1.5
MB05	24/11/2016	525426	<0.1	380	<10	3000	250	1500	<0.5	0.89	6.9	<0.05	110	73	910	15	110	99	<0.001	-	<0.001	-	<0.05	32	-	0.94	61
MB06B	24/11/2016	525426	<0.1	300	<10	800	170	1100	<0.5	0.05	7	0.17	59	35	650	42	340	61	<0.001	-	<0.001	-	2	51	-	2.9	16
MB09	24/11/2016	525426	<0.1	330	<10	8900	42	700	<0.5	0.49	7.8	<0.05	31	<5	460	62	180	57	<0.001	-	<0.001	-	3.7	17	-	4.9	34
MB10	24/11/2016	525426	<0.1	24	<10	50	13	110	<0.5	0.53	6.3	0.05	7.1	16	65	9.8	240	6.3	<0.001	-	<0.001	-	<0.05	5.3	-	0.019	2
MB12	24/11/2016	525426	<0.1	<20	<10	7900	310	1100	<0.5	0.02	3.6	<0.05	190	150	680	77	20	9.1	<0.001	-	<0.001	0.002	-	20	13	-	0.51	13
MB14	24/11/2016	525426	<0.1	140	<10	260	39	470	<0.5	<0.02	6.6	<0.05	28	68	290	<5	35	34	<0.001	-	<0.001	-	<0.05	19	-	0.57	5.5

November 2016 Monitoring Round			Organochlorine Pesticides																		
			4,4-DDE	a-BHC	Aldrin	b-BHC	chlordane	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
EQL			0.1	0.1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.01
ADWG 2015 Aesthetic																						
ADWG 2015 Health							2			9								10	0.3			
ANZECC 2000 Irrigation Criteria																						
ANZECC 2000 Stock Watering																						
ANZECC 2000 FW 95%							0.08			0.01					0.02			0.2	0.09			0.0002
Location Code	**Sampled Date**	**Lab Report**																				
LW01	24/11/2016	525426	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
MB01	24/11/2016	525426	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.01
MB05	24/11/2016	525426	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
MB06B	24/11/2016	525426	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.001
MB09	24/11/2016	525426	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
MB10	24/11/2016	525426	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
MB12	24/11/2016	525426	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
MB14	24/11/2016	525426	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01

November 2016 Monitoring Round

				Organophosphorous Pesticides																											
				Azinophos methyl	Bolstar (Sulprofos)	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Phorate	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos
				µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
EQL				2	2	2	20	0.002	20	2	20	2	2	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	2	2	0.002
ADWG 2015 Aesthetic																																	
ADWG 2015 Health				30	10	2	10					4	5	7	4	4	1	7	10	7	70		0.7	5	2		1		20		0.9		0.1
ANZECC 2000 Irrigation Criteria																																	
ANZECC 2000 Stock Watering																																	
ANZECC 2000 FW 95%				0.02			0.01					0.01		0.15				0.2			0.05												
Location Code	**Sampled Date**	**Lab Report**																															
LW01	24/11/2016	525426		<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002
MB01	24/11/2016	525426		<20	<20	<20	<20	<0.02	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<0.02	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<0.02
MB05	24/11/2016	525426		<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002
MB06B	24/11/2016	525426		<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002
MB09	24/11/2016	525426		<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002
MB10	24/11/2016	525426		<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002
MB12	24/11/2016	525426		<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002
MB14	24/11/2016	525426		<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002

November 2016 Monitoring Round			PAH/Phenols		Pesticides		SVOCs	TRH F1 and F2		TRH Fractions (C6-C40)				TPH Fractions (C6-C36)					Other
			Naphthalene	Phenolics Total	Parathion	Pirimiphos-methyl	EPN	C6-C10 less BTEX (F1)	F2-NAPHTHALENE	C6-C10	C10-C16	C16-C34	C34-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	Tokuthion
			µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
EQL			10	50	2	0.02	2	0.02	0.05	0.02	0.05	0.1	0.1	20	50	100	100	100	0.002
ADWG 2015 Aesthetic																			
ADWG 2015 Health					20	0.09													
ANZECC 2000 Irrigation Criteria																			
ANZECC 2000 Stock Watering																			
ANZECC 2000 FW 95%			16		0.004														
Location Code	**Sampled Date**	**Lab Report**																	
LW01	24/11/2016	525426	<10	<50	<2	<0.02	<2	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<0.002
MB01	24/11/2016	525426	<10	<50	<20	<0.02	<20	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<0.02
MB05	24/11/2016	525426	<10	<50	<2	<0.02	<2	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<0.002
MB06B	24/11/2016	525426	<10	<50	<2	<0.02	<2	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<0.002
MB09	24/11/2016	525426	<10	<50	<2	<0.02	<2	<0.02	0.1	<0.02	0.1	<0.1	<0.1	<20	130	<100	<100	130	<0.002
MB10	24/11/2016	525426	<10	<50	<2	<0.02	<2	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<0.002
MB12	24/11/2016	525426	<10	<50	<2	<0.02	<2	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<0.002
MB14	24/11/2016	525426	<10	<50	<2	<0.02	<2	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<0.002

									LocCode	LW01	MB05	MB06B	MB09	MB10	MB12	MB14	SW01
									WellCode	EPA09	EPA02	EPA03	EPA04	EPA05	EPA07	EPA08	EPA06
									Sampled_Date-Time	03-May-16	03-May-16	03-May-16	03-May-16	03-May-16	03-May-16	03-May-16	02-May-16
				ADWG 2015 Aesthetic	ADWG 2015 Health	ANZECC 2000 FW 95%	ANZECC 2000 Irrigation Criteria	ANZECC 2000 Stock Watering									
Chem_Group	**ChemName**	**Units**	**EQL**														
Inorganics	Alkalinity (Bicarbonate as CaCO3)	mg/L	20							210	380	360	130	39	<20	240	170
	Alkalinity (Carbonate as CaCO3)	mg/L	10							<10	<10	<10	<10	<10	<10	<10	<10
	Alkalinity (total) as CaCO3	mg/L	20							210	380	360	130	39	<20	240	170
	Ammonia as N	mg/L	0.01	0.5		0.9				0.42	12	0.98	3.9	<0.01	6	19	4.1
	Chloride	mg/L	1	250			175			260	220	150	47	14	310	45	64
	Electrical conductivity *(lab)	uS/cm	1			125-2200	950			1100	1400	1100	430	120	1100	530	570
	Fluoride	mg/L	0.5		1.5			2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Nitrate (as N)	mg/L	0.02		50	0.159		90		3.6	6.1	0.02	0.04	0.48	0.03	0.58	0.04
	pH (Lab)	pH_Units	0.1	6.5-8.5			6.5-8.5	5-9		7.2	6.6	6.6	6.4	6.3	3.4	7	7
	Phosphate total (P)	mg/L	0.05							-	0.17	0.13	0.09	0.2	<0.05	0.19	3.2
	Sodium	mg/L	0.5	180			115			90	100	60	25	5.3	190	59	52
	Sulphate as S	mg/L	5	250	500			1000		11	7.6	13	5.2	<5	49	<5	25
	TDS	mg/L	10	600				2000		-	900	800	230	67	650	300	-
	TOC	mg/L	5							22	11	13	7.3	<5	24	11	44
	TSS	mg/L	1							-	-	-	-	-	-	-	29,000
Metals	Calcium	mg/L	0.5					1000		72	86	67	23	7	5.6	18	49
	Chromium (hexavalent)	mg/L	0.001		0.05	0.001				-	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Chromium (III+VI)	mg/L	0.001				0.1	1		-	0.002	0.001	0.004	0.004	0.002	0.015	-
	Iron	mg/L	0.05	0.3			0.2	20		550	-	-	-	-	-	-	260
	Iron (Filtered)	mg/L	0.05	0.3			0.2	20		-	<0.05	2.4	<0.05	0.26	5.4	<0.05	-
	Magnesium	mg/L	0.5							25	27	57	12	5	12	5.7	12
	Manganese	mg/L	0.005	0.1	0.5	1.9	0.2			34	-	-	-	-	-	-	2.9
	Manganese (Filtered)	mg/L	0.005	0.1	0.5	1.9	0.2			-	0.82	3.5	1.7	0.03	0.44	0.79	-
	Potassium	mg/L	0.5							38	61	15	11	1.9	8.6	9.2	18
Organochlorine Pesticides	4,4-DDE	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	a-BHC	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Aldrin	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	b-BHC	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	chlordane	µg/L	1		2	0.08				-	<1	<1	<1	<1	<1	<1	<10
	d-BHC	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	DDD	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	DDT	µg/L	0.1		9	0.01				-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Dieldrin	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Endosulfan I	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Endosulfan II	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Endosulfan sulphate	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Endrin	µg/L	0.1			0.02				-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Endrin aldehyde	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Endrin ketone	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	g-BHC (Lindane)	µg/L	0.1		10	0.2				-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Heptachlor	µg/L	0.1		0.3	0.09				-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Heptachlor epoxide	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Methoxychlor	µg/L	0.1							-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
	Toxaphene	mg/L	0.01			0.0002				-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

MEINHARDT

May 2016 Analytical Results

Lithgow Solid Waste Facility

								LocCode	LW01	MB05	MB06B	MB09	MB10	MB12	MB14	SW01
								WellCode	EPA09	EPA02	EPA03	EPA04	EPA05	EPA07	EPA08	EPA06
								Sampled_Date-Time	03-May-16	03-May-16	03-May-16	03-May-16	03-May-16	03-May-16	03-May-16	02-May-16
				ADWG 2015 Aesthetic	ADWG 2015 Health	ANZECC 2000 FW 95%	ANZECC 2000 Irrigation Criteria	ANZECC 2000 Stock Watering									
Chem_Group	**ChemName**	**Units**	**EQL**														
Organophosphorous Pesticides	Azinophos methyl	µg/L	2		30	0.02			-	<2	<2	<2	<2	<2	<2	<2
	Bolstar (Sulprofos)	µg/L	2		10				-	<2	<2	<2	<2	<2	<2	<2
	Chlorfenvinphos	µg/L	2		2				-	<2	<2	<2	<2	<2	<2	<2
	Chlorpyrifos	µg/L	20		10	0.01			-	<20	<20	<20	<20	<20	<20	<20
	Chlorpyrifos-methyl	mg/L	0.002						-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
	Coumaphos	µg/L	20						-	<20	<20	<20	<20	<20	<20	<20
	Demeton-O	µg/L	2						-	<2	<2	<2	<2	<2	<2	<2
	Demeton-S	µg/L	20						-	<20	<20	<20	<20	<20	<20	<20
	Diazinon	µg/L	2		4	0.01			-	<2	<2	<2	<2	<2	<2	<2
	Dichlorvos	µg/L	2		5				-	<2	<2	<2	<2	<2	<2	<2
	Dimethoate	µg/L	2		7	0.15			-	<2	<2	<2	<2	<2	<2	<2
	Disulfoton	µg/L	2		4				-	<2	<2	<2	<2	<2	<2	<2
	Ethion	µg/L	2		4				-	<2	<2	<2	<2	<2	<2	<2
	Ethoprop	µg/L	2		1				-	<2	<2	<2	<2	<2	<2	<2
	Fenitrothion	µg/L	2		7	0.2			-	<2	<2	<2	<2	<2	<2	<2
	Fensulfothion	µg/L	2		10				-	<2	<2	<2	<2	<2	<2	<2
	Fenthion	µg/L	2		7				-	<2	<2	<2	<2	<2	<2	<2
	Malathion	µg/L	2		70	0.05			-	<2	<2	<2	<2	<2	<2	<2
	Merphos	mg/L	0.002						-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
	Methyl parathion	µg/L	2		0.7				-	<2	<2	<2	<2	<2	<2	<2
	Mevinphos (Phosdrin)	µg/L	2		5				-	<2	<2	<2	<2	<2	<2	<2
	Monocrotophos	µg/L	2		2				-	<2	<2	<2	<2	<2	<2	<2
	Naled (Dibrom)	µg/L	2						-	<2	<2	<2	<2	<2	<2	<2
	Omethoate	µg/L	2		1				-	<2	<2	<2	<2	<2	<2	<2
	Phorate	µg/L	2						-	<2	<2	<2	<2	<2	<2	<2
	Pyrazophos	µg/L	2		20				-	<2	<2	<2	<2	<2	<2	<2
	Ronnel	µg/L	2						-	<2	<2	<2	<2	<2	<2	<2
	Terbufos	µg/L	2		0.9				-	<2	<2	<2	<2	<2	<2	<2
	Trichloronate	µg/L	2						-	<2	<2	<2	<2	<2	<2	<2
	Tetrachlorvinphos	mg/L	0.002		0.1				-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
PAH/Phenols	Phenolics Total	µg/L	50						<50	<50	<50	<50	<50	<50	<50	<50
Pesticides	Parathion	µg/L	2		20	0.004			-	<2	<2	<2	<2	<2	<2	<2
	Pirimiphos-methyl	mg/L	0.02		0.09				-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs	EPN	µg/L	2						-	<2	<2	<2	<2	<2	<2	<2
	Tokuthion	mg/L	0.002						-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Halogenated Benzenes	Hexachlorobenzene	µg/L	0.1						-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
TPH	C10-C16	mg/L	0.05						-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	C16-C34	mg/L	0.1						-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5
	C34-C40	mg/L	0.1						-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C10 - C14	µg/L	50						-	<50	<50	<50	<50	<50	<50	<50
	C15 - C28	µg/L	100						-	<100	<100	<100	<100	<100	<100	200
	C29-C36	µg/L	100						-	<100	<100	<100	<100	<100	<100	300
	+C10 - C36 (Sum of total)	µg/L	100						-	<100	<100	<100	<100	<100	<100	500

Note: Adopted guidelines of some pesticides are less than laboratory limits if reporting

City of Lithgow Council
Lithgow Solid Waste Facility
Geordie St, Lithgow NSW 2790
EPL 6004
Waste Disposal (application to land)

Sampling EPA Point 1 (Groundwater MB1)

Sampling Frequency (where liquid is present)			Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual
ate Sa led	ate Analysed	ate u lished	units	lect ical onducti ity µS c	otal issol ed Solids g L	Al alinity g L	Sul hate g L	hlo ide g L	alciu g L	Magnesiu g L	Sodiu g L	otassiu g L	Alu iniu g L	a iu g L	h o iu g L	o alt g L	Manganese g L	on g L	e a alent h o iu g L	Fluo ide g L	A onia as g L	it ate as g L	hos ho us g L	otal ganic a on g L	he ical ygen e and g L	otal henolics g L	ganochlo ine esticides g L	gano hos ho us esticides g L	otal Reco e a le yd oca ons M 201 6 10 µg L	otal Reco e a le yd oca ons M 201 10 0 µg L	Standing Wate Le el RL
30-Oct-12			Dry																												
17-Apr-13			Dry																												
23-Oct-13			Insufficient recharge for sampling																												934.84
2-Apr-14			Dry																												
2-Jun-14			Insufficient recharge for sampling																												935.75
21-Oct-14			Dry																												
21-Apr-15			Dry																												
12-Oct-15			Dry																												

Sampling Point 2 (Groundwater MB5)

Sampling Frequency (where liquid is present)			Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	
ate Sa led	ate Analysed	ate u lished	units	lect ical onducti ity µS c	otal issol ed Solids g L	Al alinity g L	Sul hate g L	hlo ide g L	alciu g L	Magnesiu g L	Sodiu g L	otassiu g L	Alu iniu g L	a iu g L	h o iu g L	o alt g L	Manganese g L	on g L	e a alent h o iu g L	Fluo ide g L	A onia as g L	it ate as g L	hos ho us g L	otal ganic a on g L	he ical ygen e and g L	otal henolics g L	ganochlo ine esticides g L	gano hos ho us esticides g L	otal Reco e a le yd oca ons M 201 6 10 µg L	otal Reco e a le yd oca ons M 201 6 0 µg L	Standing Wate Le el RL	
24-Apr-12	26-Sep-12		7.03	1700	1100	419	108	248	108	43	147	76	<0.01	0.687	<0.001	0.02	1.88	<0.05	<0.010	0.1	9.66	1.59	0.07	10	41	<0.05	<0.0135	<0.014			913.19	
30-Oct-12	16-Jan-13		7.31	1840	1200	446	40	326	113	42	137	68	2.4	0.626	<0.001	0.015	1.36	5.76	<0.01	<0.1	12.5	0.16	0.09	8	54	<0.05	<0.0135	<0.014			912.45	
17-Apr-13	20-May-13		7.37	1390	904	337	43	196	83	28	114	75	0.17	0.365	<0.001	0.006	0.912	1.77	<0.01	<0.1	11.7	0.36	0.12	2	33	<0.05	<0.0135	<0.014			912.87	
23-Oct-13	29-Nov-13		6.83	1740	1130	457	38	265	107	37	131	67	0.07	0.552	<0.001	0.015	1.34	7.06	<0.01	<0.1	8.15	0.89	0.02	10	39	<0.05	<0.01	<0.014			912.30	
2-Apr-14	Bore Damaged-Repairs required																														911.76	
2-Jun-14	28-Jul-14		6.63	1780	1160	427	40	262	130	36	137	72	0.03	0.451	0.002	0.006	1.06	0.6	<0.01	0.1	14.8	18.1	0.29	7	27	<0.05	<0.010	<0.014			911.78	* Note no TRH detected
21-Oct-14	31-Oct-14		6.72	995	647	273	29	134	62	20	91	53	<0.01	0.225	<0.001	0.003	0.622	<0.05	<0.01	<0.1	2.34	6.09	0.15	7	13	<0.05	<0.010	<0.014			911.93	* Note no TRH detected
21-Apr-15	19-May-15		6.86	1530	994	369	18	262	99	32	110	66	<0.01	0.416	<0.001	0.005	0.975	0.47	<0.01	<0.1	3.5	4.54	0.08	5	14	<0.05			<20	<100	912.18	
12-Oct-15	12-Nov-15		6.63	1600	1040	375	43	254	104	35	119	64	< 0.01	0.464	< 0.001	0.006	1.1	1.77	< 0.01	< 0.1	6.42	0.93	0.03	7	30	< 0.05	<0.015	<0.014	< 50	< 100	912.4	

Sampling Point 3 (Groundwater MB6-B)

Sampling Frequency (where liquid is present)			Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	
ate Sa led	ate Analysed	ate u lished	units	lect ical onducti ity µS c	otal issol ed Solids g L	Al alinity g L	Sul hate g L	hlo ide g L	alciu g L	Magnesiu g L	Sodiu g L	otassiu g L	Alu iniu g L	a iu g L	h o iu g L	o alt g L	Manganese g L	on g L	e a alent h o iu g L	Fluo ide g L	A onia as g L	it ate as g L	hos ho us g L	otal ganic a on g L	he ical ygen e and g L	otal henolics g L	ganochlo ine esticides g L	gano hos ho us esticides g L	otal Reco e a le yd oca ons M 201 6 10 µg L	otal Reco e a le yd oca ons M 201 6 0 µg L	Standing Wate Le el RL	
24-Apr-12	26-Sep-12		7.28	2750	1790	895	96	270	202	59	250	144	0.01	0.554	0.002	0.014	0.949	0.1	<0.010	0.5	3.86	45.6	0.2	43	146	<0.05	<0.0135	<0.014			939.57	
30-Oct-12	16-Jan-13		7.36	2730	1770	877	46	383	188	68	225	117	0.36	0.784	0.003	0.013	3.22	39.2	<0.01	0.2	8.42	0.06	0.4	48	221	<0.05	<0.0135	<0.014			932.40	
17-Apr-13	20-May-13		7.56	5770	3750	1180	132	934	363	111	572	236	0.11	0.553	0.003	0.027	1.68	0.92	<0.01	0.3	12.6	41.8	0.16	57	260	<0.05	<0.0135	<0.014			933.49	
23-Oct-13	29-Nov-13		6.56	2410	1570	665	112	356	148	60	207	104	0.35	0.296	0.002	0.013	2.28	36.6	<0.01	0.2	1.63	0.11	0.42	27	78	<0.05	<0.01	<0.014			933.07	
2-Apr-14	26-May-14		6.83	4510	2930	854	186	702	223	86	462	139	0.4	0.392	0.002	0.012	1.91	9.43	<0.01	0.3	1.6	0.07	0.1	39	140	<0.05	<0.01	<0.014			936.04	
21-Oct-14	31-Oct-14		6.77	4010	2610	1160	152	635	196	96	497	154	0.02	0.367	0.001	0.012	1.67	9.77	<0.01	0.2	0.27	0.36	0.05	32	98	<0.05	<0.01	<0.014			935.63	
21-Apr-15	19-May-15		6.4	1820	1180	580	45	265	110	64	129	54	0.01	0.308	0.001	0.002	2.78	45.9	<0.01	0.2	1.59	<0.01	0.54	14	75	0.06			<20	<100	932.06	
12-Oct-15	12-Nov-15		6.68	1230	800	314	36	186	74	58	69	21	< 0.01	0.578	< 0.001	0.002	3.26	46.5	< 0.01	0.2	1.28	0.07	0.16	5	31	< 0.05	<0.015	<0.014	< 50	< 100	934.86	

Sampling Point 4 (Groundwater MB9)

Sampling Frequency (where liquid is present)			Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	
ate Sa led	ate Analysed	ate u lished	units	lect ical onducti ity µS c	otal issol ed Solids g L	Al alinity g L	Sul hate g L	hlo ide g L	alciu g L	Magnesiu g L	Sodiu g L	otassiu g L	Alu iniu g L	a iu g L	h o iu g L	o alt g L	Manganese g L	on g L	e a alent h o iu g L	Fluo ide g L	A onia as g L	it ate as g L	hos ho us g L	otal ganic a on g L	he ical ygen e and g L	otal henolics g L	ganochlo ine esticides g L	gano hos ho us esticides g L	otal Reco e a le yd oca ons M 201 6 10 µg L	otal Reco e a le yd oca ons M 201 6 0 µg L	Standing Wate Le el RL	
24-Apr-12	26-Sep-12		7.21	840	546	306	12	51	42	16	48	55	0.05	0.256	<0.001	0.023	5.2	16.7	<0.010	0.1	15.1	3.92	0.13	5	27	<0.05	<0.0135	<0.014			916.85	
30-Oct-12	16-Jan-13		7.24	779	506	280	5	58	51	17	32	34	0.11	0.283	<0.001	0.029	5.59	38	<0.01	0.1	11.7	0.03	0.07	5	28	<0.05	<0.0135	<0.014			915.62	
17-Apr-13	Bore damaged, sampling not possible																															
23-May-13	3-Jun-13		7.36	844	549	276	12	62	42	16	44	50	0.13	0.265	<0.001	0.016	3.95	11.9	<0.01	<0.1	13.2	0.75	0.13	12	67	<0.05	<0.0135	<0.014			916.15	
23-Oct-13	29-Nov-13		6.59	592	385	207	14	53	30	14	32	23	0.22	0.235	0.001	0.019	3.02	10.6	<0.01	<0.1	6.52	0.05	0.02	3	13	<0.05	<0.01	<0.014			915.35	
2-Apr-14	26-May-14		6.38	472	307	105	22	51	18	14	36	11	0.03	0.18	<0.001	0.015	1.44	2.86	<0.01	<0.1	2.43	0.07	0.04	2	11	<0.05	<0.01	<0.014			915.29	
21-Oct-14	31-Oct-14		6.55	736	478	251	20	75	36	16	49	54	0.04	0.228	<0.001	0.014	2.68	10.4	<0.01	<0.1	8.28	0.06	0.07	4	12	<0.05	<0.01	<0.014			915.82	* Note no TRH detected
21-Apr-15	19-May-15		6.47	650	422	263	10	56	42	16	31	22	0.04	0.224	<0.001	0.022	3.55	28.4	<0.01	<0.1	7.35	0.06	0.14	2	26	<0.05			<20	<100		
12-Oct-15	12-Nov-15		6.73	587	382	212	11	43	46	14	26	19	< 0.01	0.243	< 0.001	0.024	3.56	35.9	< 0.01	< 0.1	7.27	0.01	0.14	4	20	< 0.05	<0.015	<0.014	< 50	< 100		

Sampling Point 5 (Groundwater MB10)

Sampling Frequency (where liquid is present)			Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	
ate Sa led	ate Analysed	ate u lished	units	lect ical onducti ity µS c	otal issol ed Solids g L	Al alinity g L	Sul hate g L	hlo ide g L	alciu g L	Magnesiu g L	Sodiu g L	otassiu g L	Alu iniu g L	a iu g L	h o iu g L	o alt g L	Manganese g L	on g L	e a alent h o iu g L	Fluo ide g L	A onia as g L	it ate as g L	hos ho us g L	otal ganic a on g L	he ical ygen e and g L	otal henolics g L	ganochlo ine esticides g L	gano hos ho us esticides g L	otal Reco e a le yd oca ons M 201 6 10 µg L	otal Reco e a le yd oca ons M 201 6 0 µg L	Standing Wate Le el RL	
24-Apr-12	26-Sep-12		6.62	120	78	27	12	12	6	5	8	2	0.23	0.028	<0.001	<0.001	0.019	0.51	<0.010	<0.1	0.04	1.14	0.35	<1	25	<0.05	<0.0135	<0.014			927.13	
30-Oct-12	16-Jan-13		6.92	137	89	32	10	13	9	5	7	3	0.20	0.036	<0.001	<0.001	0.044	0.7	<0.01	<0.1	0.27	0.3	0.16	<1	40	<0.05	<0.0135	<0.014			926.72	
17-Apr-13	20-May-13		7.00	143	93	28	10	9	7	5	8	2	0.16	0.027	<0.001	<0.001	0.021	0.45	<0.01	<0.1	0.11	0.34	0.26	<1	12	<0.05	<0.0135	<0.014			926.81	
23-Oct-13	29-Nov-13		6.83	399	259	158	8	25	30	12	16	9	0.07	0.117	<0.001	<0.001	0.223	1.46	<0.01	<0.1	4.8	0.12	0.29	6	20	<0.05	<0.01	<0.014			926.56	
2-Apr-14	26-May-14		6.53	129	84	21	10	11	5	5	8	2	0.02	0.028	<0.001	<0.001	0.02	0.66	<0.01	<0.1	0.04	0.32	0.33	2	17	<0.05	<0.01	<0.014			927.16	
21-Oct-14	31-Oct-14		6.41	137	89	28	14	23	6	5	9	2	0.06	0.032	<0.001	<0.001	0.02	0.6	<0.01	<0.1	0.05	0.6	0.06	2	11	<0.05	<0.01	<0.014			926.90	* Note no TRH detected
21-Apr-15	19-May-15		6.37	142	92	38	12	26	8	6	7	2	0.01	0.037	<0.001	<0.001	0.036	0.45	<0.01	<0.1	0.31	0.37	0.14	1	<10	<0.05			<20	<100	915.76	
12-Oct-15	12-Nov-15		6.7	99	64	25	12	10	6	5	6	2	< 0.01	0.029	< 0.001	< 0.001	0.012	0.2	< 0.01	< 0.1	0.03	0.58	0.09	2	14	< 0.05	<0.015	<0.014	< 50	< 100	915.65	

Sampling EPA Point 6 (Surface Water SW1)

Sampling Frequency (during a discharge event)			Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	
ate Sa led	ate Analysed	ate u lished	units L 100 e centile Li it 6	lect ical onducti ity µS c	otal Sus ended Solids g L L 100 e centile Li it 0	Al alinity g L	Sul hate g L	hlo ide g L	alciu g L	Magnesiu g L	Sodiu g L	otassiu g L	Alu iniu g L	a iu g L	h o iu g L	o alt g L	Manganese g L	on g L	e a alent h o iu g L	Fluo ide g L	A onia as g L	it ate as g L	hos ho us g L	otal ganic a on g L	he ical ygen e and g L	otal henolics g L	ganochlo ine esticides g L	gano hos ho us esticides g L	otal Reco e a le yd oca ons M 201 6 10 µg L	otal Reco e a le yd oca ons M 201 6 0 µg L		
Voluntary-not discharging 24/04/2012	26-Sep-12		7.80	499	-	140	28	43	38	12	26	20	-	-	-	-	0.090	0.46	-	0.1	2.12	0.54	-	12	-	<0.05	<0.0135	<0.014				
30-Oct-12	Not discharging																															
11-Mar-13	20-May-13		7.26	116	10	24	8	12	6	2	7	3	0.08	0.027	<0.001	<0.001	0.046	0.32	<0.01	<0.1	0.25	0.10	<0.01	3	14	<0.05	<0.0135	<0.014				
17-Apr-13	Not discharging																															
13-Jun-13	10-Jul-13		7.72	488	367	93	35	60	34	11	29	19	6.75	0.129	0.006	0.005	0.179	8.11	<0.01	0.1	2.52	1.32	0.29	17	57	<0.05	<0.0135	<0.014				
23-Oct-13	Not discharging																															
8-Apr-14	26-May-14		7.32	154	16	33	13	12	9	4	11	6	1.25	0.039	<0.001	<0.001	0.042	1.37	<0.01	<0.1	0.12	0.38	0.04	3	12	<0.05	<0.01	<0.014				
21-Oct-14	Not discharging																															
20-Nov-14	Not discharging																															
26-Dec-14	Not discharging																															
21-Jan-15	27-Feb-15		6.76	114	83	25	11	9	7	3	7	4	1.8	0.058	0.002	0.004	0.529	1.72	<0.01	<0.1	0.18	0.07	0.1	4	16	<0.05	<0.002	<0.002				
27-Feb-15	Not discharging																															
16-Mar-15	Not discharging																															
21-Apr-15	19-May-15		7.38	260	----	59	32	30	24	5	16	8	4.08	0.069	0.003	0.003	0.146	3.72	<0.01	0.2	0.52	4.14	0.26	7	42	<0.05			<20	<100		
12-Oct-15	Not discharging																															

Sampling Point 7 (Groundwater MB12)

Sampling Frequency (where liquid is present)			Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	
ate Sa led	ate Analysed	ate u lished	units	lect ical onducti ity µS c	otal issol ed Solids g L	Al alinity g L	Sul hate g L	hlo ide g L	alciu g L	Magnesiu g L	Sodiu g L	otassiu g L	Alu iniu g L	a iu g L	h o iu g L	o alt g L	Manganese g L	on g L	e a alent h o iu g L	Fluo ide g L	A onia as g L	it ate as g L	hos ho us g L	otal ganic a on g L	he ical ygen e and g L	otal henolics g L	ganochlo ine esticides g L	gano hos ho us esticides g L	otal Reco e a le yd oca ons M 201 6 10 µg L	otal Reco e a le yd oca ons M 201 6 0 µg L	Standing Wate Le el RL	
24-Apr-12	26-Sep-12		3.74	1260	819	<1	124	316	10	14	135	10	17.2	0.092	0.001	0.068	0.668	18.4	<0.010	0.1	6.00	1.34	0.04	10	27	<0.05	<0.0135	<0.014			910.85	
30-Oct-12	16-Jan-13		3.45	1310	852	<1	110	343	17	18	126	10	12.1	0.075	<0.001	0.061	1.07	23.9	<0.01	0.1	4.95	<0.01	0.02	6	30	<0.05	<0.0135	<0.014			910.19	
17-Apr-13	20-May-13		3.70	1250	812	<1	115	294	14	16	169	12	11.9	0.071	<0.001	0.069	0.932	25.6	<0.01	0.1	6.51	0.01	0.01	3	38	<0.05	<0.0135	<0.014			910.59	
23-Oct-13	29-Nov-13		3.40	1350	878	<1	116	296	11	15	134	10	14.5	0.101	0.002	0.07	0.793	17.4	<0.01	0.2	5.85	0.04	0.04	11	29	<0.05	<0.01	<0.014			910.08	
8-Apr-14	26-May-14		5.85	1040	676	43	76	242	40	28	85	11	0.68	0.094	<0.001	0.036	2.52	39.8	<0.01	<0.1	1.64	<0.01	<0.01	4	18	<0.05	<0.01	<0.014			910.05	
21-Oct-14	31-Oct-14		4.16	1130	734	<1	110	275	28	22	102	10	6.19	0.07	0.001	0.047	1.48	29.3	<0.01	0.1	4.42	0.05	<0.01	5	24	<0.05	<0.01	<0.014			910.20	
21-Apr-15	19-May-15		4.99	1020	663	23	91	238	35	24	72	7	0.72	0.08	<0.001	0.031	1.94	33.1	<0.01	<0.1	1.8	<0.01	<0.01	4	15	<0.05			100	<100	910.03	
12-Oct-15	12-Nov-15		4.47	1120	728	< 1	116	275	30	23	91	9	4.11	0.078	< 0.001	0.043	1.68	27.9	< 0.01	0.1	3.96	0.01	< 0.01	4	27	< 0.05	<0.015	<0.014	< 50	< 100	910.74	

Sampling Point 8 (Groundwater MB14)

Sampling Frequency (where liquid is present)			Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual
ate Sa led	**ate Analysed**	**ate u lished**	**units**	**lect ical onducti ity µS c**	**otal issol ed Solids g L**	**Al alinity g L**	**Sul hate g L**	**hlo ide g L**	**alciu g L**	**Magnesiu g L**	**Sodiu g L**	**otassiu g L**	**Alu iniu g L**	**a iu g L**	**h o iu g L**	**o alt g L**	**Manganese g L**	**on g L**	**e a alent h o iu g L**	**Fluo ide g L**	**A onia as g L**	**it ate as g L**	**hos ho us g L**	**otal ganic a on g L**	**he ical ygen e and g L**	**otal henolics g L**	**ganochlo ine esticides g L**	**gano hos ho us esticides g L**	**otal Reco e a le yd oca ons M 201 6 10 µg L**	**otal Reco e a le yd oca ons M 201 6 0 µg L**	**Standing Wate Le el RL**	
24-Apr-12	26-Sep-12		7.15	786	511	317	50	39	95	35	21	10	0.03	0.096	<0.001	<0.001	0.219	6.38	<0.010	0.1	0.21	0.02	0.03	4	13	<0.05	<0.0135	<0.014			897.90	
30-Oct-12	16-Jan-13		7.48	793	515	318	44	41	91	34	19	10	0.02	0.103	<0.001	<0.001	0.231	6.95	<0.01	<0.1	0.23	0.03	0.03	3	9	<0.05	<0.0135	<0.014			897.46	
17-Apr-13	20-May-13		7.73	817	531	352	40	32	102	33	21	13	0.03	0.089	<0.001	<0.001	0.1	1.81	<0.01	0.1	0.28	<0.01	0.01	1	24	<0.05	<0.0135	<0.014			897.66	
23-Oct-13	29-Nov-13		7.33	820	533	355	38	35	98	30	18	11	0.02	0.089	<0.001	<0.001	0.099	1.76	<0.01	0.1	0.2	0.09	0.04	8	9	<0.05	<0.01	<0.014			897.48	
2-Apr-14	26-May-14		7.39	255	166	74	12	8	25	8	6	3	<0.01	0.024	<0.001	<0.001	0.023	<0.05	<0.01	0.1	0.11	0.24	<0.01	<1	<5	<0.05	<0.01	<0.014			897.37	
21-Oct-14	31-Oct-14		7.37	790	514	360	41	40	101	35	22	11	<0.01	0.078	<0.001	<0.001	0.095	1.8	<0.01	0.3	0.21	0.06	0.03	3	<10	<0.05	<0.01	<0.014			897.60	* Note no TRH detected
21-Apr-15	19-May-15		7.2	776	504	360	40	44	97	32	17	9	<0.01	0.08	<0.001	<0.001	0.068	1.12	<0.01	0.1	0.19	<0.01	0.02	2	<10	<0.05			<20	<100	897.30	
12-Oct-15	12-Nov-15		7.56	766	498	313	44	33	98	33	16	9	< 0.01	0.086	< 0.001	< 0.001	0.074	1.17	< 0.01	0.1	0.22	< 0.01	< 0.01	2	11	< 0.05	<0.015	<0.014	< 50	< 100	897.51	

Sampling Point 9 (Leachate LW1)

Sampling Frequency (where liquid is present)			Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual	Biannual
ate Sa led	**ate Analysed**	**ate u lished**	**units**	**Al alinity g L**	**Sul hate g L**	**hlo ide g L**	**alciu g L**	**Magnesiu g L**	**Sodiu g L**	**otassiu g L**	**Manganese g L**	**on g L**	**Fluo ide g L**	**A onia as g L**	**it ate as g L**	**otal ganic a on g L**	**otal henolics g L**	
24-Apr-12	26-Sep-12		7.65	1490	58	245	117	48	98	55	0.134	0.11	<0.1	0.14	5.87	10	<0.05	
30-Oct-12	Dry																	
17-Apr-13	20-May-13		7.65	288	44	202	89	33	109	66	0.491	0.48	<0.1	1.96	3.41	6	<0.05	
23-Oct-13	Dry																	
2-Apr-14	26-May-14		7.74	227	30	266	87	36	106	48	0.144	0.05	<0.1	0.06	4.12	6	*	
2-Jun-14	28-Jul-14																<0.05	
21-Apr-15	19-May-15																	
12-Oct-15	12-Nov-15		7.49	266	36	271	90	35	110	49	0.096	< 0.05	0.1	0.04	3.63	5	< 0.05	

Sampling Point 10 (Accumulated gas)

Sampling Frequency			Biannual
ate Sa led	**ate Analysed**	**ate u lished**	**esence o Methane 1 2**
24-Apr-12	26-Sep-12		No
31-May-12	26-Sep-12		No
13-Jun-12	26-Sep-12		No
18-Jul-12	26-Sep-12		No
15-Aug-12	26-Sep-12		No
6-Sep-12	16-Jan-13		No
30-Oct-12	16-Jan-13		No
19-Nov-12	16-Jan-13		No
21-Dec-12	16-Jan-13		No
29-Jan-13	20-May-13		No
19-Feb-13	20-May-13		No
7-Mar-13	20-May-13		No
17-Apr-13	20-May-13		No
23-May-13	30-May-13		No
13-Jun-13	10-Jul-13		No
26-Jul-13	28-Aug-13		No
20-Aug-13	28-Aug-13		No
22-Sep-13	29-Nov-13		No
23-Oct-13	29-Nov-13		No
12-Nov-13	29-Nov-13		No
18-Dec-13	25-Feb-14		No
16-Jan-14	25-Feb-14		No
13-Feb-14	25-Feb-14		No
10-Mar-14	26-May-14		No
2-Apr-14	26-May-14		No
15-May-14	26-May-14		No
02-Jun-14	28-Jul-14		No
01-Jul-14	28-Jul-14		No

eurofins | mgt

Certificate of Analysis

Meinhardt Infrastucture and Environment Pty Ltd
Level 4, 66 Clarence St
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

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The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Meredith Gee**

Report **546457-W**
Project name LITHGOW MAY 2017
Project ID 115659
Received Date May 17, 2017

Client Sample ID			**MB5**	**MB6-B**	**MB9**	**MB10**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**S17-My16150**	**S17-My16151**	**S17-My16152**	**S17-My16153**
Date Sampled			**May 15, 2017**	**May 15, 2017**	**May 15, 2017**	**May 15, 2017**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	[G15]N/A	[G15]N/A	[G15]N/A	[G15]N/A
TRH C10-C14	0.05	mg/L	< 0.05	0.08	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	2.9	< 0.1	< 0.1	0.4
TRH C29-C36	0.1	mg/L	3.6	< 0.1	0.1	0.4
TRH C10-36 (Total)	0.1	mg/L	6.5	< 0.1	0.1	0.8
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	[G15]N/A	[G15]N/A	[G15]N/A	[G15]N/A
TRH C6-C10	0.02	mg/L	[G15]N/A	[G15]N/A	[G15]N/A	[G15]N/A
Organochlorine Pesticides						
Chlordanes - Total	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
4.4'-DDD	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Toxaphene	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	84	73	61	110
Tetrachloro-m-xylene (surr.)	1	%	134	101	112	111

Client Sample ID			MB5	MB6-B	MB9	MB10
Sample Matrix			Water	Water	Water	Water
Eurofins | mgt Sample No.			S17-My16150	S17-My16151	S17-My16152	S17-My16153
Date Sampled			May 15, 2017	May 15, 2017	May 15, 2017	May 15, 2017
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorpyrifos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-S	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Omethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	83	87	91	88
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2.4.5-Trichlorophenol	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			MB5	MB6-B	MB9	MB10
Sample Matrix			Water	Water	Water	Water
Eurofins | mgt Sample No.			S17-My16150	S17-My16151	S17-My16152	S17-My16153
Date Sampled			May 15, 2017	May 15, 2017	May 15, 2017	May 15, 2017
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Nitrophenol	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2.4-Dimethylphenol	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2.4-Dinitrophenol	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol-d6 (surr.)	1	%	INT	INT	INT	INT
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	7.0	< 0.1	0.2	0.9
TRH >C34-C40	0.1	mg/L	0.7	< 0.1	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	22	3.3	28	0.20
Chemical Oxygen Demand (COD)	25	mg/L	40	47	< 25	< 25
Chloride	1	mg/L	300	220	52	10
Chromium (hexavalent)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Conductivity (at 25°C)	1	uS/cm	1400	1200	760	120
Fluoride	0.5	mg/L	< 0.5	< 0.5	< 0.5	< 0.5
Nitrate (as N)	0.02	mg/L	1.6	0.02	1.1	0.36
pH	0.1	pH Units	6.2	6.1	6.3	6.1
Redox Potential mV	1	mV	210	180	180	170
Sulphate (as SO4)	2	mg/L	39	36	5.3	7.9
Total Dissolved Solids	5	mg/L	790	640	350	51
Total Organic Carbon	5	mg/L	15	16	10	< 5
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	5	mg/L	280	260	250	22
Carbonate Alkalinity (as CaCO3)	5	mg/L	< 5	< 5	< 5	< 5
Hydroxide Alkalinity (as CaCO3)	5	mg/L	< 5	< 5	< 5	< 5
Total Alkalinity (as CaCO3)	5	mg/L	280	260	250	22
Heavy Metals						
Aluminium (filtered)	0.05	mg/L	< 0.5	< 0.5	0.09	< 0.5
Chromium	0.001	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Iron (filtered)	0.05	mg/L	0.21	36	0.28	0.10
Manganese (filtered)	0.005	mg/L	0.90	3.1	4.7	< 0.05
Alkali Metals						
Calcium	0.5	mg/L	110	83	67	6.8
Magnesium	0.5	mg/L	36	72	20	5.1
Potassium	0.5	mg/L	78	18	52	2.4
Sodium	0.5	mg/L	130	77	36	7.2

Client Sample ID			MB12	MB14	RINS01	DUP01
Sample Matrix			Water	Water	Water	Water
Eurofins | mgt Sample No.			S17-My16154	S17-My16155	S17-My16156	S17-My16157
Date Sampled			May 15, 2017	May 15, 2017	May 15, 2017	May 15, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	[G15]N/A	[G15]N/A	[G15]N/A	[G15]N/A
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.05
TRH C15-C28	0.1	mg/L	0.2	0.3	0.6	3.1
TRH C29-C36	0.1	mg/L	0.2	0.3	0.7	3.7
TRH C10-36 (Total)	0.1	mg/L	0.4	0.6	1.3	6.85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	[G15]N/A	[G15]N/A	[G15]N/A	[G15]N/A
TRH C6-C10	0.02	mg/L	[G15]N/A	[G15]N/A	[G15]N/A	[G15]N/A
Organochlorine Pesticides						
Chlordanes - Total	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
4.4'-DDD	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Toxaphene	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	73	83	89	73
Tetrachloro-m-xylene (surr.)	1	%	113	115	113	107
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorpyrifos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-S	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002

Client Sample ID			MB12	MB14	RINS01	DUP01
Sample Matrix			Water	Water	Water	Water
Eurofins | mgt Sample No.			S17-My16154	S17-My16155	S17-My16156	S17-My16157
Date Sampled			May 15, 2017	May 15, 2017	May 15, 2017	May 15, 2017
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Omethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	84	90	112	84
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2.4.5-Trichlorophenol	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Nitrophenol	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2.4-Dimethylphenol	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2.4-Dinitrophenol	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol-d6 (surr.)	1	%	INT	INT	INT	INT
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.06
TRH >C16-C34	0.1	mg/L	0.5	0.7	1.5	7.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	0.1	0.8

Client Sample ID			MB12	MB14	RINS01	DUP01
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**S17-My16154**	**S17-My16155**	**S17-My16156**	**S17-My16157**
Date Sampled			**May 15, 2017**	**May 15, 2017**	**May 15, 2017**	**May 15, 2017**
Test/Reference	LOR	Unit				
Ammonia (as N)	0.01	mg/L	28	0.84	0.04	21
Chemical Oxygen Demand (COD)	25	mg/L	45	< 25	< 25	35
Chloride	1	mg/L	370	37	18	240
Chromium (hexavalent)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Conductivity (at 25°C)	1	uS/cm	1400	490	130	1600
Fluoride	0.5	mg/L	< 0.5	< 0.5	< 0.5	< 0.5
Nitrate (as N)	0.02	mg/L	< 0.02	0.12	3.6	1.8
pH	0.1	pH Units	3.6	6.2	4.5	6.3
Redox Potential mV	1	mV	390	88	350	230
Sulphate (as SO4)	2	mg/L	200	53	3.2	30
Total Dissolved Solids	5	mg/L	570	260	70	750
Total Organic Carbon	5	mg/L	16	6.6	< 5	13
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	5	mg/L	< 5	120	< 5	310
Carbonate Alkalinity (as CaCO3)	5	mg/L	< 5	< 5	< 5	< 5
Hydroxide Alkalinity (as CaCO3)	5	mg/L	< 5	< 5	< 5	< 5
Total Alkalinity (as CaCO3)	5	mg/L	< 5	120	< 5	310
Heavy Metals						
Aluminium (filtered)	0.05	mg/L	15	< 0.5	< 0.5	< 0.5
Chromium	0.001	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Iron (filtered)	0.05	mg/L	15	17	< 0.05	0.18
Manganese (filtered)	0.005	mg/L	0.49	0.50	< 0.05	0.87
Alkali Metals						
Calcium	0.5	mg/L	8.7	34	< 0.5	98
Magnesium	0.5	mg/L	13	20	< 0.5	32
Potassium	0.5	mg/L	14	5.6	2.0	69
Sodium	0.5	mg/L	150	33	18	140

Client Sample ID			L01
Sample Matrix			**Water**
Eurofins | mgt Sample No.			**S17-My16158**
Date Sampled			**May 15, 2017**
Test/Reference	LOR	Unit	
Phenols (Halogenated)			
2-Chlorophenol	0.003	mg/L	< 0.003
2.4-Dichlorophenol	0.001	mg/L	< 0.001
2.4.5-Trichlorophenol	0.001	mg/L	< 0.001
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01
Phenols (non-Halogenated)			
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1
2-Methyl-4.6-dinitrophenol	0.005	mg/L	< 0.005
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003
2-Nitrophenol	0.005	mg/L	< 0.005

Client Sample ID			L01
Sample Matrix			Water
Eurofins | mgt Sample No.			S17-My16158
Date Sampled			May 15, 2017
Test/Reference	LOR	Unit	
Phenols (non-Halogenated)			
2.4-Dimethylphenol	0.001	mg/L	< 0.001
2.4-Dinitrophenol	0.001	mg/L	< 0.001
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006
4-Nitrophenol	0.001	mg/L	< 0.001
Dinoseb	0.1	mg/L	< 0.1
Phenol	0.003	mg/L	< 0.003
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1
Phenol-d6 (surr.)	1	%	INT
Ammonia (as N)	0.01	mg/L	0.65
Chloride	1	mg/L	230
Conductivity (at 25°C)	1	uS/cm	1400
Nitrate (as N)	0.02	mg/L	2.2
pH	0.1	pH Units	6.9
Sulphate (as SO4)	2	mg/L	27
Total Dissolved Solids	5	mg/L	630
Total Organic Carbon	5	mg/L	11
Alkalinity (speciated)			
Bicarbonate Alkalinity (as CaCO3)	5	mg/L	220
Carbonate Alkalinity (as CaCO3)	5	mg/L	< 5
Hydroxide Alkalinity (as CaCO3)	5	mg/L	< 5
Total Alkalinity (as CaCO3)	5	mg/L	220
Alkali Metals			
Calcium	0.5	mg/L	89
Magnesium	0.5	mg/L	35
Potassium	0.5	mg/L	56
Sodium	0.5	mg/L	120

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	May 17, 2017	7 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	May 17, 2017	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	May 17, 2017	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Organochlorine Pesticides	Sydney	May 17, 2017	7 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	May 17, 2017	7 Day
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Chemical Oxygen Demand (COD)	Melbourne	May 18, 2017	28 Days
- Method: LTM-INO-4220 Determination of COD in Water			
Chromium (hexavalent)	Sydney	May 19, 2017	28 Day
- Method: E043 /E057 Total Speciated Chromium			
Fluoride	Melbourne	May 18, 2017	28 Day
- Method: LM-LTM-INO-4300 (Fluoride by Ion Chromatography)			
pH	Sydney	May 19, 2017	1 Day
- Method: LTM-GEN-7090 pH in water by ISE			
Redox Potential mV	Melbourne	May 23, 2017	5 Day
- Method: APHA 2580B Redox Potential			
Total Organic Carbon	Melbourne	May 18, 2017	28 Day
- Method: APHA 5310B Total Organic Carbon			
Alkalinity (speciated)	Sydney	May 18, 2017	14 Days
- Method: E035 Alkalinity			
Heavy Metals (filtered)	Sydney	May 17, 2017	180 Day
- Method: LTM-MET-3040 Metals in Waters by ICP-MS			
Heavy Metals	Sydney	May 19, 2017	180 Day
- Method: LTM-MET-3040 Metals in Waters by ICP-MS			
Phenols (Halogenated)	Sydney	May 17, 2017	0 Day
Phenols (non-Halogenated)	Sydney	May 17, 2017	0 Day
Eurofins | mgt Suite B11B			
Ammonia (as N)	Sydney	May 17, 2017	28 Day
- Method: E036/E050 Ammonia as N			
Chloride	Sydney	May 17, 2017	28 Day
- Method: E033 /E045 /E047 Chloride			
Conductivity (at 25°C)	Sydney	May 17, 2017	28 Day
- Method: LTM-INO-4030			
Nitrate (as N)	Melbourne	May 18, 2017	7 Day
- Method: APHA 4500-NO3 Nitrate Nitrogen by FIA			
Sulphate (as SO4)	Sydney	May 17, 2017	28 Day
- Method: E045 Sulphate			
Total Dissolved Solids	Sydney	May 17, 2017	7 Day
- Method: 4110 Total Dissolved Solids dried at 180 ± 2°C			
Alkali Metals	Sydney	May 17, 2017	180 Day
- Method: E022/E030 Unfiltered Cations in Water			

Sydney
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NATA # 1261 Site # 18217

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eurofins | mgt

Company Name:	Meinhardt Infrastucture and Environment Pty Ltd	**Order No.:**		**Received:**	May 17, 2017 9:00 AM
Address:	Level 4, 66 Clarence St Sydney NSW 2000	**Report #:**	546457	**Due:**	May 24, 2017
		Phone:	+61 2 8252 0406	**Priority:**	5 Day
		Fax:	+61 2 9319 7508	**Contact Name:**	Meredith Gee
Project Name:	LITHGOW MAY 2017				
Project ID:	115659				

Eurofins | mgt Analytical Services Manager : Andrew Black

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066
ABN : 50 005 085 521 Telephone: +61 2 9900 8400

Sample Detail						Aluminium (filtered)	Chemical Oxygen Demand (COD)	Chromium	Chromium (hexavalent)	Fluoride	Iron (filtered)	Manganese (filtered)	pH	Redox Potential mV	Total Organic Carbon	Organochlorine Pesticides	Organophosphorus Pesticides	Alkalinity (speciated)	Phenols (IWRG 621)	Eurofins | mgt Suite B11B	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271							X			X				X	X					X	
Sydney Laboratory - NATA Site # 18217						X		X	X		X	X	X			X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 18217																					
External Laboratory																					
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**																
	MB5	May 15, 2017		Water	S17-My16150	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	MB6-B	May 15, 2017		Water	S17-My16151	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	MB9	May 15, 2017		Water	S17-My16152	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	MB10	May 15, 2017		Water	S17-My16153	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	MB12	May 15, 2017		Water	S17-My16154	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	MB14	May 15, 2017		Water	S17-My16155	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	RINS01	May 15, 2017		Water	S17-My16156	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DUP01	May 15, 2017		Water	S17-My16157	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	L01	May 15, 2017		Water	S17-My16158								X		X			X	X	X	

Date Reported:May 26, 2017

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Company Name:	Meinhardt Infrastucture and Environment Pty Ltd	**Order No.:**		**Received:**	May 17, 2017 9:00 AM
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	Sydney	**Phone:**	+61 2 8252 0406	**Priority:**	5 Day
	NSW 2000	**Fax:**	+61 2 9319 7508	**Contact Name:**	Meredith Gee
Project Name:	LITHGOW MAY 2017				
Project ID:	115659				

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail	Aluminium (filtered)	Chemical Oxygen Demand (COD)	Chromium	Chromium (hexavalent)	Fluoride	Iron (filtered)	Manganese (filtered)	pH	Redox Potential mV	Total Organic Carbon	Organochlorine Pesticides	Organophosphorus Pesticides	Alkalinity (speciated)	Phenols (IWRG 621)	Eurofins | mgt Suite B11B	Total Recoverable Hydrocarbons
elbourne Laboratory - NATA Site # 1254 & 14271		X			X				X	X					X	
ydney Laboratory - NATA Site # 18217	X		X	X		X	X	X			X	X	X	X	X	X
risbane Laboratory - NATA Site # 20794																
erth Laboratory - NATA Site # 18217																
est Counts	8	8	8	8	8	8	8	9	8	9	8	8	9	9	9	8

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. All biota results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs 20-130%

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4.4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.001			0.001	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.001			0.001	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.005			0.005	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
2-Nitrophenol	mg/L	< 0.005			0.005	Pass	
2.4-Dimethylphenol	mg/L	< 0.001			0.001	Pass	
2.4-Dinitrophenol	mg/L	< 0.001			0.001	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.001			0.001	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Ammonia (as N)	mg/L	-0.004			0.01	Pass	
Chemical Oxygen Demand (COD)	mg/L	< 25			25	Pass	
Chloride	mg/L	< 1			1	Pass	
Chromium (hexavalent)	mg/L	< 0.005			0.005	Pass	
Fluoride	mg/L	< 0.5			0.5	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Sulphate (as SO4)	mg/L	< 2			2	Pass	
Total Dissolved Solids	mg/L	< 5			5	Pass	
Total Organic Carbon	mg/L	< 5			5	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 5			5	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 5			5	Pass	
Hydroxide Alkalinity (as CaCO3)	mg/L	< 5			5	Pass	
Total Alkalinity (as CaCO3)	mg/L	< 5			5	Pass	
Method Blank							
Heavy Metals							
Aluminium (filtered)	mg/L	< 0.05			0.05	Pass	
Iron (filtered)	mg/L	< 0.05			0.05	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	%	91			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	120			70-130	Pass	
4.4'-DDE	%	120			70-130	Pass	
4.4'-DDT	%	80			70-130	Pass	
a-BHC	%	100			70-130	Pass	
Aldrin	%	120			70-130	Pass	
b-BHC	%	120			70-130	Pass	
d-BHC	%	120			70-130	Pass	
Dieldrin	%	120			70-130	Pass	
Endosulfan I	%	120			70-130	Pass	
Endosulfan II	%	120			70-130	Pass	
Endosulfan sulphate	%	100			70-130	Pass	
Endrin	%	120			70-130	Pass	
Endrin aldehyde	%	100			70-130	Pass	
Endrin ketone	%	100			70-130	Pass	
g-BHC (Lindane)	%	100			70-130	Pass	
Heptachlor	%	100			70-130	Pass	
Heptachlor epoxide	%	80			70-130	Pass	
Toxaphene	%	100			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenols (Halogenated)							
2-Chlorophenol	%	71			30-130	Pass	
2.4-Dichlorophenol	%	78			30-130	Pass	
2.4.5-Trichlorophenol	%	93			30-130	Pass	
2.4.6-Trichlorophenol	%	79			30-130	Pass	
2.6-Dichlorophenol	%	84			30-130	Pass	
4-Chloro-3-methylphenol	%	67			30-130	Pass	
Pentachlorophenol	%	91			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	84			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	100			30-130	Pass	
2-Methylphenol (o-Cresol)	%	50			30-130	Pass	
2-Nitrophenol	%	78			30-130	Pass	
2.4-Dimethylphenol	%	68			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	43			30-130	Pass	
Dinoseb	%	87			30-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	106			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	101			70-130	Pass	
Chemical Oxygen Demand (COD)	%	108			70-130	Pass	
Chloride	%	101			70-130	Pass	
Chromium (hexavalent)	%	100			70-130	Pass	
Fluoride	%	107			70-130	Pass	
Nitrate (as N)	%	94			70-130	Pass	
Sulphate (as SO4)	%	99			70-130	Pass	
Total Dissolved Solids	%	108			80-120	Pass	
Total Organic Carbon	%	98			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	%	104			70-130	Pass	
Hydroxide Alkalinity (as CaCO3)	%	104			70-130	Pass	
Total Alkalinity (as CaCO3)	%	104			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Iron (filtered)	%	105			70-130	Pass	
Manganese (filtered)	%	108			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	102			70-130	Pass	
Magnesium	%	104			70-130	Pass	
Potassium	%	99			70-130	Pass	
Sodium	%	94			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Ammonia (as N)	S17-My16150	CP	%	105			70-130	Pass	
Chemical Oxygen Demand (COD)	B17-My10099	NCP	%	83			70-130	Pass	
Nitrate (as N)	M17-My16535	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Iron (filtered)	S17-My15745	NCP	%	87			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M17-My17907	NCP	%	108			70-130	Pass	
Magnesium	M17-My17907	NCP	%	96			70-130	Pass	
Sodium	M17-My17907	NCP	%	101			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	S17-My16151	CP	%	94			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Potassium	S17-My16151	CP	%	96			70-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	S17-My16152	CP	%	107			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	S17-My16153	CP	%	109			70-130	Pass	
Sulphate (as SO4)	S17-My16153	CP	%	102			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Manganese (filtered)	M17-Fe21269	NCP	%	94			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	S17-My16150	CP	mg/L	22	21	3.0	30%	Pass	
Chromium (hexavalent)	S17-My16150	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Conductivity (at 25°C)	S17-My16150	CP	uS/cm	1400	1500	2.0	30%	Pass	
Fluoride	M17-My16497	NCP	mg/L	< 0.5	< 0.5	<1	30%	Pass	
Nitrate (as N)	M17-My16535	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Redox Potential mV	S17-My16150	CP	mV	210	200	8.0	30%	Pass	
Total Dissolved Solids	S17-My16150	CP	mg/L	790	720	9.0	30%	Pass	
Total Organic Carbon	M17-My16487	NCP	mg/L	460	470	3.0	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	S17-My16150	CP	mg/L	110	110	1.0	30%	Pass	
Magnesium	S17-My16150	CP	mg/L	36	36	1.0	30%	Pass	
Potassium	S17-My16150	CP	mg/L	78	77	1.0	30%	Pass	
Sodium	S17-My16150	CP	mg/L	130	140	3.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Iron (filtered)	S17-My16151	CP	mg/L	36	35	3.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	S17-My16153	CP	mg/L	10	10	1.0	30%	Pass	
Sulphate (as SO4)	S17-My16153	CP	mg/L	7.9	7.9	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Iron (filtered)	S17-My16155	CP	mg/L	17	17	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chemical Oxygen Demand (COD)	S17-My16157	CP	mg/L	35	32	7.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G15	Correct container not provided. Unable to do analysis
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.

Authorised By

Andrew Black	Analytical Services Manager
Huong Le	Senior Analyst-Inorganic (VIC)
Ryan Hamilton	Senior Analyst-Inorganic (NSW)
Ryan Hamilton	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)

Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.