

Summary of post-remediation contaminant monitoring of sediment and shellfish from estuarine areas adjacent to the former Fruitgrowers Chemical Company (FCC) site, Mapua, Nelson (2022)

Reference:

Davidson, R.J.; Rayes, C.; T. Scott-Simmonds 2022. Summary of post-remediation contaminant monitoring of sediment and shellfish from estuarine areas adjacent to the former Fruitgrowers Chemical Company (FCC) site, Mapua, Nelson (2022). Prepared by Davidson Environmental Ltd. for Tasman District Council. Survey and monitoring report no. 1125.

Prepared by Davidson Environmental Limited for: Tasman District Council 189 Queen Street Richmond Nelson

Samples collected by Rob Davidson, Courtney Rayes, Tom Scott-Simmonds Laboratory analysis by Hill Laboratories.

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1.0 Introduction

Following the completion of the remediation project, marine sediment and selected species adjacent to the former Fruitgrowers Chemical Company (FCC) have been regularly sampled (Davidson *et al.*, 2010; 2011; 2012; 2016) with samples collected by Tasman District Council (TDC) staff in 2013, 2014 and 2015.

Sampling of sediment and marine species were also conducted on the 28th May 2018 and 7 March 2019 (Davidson et al., 2018, 2019). On each of these occasions a small summary document was produced for TDC.

The present summary document presents data collected on the 25th March 2022 by Davidson Environmental Limited. Hills laboratory testing data for 2018, 2019 and 2020 are presented in Appendices 1-6.

Data includes:

- Contaminant levels in sediment (shallow 0-2 cm, deep 6-10 cm);
- Contaminant levels in mollusc species (mudflat snail, topshell snail, cockle).

2.0 Methods

For details of sample sites and methodologies, refer to the most recent full scale report produced by Davidson and Sheldon (2016). The same sites, sampling methods, target contaminants and analyses used by Davidson and Sheldon (2016) were adopted during the present sampling event. The location of 2016 sample sites have been included in Appendix 1 and 2 of the present report.

Present data were compared to the 2015 data produced in Davidson and Sheldon (2016). In 2015, the recovery of contaminated sites was well underway and the previous large spike values were no longer occurring.



3.0 Summary of results

3.1 Sediment contamination

A summary of contaminant data collected in 2022 are shown in Tables 1 to 3. Raw data for sediment analyses is included in Appendix 3-8.

3.1.1 ADL (Aldrin, Dieldrin, Lindane)

Surface sediments

Aside from one western FCC stream site (middle), no surface sediment sites were over the Soil Acceptance Criteria (SAC) for ADL (Aldrin, Dieldrin, Lindane) in 2022 (Table 1). Three impact sites showed small increases from 2015 values, but these sites remained under the SAC. All three stream sites showed a decline compared to 2015 (Table 1).

Deep sediments

For deep sediments, ADL exceeded SAC levels at three East FCC sites and one West FCC site in 2022. In addition, only one deep FCC stream site (middle) was at the SAC in 2022 (i.e. 0.01 mg/kg).

All but two deep sites showed a decline for ADL between 2015 and 2022. The two increases compared to 2015 were relatively small and likely within environmental variability (Table 2).

3.1.2 DDX

Shallow sediments

The SAC for DDX was exceeded at all but two surface impact sites in 2022, however, contaminant levels declined at all, but one East FCC site and one FCC stream surface site compared to 2015 (Table 1). A small increase occurred at East FCC New2 rising from 0.06 to 0.077 mg/kg. (Table 1). This increase was likely within the range of environmental variability.

DDX from the three shallow stream sites remained above the SAC in 2022 with the upper site showing highest value (Table 1). The upper stream site also showed a small increase compared to 2015.

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Deep sediments

Most deep West FCC sediment samples showed a decline in DDX compared to 2015 (Table 2). Small increases from 2015 to 2022 were recorded at four sites. The changes were likely within environmental variability.

DDX levels for all the stream sites declined compared to previous samples (Table 2).

No elevated ADL or DDX values were recorded from control sites at either depth strata.

3.2 Shellfish and snail contaminant levels

In 2014 and 2015, ADL and DDX levels for the cockle (*Austrovenus stutchburyi*) at the East FCC shore reached an all-time low. In 2018 ADL and DDX levels remained low for cockles. In 2019 and 2022 cockle ADL and DDX remained low. As expected, cockle contaminants at the control site remained low and consistent with previous sample years (Table 3).

ADL and DDX levels in mudflat snails (*Amphibola crenata*) revealed contamination as did samples collected from 2009 to 2015, 2018 and in 2019. In the present sample, ADL levels in mudflat snails declined at West FCC site (JME084). In 2022, contaminant levels were well below levels recorded in the early years of sampling.

In 2015, contaminant levels in topshell (*Diloma subrostrata*) were low. Results from the 2019 sample showed a small increase from 2015 levels, but values remained comparable to 2018 contaminant levels (Table 3). The ADL and DDX levels in 2022 remained comparable to 2019 levels.

Table 1. Summary of shallow sediment ADL (Aldrin, Dieldrin, Lindane) and DDX, levels from surface samples collected at all sites in 2022 and status of increase (pink) and decline (green) compared to 2015 results. Orange cells highlight values exceeding Soil Acceptance Criteria (SAC). All values are mg/kg dry weight.

SURFACE (0 - 2 cm)		West	West FCC	West FCC	West FCC	West FCC	West FCC	West FCC	West FCC	East FCC	East FCC	East FCC	East FCC	East FCC	East FCC	East	West FCC	West FCC	West FCC
Test		Control	JME 083	JME 081	JME 082	new1 (west)	new2 (middle)	new3 (east)	JME 084	JME 088	JME 087	JME 086	new1 (north)	new2 (south)	JME 090	Control	Stream1 (low)	Stream2 (middle)	Stream3 (upper)
ADL (2015)	0.01	0.005	0.0089	0.0024	0.001	0.002	0.0081	0.0015	0.0052	0.0018	0.0143	0.0015	0.0125	0.0016	0.0017	0.0015	0.0134	0.0694	0.036
ADL (2022)	0.01	0.0015	0.0039	0.002	0.0015	0.0015	0.0015	0.0015	0.0015	0.0052	0.0015	0.0015	0.0015	0.0027	0.0049	0.0015	0.0065	0.0281	0.0092
2015 to 2022	0.01	Decline	Decline	Decline	Increase	Decline	Decline	No change	Decline	Increase	Decline	No change	Decline	Increase	Increase	No change	Decline	Decline	Decline
	0.01																		
DDX (2015)	0.01	0.005	0.42	0.1187	0.0363	0.0386	0.4619	0.0575	0.0694	0.1547	0.0711	0.0142	0.6257	0.0602	0.289	0.003	0.3194	1.543	0.6158
DDX (2022)	0.01	0.003	0.24	0.068	0.019	0.015	0.014	0.008	0.008	0.047	0.012	0.014	0.023	0.077	0.043	0.003	0.156	0.55	0.67
2015 to 2022	0.01	Decline	Decline	Decline	Decline	Decline	Decline	Decline	Decline	Decline	Decline	Decline	Decline	Increase	Decline	No change	Decline	Decline	Increase

Table 2. Summary of deep sediment ADL (Aldrin, Dieldrin, Lindane) and DDX, levels from surface samples collected at all sites in 2022 and status of increase (pink) and decline (green) compared to 2015 results. Orange cells highlight values exceeding Soil Acceptance Criteria (SAC). All values are mg/kg dry weight.

DEEP (6 - 10 cm)		West	West FCC	West FCC	West FCC	West FCC	West FCC	West FCC	West FCC	East FCC	East FCC	East FCC	East FCC	East FCC	East FCC	East	West FCC	West FCC	West FCC
Test		Control	JME 083	JME 081	JME 082	new1 (west)	new2 (middle)	new3 (east)	JME 084	JME 088	JME 087	JME 086	new1 (north)	new2 (south)	JME 090	Control	Stream1 (low)	Stream2 (middle)	Stream3 (upper)
ADL (2015)	0.01	0.005	0.0326	0.0082	0.0015	0.0015	0.0015	0.0015	0.0085	0.0144	0.0029	0.0052	0.0031	0.1338	0.003	0.0015	0.0158	0.1488	0.2423
ADL (2022)	0.01	0.0015	0.0161	0.0052	0.0015	0.0015	0.0015	0.0015	0.0023	0.003	0.0178	0.0052	0.0024	0.0705	0.02845	0.0015	0.0057	0.01	0.0047
2015 to 2022	0.01	Decline	Decline	Decline	No change	No change	No change	No change	Decline	Decline	Increase	No change	Decline	Decline	Increase	No change	Decline	Decline	Decline
	0.01																		
DDX (2015)	0.01	0.005	1.136	0.474	0.0036	0.0068	0.0183	0.0036	0.2369	1.3631	0.0479	0.1501	0.5386	3.9559	0.1823	0.003	0.3752	5.744	3.486
DDX (2022)	0.01	0.003	1.0	0.43	0.003	0.006	0.028	0.006	0.065	0.134	0.159	0.055	0.071	1.79	0.55	0.003	0.172	0.3	0.67
2015 to 2022	0.01	Decline	Decline	Decline	Decline	Decline	Increase	Increase	Decline	Decline	Increase	Decline	Decline	Decline	Increase	No change	Decline	Decline	Decline

Table 3. ADL and DDX concentrations in mollusc species sampled from impact and control sites in 2019 (top) and 2022 (bottom). Orange coloured cells are > 0.01 mg/kg levels.

Location	West	West FCC	East FCC	East FCC	East FCC	East
Site	Control	JME 084	Composite	new2 (south)	New 2	Control
Species	Amphibola	Amphibola	Amphibola	Diloma	Cockle	Cockle
Substrata	Soft	Soft	Soft	Soft	Soft	Soft
ADL (aldrin, dieldrin, lindane)	0.00075	0.0295	0.0685	0.002	0.0073	0.00075
DDX	0.01725	1.1372	0.2621	0.0137	0.00195	0.0015
Location	West	West FCC	East FCC	East FCC	East FCC	East
Site	Control	JME 084	Composite	new2 (south)	New 2	Control
Species	Amphibola	Amphibola	Amphibola	Diloma	Cockle	Cockle
Substrata	Soft	Soft	Soft	Soft	Soft	Soft
ADL (aldrin, dieldrin, lindane)	0.001	0.0094	0.0965	0.0026	0.00075	0.00075
DDX	0.02065	0.3503	0.2496	0.01295	0.00125	0.00125

Note 1: <0.001 type values have been halved to calculate means



3.0 Patterns of contamination

3.1 Sediment

In the 2009 auditor's report, it was stated that the SAC for DDX and ADL in estuarine sediments was not met (Pattle Delamore, 2009). By 2018, 2019 and in the present sample most of the shallow and deep sediments (excluding the West FCC stream, and a small number of other sites) met the SAC for ADL. DDX levels in 2022 remained above the SAC at most impact sites, however, levels for most sites are considerably lower compared to 2015. Levels of contaminants at the stream sites continued to decline.

Historically, the stream sites were of concern. Sediment recontamination occurred in previous years and probably came from a "hot spot" in the adjacent land (Davidson and Sheldon, 2016). Some comfort was provided by the decline in ADL and DDX at West FCC stream 3 (upper) from 2015 to 2018 and 2019. Based on 2015 results, Davidson and Sheldon (2016) suggested, "new contaminants have ceased, and the "hotspot" source may have stabilized as the auditor originally suggested may occur (Pattle Delamore, 2011)." In the present sample event these sites showed a further improvement.

Overall contaminant levels at the stream sites, show the source may have stabilized, but elevated levels of contamination are still present.

3.2 Biota

Cockle contaminants at the East FCC have reached low levels in 2019 and 2022. ADL and DDX in mudflat snails remained above controls levels. For mudflat snails, ADL and DDX values have historically been very high. For example, at West FCC (JME084), DDX values declined from 51.14 mg/kg in 2007 to 0.7589 mg/kg in 2018. Levels in 2019 and 2022 were dramatically lower. A further decline in ADL was recorded from the West FCC site (JME084).

Cockles are the species most likely to be gathered and consumed by humans. Contaminant levels in cockles at the East FCC site in 2022 were very close to those collected from the control site.



4.0 Recommendations

Overall, most sites have exhibited a reduction in contamination levels over the duration of the study. This have been a relatively consistent trend since the start of the study.

DDX, however, remained widespread and represented the dominant contaminant in sediment and shellfish.

Areas of concern remain at the West FCC stream and DDX contaminant levels at deep sediment sites. It is therefore recommended that monitoring of contaminants from all sites be continued and occur every three years.

Based on the variability of sediment and shellfish contaminants, and the elevated contamination in some estuarine and stream sediments, it is recommended that biota sampling also be continued at the same interval. It is recommended that the same sample sites and species be used for all future sampling. This will ensure continuity and aid with interpretation of trends.



References

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- Pattle Delamore Partners Ltd. 2011. Mapua FCC site remediation Review of postremediation monitoring (draft). A report prepared by Karen Sky and Graeme Proffitt for the Ministry of the Environment. File W01738103 R01.

Туре	Site number	Coordinates	Strata	OCP surface	OCP deep
West control	JME 080	41° 15.482'S, 173° 5.540'E	0-2 cm & 8-10 cm	1	1
Impact (west)	JME 083	41° 15.463'S, 173° 5.819'E	0-2 cm & 8-10 cm	1	1
Impact (west)	JME 081	41° 15.484'S, 173° 5.821'E	0-2 cm & 8-10 cm	1	1
Impact (west)	JME 082	41° 15.501'S, 173° 5.825'E	0-2 cm & 8-10 cm	1	1
Impact (west)	West FCC new 1 (west)	41° 15.471'S, 173° 5.849'E	0-2 cm & 8-10 cm	1	1
Impact (west)	West FCC new 2 (middle)	41° 15.473'S, 173° 5.867'E	0-2 cm & 8-10 cm	1	1
Impact (west)	West FCC new 3 (east)	41° 15.480'S, 173° 5.879'E	0-2 cm & 8-10 cm	1	1
Impact (west)	JME 084	41° 15.484'S, 173° 5.859'E	0-2 cm & 8-10 cm	1	1
Impact (west)	West FCC Stream 1 (lower)	41° 15.446'S, 173° 5.839'E	0-2 cm & 8-10 cm	1	1
Impact (west)	West FCC Stream 2 (middle)	41° 15.433'S, 173° 5.863'E	0-2 cm & 8-10 cm	1	1
Impact (west)	West FCC Stream 1 (upper)	41° 15.425'S, 173° 5.877'E	0-2 cm & 8-10 cm	1	1
Impact (east)	JME 088	41° 15.418'S, 173° 6.089'E	0-2 cm & 6-8 cm	1	1
Impact (east)	JME 087	41° 15.421'S, 173° 6.093'E	0-2 cm & 6-8 cm	1	1
Impact (east)	JME 086	41° 15.423'S, 173° 6.097'E	0-2 cm & 8-10 cm	1	1
Impact (east)	East FCC New 1 (north)	41° 15.410'S, 173° 6.097'E	0-2 cm & 6-8 cm	1	1
Impact (east)	East FCC New 2 (south)	41° 15.428'S, 173° 6.083'E	0-2 cm & 6-8 cm	1	1
Impact (east)	JME 090	41° 15.436'S, 173° 6.079'E	0-2 cm & 6-10 cm	1	1
East control	Huntor Brown	41º 16 107'S 172º 6 407'E	0.2 cm 8 6 8 cm	1	1
East CONTION		41 10.10/ 3, 1/3 0.49/ E	0-2 CIII & 0-0 CIII		I
TOTAL SAMPLES				18	18

Appendix 1. Sediment sample sites.





Appendix 2. Invertebrate sample sites located at impact (FCC) and control sites.

Туре	Site number	Coordinates	Samples per site
West control	JME 080 (Amphibola)	41° 15.482'S, 173° 5.540'E	1
West FCC	JME 084 (Amphibola)	41° 15.484'S, 173° 5.859'E	1
East FCC (composite)	East FCC (Amphibola)	see Figure 4	1
East FCC	New2 (south) (Diloma)	41° 15.428'S, 173° 6.083'E	1
East FCC (JME 090)	East FCC (cockle)	41° 15.436'S, 173° 6.079'E	1
East control	Hunter-Brown (cockle)	41° 16.190'S, 173° 6.497'E	1
TOTAL SAMPLES			6



Appendix 3. Sediment data 2022

<u><u></u> </u>	Hi TRIE	ll Lab	Orato	TIES	R J Hill Laboratories L 28 Duke Street Frankt Private Bag 3205 Hamilton 3240 New Z	imited T 0508 (on 3204 T +64 i E mail(ealand W www	HILL LAB (44 555 22 7 858 2000 @hil-labs.co.nz hil-laboratories.com			
Certif	ficate	of Analy	sis				Page 1 of 6			
Client: Contact:	Client: Davidson Environmental Ltd Contact: R Davidson C/- Davidson Environmental Ltd 6 Ngapua Place Atawhai Nelson 7010				o No: e Received: e Reported: ote No: der No: ent Reference: omitted By:	2937698 30-Mar-2022 20-Apr-2022 91901 R Davidson	SPv1			
Sample Typ	Sample Type: Sediment									
		Sam ple Name:	JME 080 Deep 25-Mar-2022 9:46 am	JME 080 Shallow 25-Mar-2022 9:45 am	JME 083 Deep 25-Mar-2022 9:21 am	JME 083 Shallow 25-Mar-2022 9:20 am	JME 081 Deep 25-Mar-2022 9:17 am			
		Lab Number:	2937698.1	2937698.2	2937698.3	2937698.4	2937698.5			
Organochlorin	ne Pesticides '	Trace in Sol								
Aldrin		mg/kg dry wt	< 0.0010	< 0.0010	0.0028	< 0.0010	< 0.0010			
alpha-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
beta-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
delta-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
gamma-BHC	(Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	0.0029	< 0.0010	< 0.0010			
cis-Chlordane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
trans-Chlorda	ne	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
2,4'-000		mg/kg dry wt	< 0.0010	< 0.0010	0.111	0.026	0.039			
4,4-000		mg/kg dry wt	< 0.0010	< 0.0010	0.35	0.075	0.141			
2,4-00E		mgikg dry wt	< 0.0010	< 0.0010	0.059	0.0127	0.027			
4,4 ODE		mg/kg dry wt	< 0.0010	< 0.0010	0.38	0.105	0.192			
4.4.001		mgkg dry wit	< 0.0010	< 0.0010	0.0085	0.0029	0.0030			
Total DDT iso	-	mgkg dry wit	< 0.0010	< 0.006	1.00	0.0136	0.43			
Dieldtin	ind s	maka day wi	< 0.0010	< 0.0010	0.0104	0.029	0.0042			
Endosulfan I		maka day wi	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
Endosulfan II		majka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
Endosulfan su	liphate	malka day wi	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
Endrin		ma/ka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
Endrin aldehv	de	ma/ka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
Endrin ketone	•	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
Heptachlor		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
Heptachlor ep	oxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
Hexachlorobe	nzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
Methoxychlor		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
		Sample Name:	JME 081 Shallow 25-Mar-2022 9:16 am	West FCC new1 Deep (west) 25-Mar-2022 9:31 am	West FCC new1 Shallow (west) 25-Mar-2022 9:30 am	West FCC new2 Deep (middle) 25-Mar-2022 9:36 am	West FCC new2 Shallow (middle) 25-Mar-2022 9:35 am			
		Lab Number:	2937698.6	2937698.7	2937698.8	2937698.9	2937698.10			
Organochlorin	ne Pesticides '	Trace in Sol			-					
Aldrin		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
alpha-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
beta-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
delta-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
gamma-BHC	(Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
cis-Chlordane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			
trans-Chlorda	ne	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010			



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Sample Type: Sedime	nt					
	Sample Name:	JME 081 Shallow	West FCCnew1	West FCC new1	West FCC new2	West FCC new2
		25-Mar-2022 9:16	Deep (west)	Shallow (west)	Deep (middle)	Shallow (middle)
		am	25-Mar-2022 9:31 am	25-Mar-2022 9:30 am	25-Mar-2022 9:36 am	25-Mar-2022 9:35 am
	Lab Number:	2937698.6	2937698.7	2937698.8	2937698.9	2937698.10
Organochlorine Pesticides T	race in Sol					
2.4-000	mg/kg dry wt	0.0066	< 0.0010	< 0.0010	0.0027	0.0012
4.4-000	mg/kg dry wt	0.0176	0.0012	0.0034	0.0078	0.0038
2.4-DDE	mg/kg dry wt	0.0032	< 0.0010	< 0.0010	0.0014	< 0.0010
4.4'-DDE	mg/kg dry wt	0.028	0.0049	0.0074	0.0139	0.0073
2.4-DDT	mg/kg dry wt	0.0031	< 0.0010	< 0.0010	< 0.0010	< 0.0010
4,4'-DDT	mg/kg dry wt	0.0091	< 0.0010	0.0036	0.0011	0.0014
Total DDT Isomers	mg/kg dry wt	0.068	0.006	0.015	0.028	0.014
Dieldrin	mg/kg dry wt	0.0011	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Sample Name:	West ECC new3	West ECCnew3	JME 084 Deep	IME 084 Shallow	West ECC
	Sample Name.	Deep (east)	Shallow (east)	25-Mar-2022 9:26	25-Mar-2022 9:25	Stream 1 Deep
		25-Mar-2022 9:41	25-Mar-2022 9:40	am	am	(low) 25-Mar-2022
	Lab Number	am 2027908.1.1	am 2027-009-1-2	2027008-12	2027-009-14	9:56 am
Organ achiarian Basticidas T	Lab Number:	2937096.11	293/098.12	2937090.13	293/098.14	293/098.15
Aldin	maka dayust	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
daha BHC	mgkg dry wi	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
here PHC	mgkg dry wi	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
della BHC	mgkg dry wi	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
agement RHC (Lindere)	mgkg dry wi	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
ganna-brio (undarie)	mgkg dry wi	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans.Chlordana	maka dayat	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2 4.000	mgkg dry wi	< 0.0010	< 0.0010	0.0038	< 0.0010	0.0138
4.4.000	maka day wi	0.0014	0.0019	0.0199	0.0019	0.041
2.4.005	mgkg dry wi	< 0.0010	< 0.0010	0.0022	< 0.0010	0.000
4.4-DDE	mgkg dry wt	0.0036	0.0041	0.023	0.0041	0.096
2 4.000	mgkg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0016
4.4.001	maka day wi	< 0.0010	0.0015	0.0157	0.0011	0.0108
Total DDT isomers	moke day wit	0.006	0.008	0.065	0.008	0.172
Dieldrin	molko day wi	< 0.0010	< 0.0010	0.0013	< 0.0010	0.0047
Endosulfan I	moko dry wł	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	moko dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	moko dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	maka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	maka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	malka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epoxide	maka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychiar	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Concerts Name	WestFOO	W	West FCC Charge	WestECC	Wast FOO
	sample Name:	Stream 1 Shallow	Stream 2 Deep	2 Shallow (middle)	Stream 3 Deep	Stream 3 Shallow
		(low) 25-Mar-2022	(middle)	25-Mar-2022	(upper)	(upper)
		9:55 am	25-Mar-2022	10:00 am	25-Mar-2022	25-Mar-2022
	Lab Number	2937698.16	2937698.17	2937698.18	2937698.19	2937698.20
Lab No. 2027608 CD	ut	List	Laboratoriae			Dage 2 of 6
Lab No: 283/080-3P		-1	Lauranties			rage z 010

Sample Type: Sediment	t					
	Sample Name:	West FCC	West FCC	West FCC Stream	West FCC	West FCC
		Stream 1 Shallow	Stream 2 Deep	2 Shallow (middle)	Stream 3 Deep	Stream 3 Shallow
		(low) 25-Mar-2022	(middle) 25-Mar-2022	25-Mar-2022	(upper) 25.Mar-2022	(upper) 25.Mar-2022
		a.55 am	10:01 am	10.00 am	10:11 am	10:10 am
	Lab Number:	2937698.16	2937698.17	2937698.18	2937698.19	2937698.20
Organochlorine Pesticides Tra	ace in Soil					
Aldrin	mg/kg dry wt	< 0.0010	< 0.0010	0.0026	< 0.0010	< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.0170	0.0174	0.034	0.090	0.054
4,4'-DDD	mg/kg dry wt	0.048	0.045	0.079	0.21	0.173
2,4'-DDE	mg/kg dry wt	0.0077	0.0128	0.0166	0.0063	0.0171
4,4'-DDE	mg/kg dry wt	0.077	0.186	0.39	0.114	0.157
2,4'-DDT	mg/kg dry wt	< 0.0010	0.0054	0.0052	0.0181	0.022
4,4'-DDT	mg/kg dry wt	0.0052	0.030	0.034	0.23	0.25
Total DDT Isomers	mg/kg dry wt	0.156	0.30	0.55	0.67	0.67
Dieldrin	mg/kg dry wt	0.0055	0.0090	0.025	0.0037	0.0082
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychior	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychior	mgkg dry wt Sam ple Name:	< 0.0010 JME 088 Deep	< 0.0010	< 0.0010 JME 087 Deep	< 0.0010	< 0.0010
Methoxychior	mg%g dry wt Sam ple Name:	< 0.0010 JME 088 Deep 25-Mar-2022 9:02	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05	< 0.0010 JME 087 Deep 25-Mar-2022 9:01	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00	< 0.0010 JME 086 Deep 25-Mar-2022 8:56
Methoxychior	mg%g dry wt Sam ple Name:	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am	< 0.0010 JME 086 Deep 25-Mar-2022 8:56 am
Methoxychior	mgkg dry wt Sam ple Name: Lab Number:	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24	< 0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25
Methoxychior Organochlorine Pesticides Tra	mg%g dry wt Sam ple Name: Lab Number: ace in Sol	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25
Methoxychior Organochiorine Pesticides Tra Aldrin	mg/kg dry wt Sam ple Name: Lab Number: ace in Sol mg/kg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010	 < 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 0.0033 	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25 0.0045
Methoxychior Organochiorine Pesticides Tra Aldrin alpha-BHC	mg/kg dry wt Sam ple Name: Lab Number: ace in Sol mg/kg dry wt mg/kg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 - 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937 698.25 0.0045 < 0.0010
Methoxychior Organochiorine Pesticides Tra Aldrin alpha-BHC beta-BHC	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 - 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 - 0.0010	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 - 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937 698.25 0.0045 <0.0010 <0.0010
Methoxychior Organochiorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC	mg/kg dry wt Sam ple Name: Lab Number: ace in Sol mg/kg dry wt mg/kg dry wt mg/kg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 - 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25 0.0045 <0.0010 <0.0010 <0.0010 -0.0010
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) in Chleratere	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt mgkg dry wt mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gama-BHC (Lindane) cis-Chlord ane	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt mgkg dry wt mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Undane) cis-Chlordane trans-Chlordane trans-Chlordane	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chlordane trans-Chlordane 2,4-0DD 4,4-0DD	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0011 0.0025	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.0078
Methoxychior Organochiorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chiordane trans-Chiordane 2,4'-DDD 4,4'-DDD 2,4'-DDE	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.081 0.0051	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0011 0.0035 < 0.0010	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.0022 0.0028
Methoxychior Organochiorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chiordane trans-Chiordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 4,4'-DDE	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0176 0.063 0.0031 0.025	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.081 0.0051 0.029	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0025	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.022 0.0038 0.0195
Methoxychior Organochiorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chiordane trans-Chiordane trans-Chiordane 2,4'-DDD 2,4'-DDE 4,4'-DDE 4,4'-DDE 2,4'-DDE	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0176 0.063 0.0035 0.0017	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0054 0.0123 < 0.0010 0.0107 0.0031	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.081 0.0051 0.039 < 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0035	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.022 0.0038 0.0196 <0.0010
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Uindane) cis-Chlordane trans-Chlordane 2,4'-DDD 2,4'-DDE 2,4'-DDE 2,4'-DDE 2,4'-DDT 4,4'-DDT	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0176 0.0035 0.0017 0.0139	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0054 0.0123 < 0.0010 0.0016 0.00107 0.0031 0.00156	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.081 0.0051 0.039 < 0.0010 0.0059	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0011 0.0035 < 0.0010 0.0035 < 0.0010 0.0027	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.022 0.0038 0.0196 <0.0010 0.0021
Methoxychior Organochiorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chiordane trans-Chiordane trans-Chiordane 2,4'-DDD 2,4'-DDE 4,4'-DDE 2,4'-DDE 4,4'-DDT Trial DDT Isomer	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0176 0.0035 0.0017 0.0139 0.134	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0054 0.0123 < 0.0010 0.0017 0.0031 0.0156 0.047	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.081 0.039 < 0.0010 0.039 < 0.0010 0.0069 0.159	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937 698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0035 < 0.0010 0.0035 < 0.0010 0.0027 0.012	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937 698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.022 0.0038 0.0196 <0.0010 0.0021 0.005
Methoxychior Organochiorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chiordane trans-Chiordane trans-Chiordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 4,4'-DDE 2,4'-DDT 4,4'-DDT Total DDT Isomers Dieldrin	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0176 0.0035 0.0017 0.0139 0.134 0.0020	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0054 0.0123 < 0.0010 0.0156 0.047 0.0042	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.081 0.0051 0.0051 0.0039 < 0.0010 0.0069 0.159 0.0140	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937 698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937 698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.022 0.0038 0.0196 <0.0010 0.0021 0.0055 0.0067
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chlordane trans-Chlordane trans-Chlordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 2,4'-DDE 2,4'-DDT Total DDT Isomers Dieldrin Erotosulfan I	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0176 0.0035 0.0017 0.0139 0.134 0.0020 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 2937698.22 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0054 0.0123 < 0.0010 0.0156 0.047 0.0042 < 0.0010	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.081 0.0051 0.0051 0.0051 0.0039 < 0.0010 0.0069 0.159 0.0140 < 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937 698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010 < 0.0010 < 0.0010	<0.0010 JME 036 Deep 25-Mar-2022 8:56 am 2937 698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.022 0.0038 0.0196 <0.0010 0.0021 0.055 0.0067 <0.0010
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chlordane trans-Chlordane trans-Chlordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 2,4'-DDE 2,4'-DDT 4,4'-DDT Total DDT Isomers Dieldrin Endosulfan I Endosulfan I	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0176 0.0035 0.0031 0.035 0.0017 0.0139 0.134 0.0020 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 293769822 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0054 0.0123 < 0.0010 0.0156 0.047 0.0042 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.081 0.0051 0.0051 0.0039 < 0.0010 0.0069 0.159 0.0140 < 0.0010 < 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937 698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	<0.0010 JME 036 Deep 25-Mar-2022 8:56 am 2937 698 25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chlordane trans-Chlordane trans-Chlordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 2,4'-DDE 2,4'-DDT Total DDT Isomers Dieldrin Endosulfan I Endosulfan II Endosulfan II Endosulfan sult-hate	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0176 0.0035 0.0035 0.0017 0.0139 0.134 0.0020 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 293769822 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0054 0.0123 < 0.0010 0.0031 0.0156 0.047 0.0042 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.0011 0.0051 0.0039 < 0.0010 0.0069 0.159 0.0140 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937 698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937 698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010 <0.0010
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chlordane trans-Chlordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 2,4'-DDE 2,4'-DDT Total DDT Isomers Dieldrin Endosulfan I Endosulfan II Endosulfan sulphate Endrin	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	< 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 2937698.21 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0176 0.063 0.0035 0.0017 0.0139 0.134 0.0020 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 293769822 	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.081 0.0051 0.039 < 0.0010 0.0069 0.159 0.0140 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937 698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010 <	<0.0010 JME 036 Deep 25-Mar-2022 8:56 am 2937 698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) cis-Chlordane trans-Chlordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 2,4'-DDE 2,4'-DDE 2,4'-DDT Total DDT Isomers Dieldrin Endosulfan I Endosulfan II Endosulfan sulphate Endrin Endosulfan sulphate Endrin	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	 < 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 293769821 < 0.0010 < 0.0011 < 0.0013 < 0.0013 < 0.0013 < 0.0013 < 0.0013 < 0.0010 	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 293769822 	< 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 0.0033 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.026 0.081 0.0051 0.0039 < 0.0010 0.0069 0.159 0.0140 < 0.0010 < 0.001	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 2937 698.24 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010 < 0.0010 </td <td><0.0010 JME 036 Deep 25-Mar-2022 8:56 am 2937 698 25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010</td>	<0.0010 JME 036 Deep 25-Mar-2022 8:56 am 2937 698 25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Undane) cis-Chlordane trans-Chlordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 2,4'-DDE 2,4'-DDE 2,4'-DDT Total DDT Isomers Dieldrin Endosulfan II Endosulfan II Endosulfan sulphate Endrin Endrin aldehyde Endrin ketone	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	 < 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 293769821 < 0.0010 < 0.0011 < 0.0035 < <<td>< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 293769822 </td><td> < 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 < <</td><td>< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 293769824 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010 < 0</td><td><0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937 698 25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.00</td>	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 293769822 	 < 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 < <	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 293769824 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010 < 0	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937 698 25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.00
Methoxychior Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Undane) cis-Chlordane trans-Chlordane trans-Chlordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 2,4'-DDE 2,4'-DDE 2,4'-DDT Total DDT Isomers Dieldrin Endosulfan II Endosulfan II Endosulfan sulphate Endrin Endrin aldehyde Endrin ketone Heatachlor	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	 < 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 293769821 < 0.0010 < 0.0011 < 0.0013 < 0.0035 < 0.0013 < 0.0013 < 0.0013 < 0.0013 < 0.0013 < 0.0010 	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 293769822 	 < 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 < <	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 293769824 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010 < 0.0010 0.</td <td><0.0010 JME 036 Deep 25-Mar-2022 8:56 am 2937 698 25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.00</td>	<0.0010 JME 036 Deep 25-Mar-2022 8:56 am 2937 698 25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.00
Methoxychlor Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Undane) cis-Chlordane trans-Chlordane trans-Chlordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 2,4'-DDE 2,4'-DDT 4,4'-DDT Total DDT Isomers Dieldrin Endosuffan I Endosuffan II Endosuffan sulphate Endrin Endrin aldehyde Endrin ketone Heptachlor Heptachlor Endrin cendite	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	 < 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 293769821 < 0.0010 < 0.0013 < 0.0035 < 0.0010 < 0.0017 < 0.0013 < 0.0013 < 0.0017 < 0.0013 < 0.0010 	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 293769822 	 < 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 < < < < < < < < < < <	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 293769824 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010 < 0.0	<0.0010 JME 086 Deep 25-Mar-2022 8:56 am 2937 698 25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.00
Methoxychlor Organochlorine Pesticides Tra Aldrin alpha-BHC beta-BHC delta-BHC gamma-BHC (Undane) cis-Chlordane trans-Chlordane 2,4'-DDD 2,4'-DDD 2,4'-DDE 2,4'-DDE 2,4'-DDE 2,4'-DDT Total DDT Isomers Dieldrin Endosulfan II Endosulfan II Endosulfan sulphate Endrin Endrin aldehyde Endrin ketone Heptachlor Heptachlor	mgkg dry wt Sam ple Name: Lab Number: ace in Sol mgkg dry wt mgkg dry wt	 < 0.0010 JME 088 Deep 25-Mar-2022 9:02 am 293769821 < 0.0010 < 0.0017 < 0.0035 < 0.0017 < 0.0139 < 0.134 < 0.0010 	< 0.0010 JME 088 Shallow 25-Mar-2022 9:05 am 293769822 	 < 0.0010 JME 087 Deep 25-Mar-2022 9:01 am 2937698.23 < < < < < < < < < <	< 0.0010 JME 087 Shallow 25-Mar-2022 9:00 am 293769824 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 < 0.0010 0.0035 < 0.0010 0.0035 < 0.0010 0.0027 0.012 < 0.0010 < 0.0	<0.0010 JME 0.86 Deep 25-Mar-2022.8:56 am 2937.698.25 0.0045 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 0.0078 0.022 0.0038 0.0196 <0.0010 0.0055 0.0067 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.001

Sample Type: Sedime	nt					
	Sample Name:	JME 088 Deep	JME 088 Shallow	JME 087 Deep	JME 087 Shallow	JME 086 Deep
	-	25-Mar-2022 9:02	25-Mar-2022 9:05	25-Mar-2022 9:01	25-Mar-2022 9:00	25-Mar-20228:56
	Lab Number	am 2037608.21	am 2037608.22	am 2037608.23	am 2037/608.24	am 2037608.25
Organochlorine Pesticides T	race in Sol	200700021	200/00022	2007000.20	2557 65624	200/00020
Hexachlorobenzene	moko dov wł	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Metharychiar	maka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
			E	5	E	E
	Sample Name:	25-Mar-2022 8:55	East FCC new1 Deep (north)	East FCC new1 Shallow (north)	East FCC new2 Deep (south)	East FCC new2 Shallow (south)
		am	25-Mar-2022 8:46	25-Mar-2022 8:45	25-Mar-2022 9:11	25-Mar-20229:10
			am	am	am	am
Our and the Destriction T	Lab Number:	2937698.26	2937698.27	2937698.28	2937698.29	2937698.30
Aldra	make de unt	< 0.0010	< 0.0010	< 0.0010	0.0020	< 0.0010
alaba BHC	mgkg dry wi	< 0.0010	< 0.0010	< 0.0010	< 0.0010	<0.0010
heta-BHC	mgkg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	<0.0010
delta-BHC	mgkg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	moko dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	majka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	majka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4-000	mg/kg dry wt	< 0.0010	0.0019	0.0011	0.23	0.0026
4,4'-DDD	mg/kg dry wt	0.0027	0.0039	0.0025	0.80	0.0073
2,4'-DDE	mg/kg dry wt	< 0.0010	0.0024	< 0.0010	0.0137	< 0.0010
4,4'-DDE	mg/kg dry wt	0.0027	0.029	0.0047	0.26	0.0074
2,4-DDT	mg/kg dry wt	0.0024	0.0052	0.0021	0.021	0.0054
4,4'-DDT	mg/kg dry wt	0.0052	0.028	0.0127	0.46	0.054
Total DDT Isomers	mg/kg dry wt	0.014	0.071	0.023	1.79	0.077
Dieldrin	mg/kg dry wt	< 0.0010	0.0014	< 0.0010	0.067	0.0017
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachior	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachior epocode	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachiorobenzene	mgkg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Menaxyoniar	mgkg diy wi	× 0.0010	× 0.0010	× 0.0010	× 0.0010	×0.0010
	Sam ple Name:	JME 090 Deep 25-Mar-2022 9:21 am	JME 090 Shallow 25-Mar-2022 9:20 am	Hunter Brown Deep (control) 25-Mar-2022 8:10 am	Hunter Brown Shallow (control) 25-Mar-2022 8:10	JME 082 Deep 25-Mar-2022 9:11 am
	Lab Number:	2937698.31	2937698.32	2937698.33	2937698.34	2937698.35
Organochlorine Pesticides T	race in Sol					
Aldrin	mg/kg dry wt	0.0013	< 0.0010	< 0.0010	< 0.0010	< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-000	mg/kg dry wt	0.097	0.0040	< 0.0010	< 0.0010	< 0.0010
4,4'-DDD	mg/kg dry wt	0.24	0.0111	< 0.0010	< 0.0010	< 0.0010
2,4'-DDE	mg/kg dry wt	0.0091	< 0.0010	< 0.0010	< 0.0010	< 0.0010
4,4-00E	mg/kg dry wt	0.136	0.0124	< 0.0010	< 0.0010	0.0018
2,4-00T	mg/kg dry wt	0.0075	0.0022	< 0.0010	< 0.0010	< 0.0010
4,4-00T	mg/kg dry wt	0.066	0.0131	< 0.0010	< 0.0010	< 0.0010
Dialation	mg/kg dry wt	0.55	0.043	< 0.006	< 0.006	< 0.006
Endosulian I	mgkg dry wt	0.027	0.0039	< 0.0010	< 0.0010	< 0.0010
	mg/kg diy Wt	× 0.0010	< 0.0010	× 0.0010	× 0.0010	<0.0010

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Sample Type: Sediment										
	Sample Name:	JME 090 Deep	JME 090 Shallow	Hunter Brown	Hunter Brown	JME 082 Deep				
		25-Mar-2022 9:21	25-Mar-2022 9:20	Deep (control)	Shallow (control)	25-Mar-2022 9:11				
		am	am	25-Mar-2022 8:10	25-Mar-2022 8:10	am				
	Lab Number:	2937698.31	2937698.32	2937698.33	2937698.34	2937698.35				
Organochlorine Pesticides T	Trace in Sol									
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010				
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010				
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010				
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010				
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010				
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010				
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010				
Hexachlorobenzen e	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010				
Methoxychior	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010				
	Sample Name:	JME 082 Shallow 25-Mar-2022 9:10 am								
	Lab Number:	2937698.36								
Organochlorine Pesticides T	Frace in Sol									
Aldrin	mg/kg dry wt	< 0.0010	-	-	-	-				
alpha-BHC	mg/kg dry wt	< 0.0010	-	-	-	-				
beta-BHC	mg/kg dry wt	< 0.0010	-	-	-	-				
delta-BHC	mg/kg dry wt	< 0.0010	-	-	-	-				
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	-	-	-	-				
cis-Chlordane	mg/kg dry wt	< 0.0010	-	-	-	-				
trans-Chlordane	mg/kg dry wt	< 0.0010	•	•	•	•				
2,4'-DDD	mg/kg dry wt	0.0013	-	-	-	-				
4,4'-DDD	mg/kg dry wt	0.0048	-	-	-	-				
2,4'-DDE	mg/kg dry wt	< 0.0010	-	-	-	-				
4,4'-DDE	mg/kg dry wt	0.0082	-	-	-	-				
2,4'-DDT	mg/kg dry wt	0.0010	-	-	-	-				
4,4'-DDT	mg/kg dry wt	0.0027	-	-	-	-				
Total DDT Isomers	mg/kg dry wt	0.019	-	-	-					
Dieldrin	mg/kg dry wt	< 0.0010	-	-	-	-				
Endosulfan I	mg/kg dry wt	< 0.0010	-	-	-	-				
Endosulfan II	mg/kg dry wt	< 0.0010	-	-	-	-				
Endosulfan sulphate	mg/kg dry wt	< 0.0010	-	-	-	-				
Endrin	mg/kg dry wt	< 0.0010	-	-	-	-				
Endrin aldehyde	mg/kg dry wt	< 0.0010	-	-	-	-				
Endrin ketone	mg/kg dry wt	< 0.0010	-	-	-	-				
Heptachlor	mg/kg dry wt	< 0.0010	-	-	-	-				
Heptachlor epoxide	mg/kg dry wt	< 0.0010	-	-	-	-				
Hexachlorobenzene	mg/kg dry wt	< 0.0010	-	-	-	-				
Methoxychior	mg/kg dry wt	< 0.0010	-	-	-	-				

Analyst's Comments

It has been noted that the replicate analyses for the OCP analysis on samples 2937698.19 and .20 showed greater variation than would normally be expected. This may reflect the heterogeneity of the samples. Averaged results have been reported. The original analysis indicated the presence of a prill. This has not been included in the averaged results.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that diutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analyses. A full listing of compounds and detection limits are available from the laboratory upon request. Unless therwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Sediment			
Test	Method Description	Default Detection Limit	Sample No
Soil Prep Dry for Organics, Trace*	Air dried at 35°C	-	1-36
	Used for sample preparation.		
	May contain a residual moisture content of 2-5%.		

Lab No: 2937698-SPv1

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Sample Type: Sediment								
Test	Method Description	Default Detection Limit	Sample No					
Organochlorine Pesticides Trace in Soil	Sonication extraction, GC-ECD analysis. In-house based on US EPA 8081.	0.0010 - 0.006 mg/kg dry wt	1-36					

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 11-Apr-2022 and 20-Apr-2022. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

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. Human

Kim Harrison MSc Client Services Manager - Environmental

Lab No: 2937698-SPv1

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Appendix 4. Biota data 2022

	ll Lab	Orato	Ories NUSTED	R J Hill Laboratories L 28 Duke Street Frankt Private Bag 3205 Hamilton 3240 New Z	imited T 0508 Ion 3204 T +64 E mail@ ealand W www	HILL LAB (44 555 22 7 858 2000 @hill-labs.co.nz .hill-laboratories.com
Certificate	of Analys	sis				Page 1 of 2
Client: Davidson E Contact: R Davidsor C/- Davidso 6 Ngapua F Atawhai Nelson 701	Environmental Lto n on Environmental Place 10	i I Ltđ	Lat Dat Qu Orc Cliv Sul	o No: te Received: te Reported: ote No: ler No: ent Reference: pmitted By:	2935625 29-Mar-2022 12-May-2022 91901 R Davidson	SPv1
Sample Type: Shellfis	in .	1015 0.80	1115 00 4	Foot FOO Norma	Feet FOO	Fact FOR Cashin
	Sample Name:	Ampibola	Ampibola	East FCC New 2 Diloma	Ampibola	East FCC Cockle
	Lab Number:	2935625.1	2935625.2	2935625.3	2935625.4	2935625.5
Individual Tests			-			
Dry Matter	g/100g as rcvd	13.9	12.2	17.5	12.8	9.7
Organochlorine Pesticides in	n Biomatter					
Aldrin	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
alpha-BHC	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
beta-BHC	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
delta-BHC	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
gamma-BHC (Lindane)	ma/ka	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
cis-Chlordane	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
trans-Chlordan e	ma/ka	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
2.4'-DDD	ma/ka	< 0.0005	0.0112	< 0.0005	0.0188	< 0.0005
4,4'-DDD	mg/kg	0.0030	0.033	0.0048	0.055	< 0.0005
2.4'-DDE	ma/ka	< 0.0005	0.0017	< 0.0005	0.0018	< 0.0005
4.4'-DDE	mg/kg	0.0153	0.29	0.0053	0.144	0.0005
2,4'-DDT	mg/kg	< 0.0005	< 0.0005	< 0.0005	0.0010	< 0.0005
4.4'-DDT	ma/ka	0.0016	0.0141	0.0021	0.029	< 0.0005
Dieldrin	mg/kg	0.0006	0.0089	0.0021	0.096	< 0.0005
Endosulfan I	ma/ka	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Endosulfan II	ma/ka	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Endosulfan sulfate	ma/ka	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Endrin	ma/ka	< 0.0005	< 0.0005	< 0.0005	0.0015	< 0.0005
Endrin aldehyde	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Endrin ketone	mg/kg	< 0.0005	< 0.0005	< 0.0005	0.0009	< 0.0005
Heptachlor	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Heptachlor epoxide	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Hexachloroben zene	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Methoxychlor	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	Sample Name:	East Control Cockle				
Individual Tests	Lab Number:	293 0020.0				
Incividual rests		0.0				
Dry Matter	g/100g as rcvd	9.6	-	-	-	-
Organochlorine Pesticides in	n Biomatter			,,		
Aldrin	mg/kg	< 0.0005	-	-	-	-
alpha-BHC	mg/kg	< 0.0005	-	-	-	-
beta-BHC	mg/kg	< 0.0005	-	-	-	-
delta-BHC	mg/kg	< 0.0005	-	-	-	-
gamma-BHC (Lindane)	mg/kg	< 0.0005	-	-	-	-
cis-Chlordane	mg/kg	< 0.0005	-	-	-	-
trans-Chlordan e	mg/kg	< 0.0005	-	-	-	-
2,4'-DDD	mg/kg	< 0.0005	-	-	-	-

Lab No: 2935625-SPv1

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Sample Type: Shellfish							
Sample Na	ame:	East Control Cockle					
Lab Num	iber:	2935625.6					
Organochlorine Pesticides in Biomatter							
4,4'-DDD r	ng/kg	< 0.0005	-	-	-	-	
2,4'-DDE n	ng/kg	< 0.0005	-	-	-	-	
4,4'-DDE r	ng/kg	< 0.0005	-	-	-	-	
2,4'-DDT r	ng/kg	< 0.0005	-	-	-	-	
4,4'-DDT r	ng/kg	< 0.0005	-	-	-	-	
Dieldrin r	ng/kg	< 0.0005	-	-	-	-	
Endosulfan I r	ng/kg	< 0.0005	-	-	-	-	
Endosulfan II r	ng/kg	< 0.0005	-	-	-	-	
Endosulfan sulfate n	ng/kg	< 0.0005	-	-	-	-	
Endrin r	ng/kg	< 0.0005	-	-	-	-	
Endrin aldehyde r	ng/kg	< 0.0005	-	-	-	-	
Endrin ketone r	ng/kg	< 0.0005	-	-	-	-	
Heptachlor r	ng/kg	< 0.0005	-	-	-	-	
Heptachlor epoxide n	ng/kg	< 0.0005	-	-	-	-	
Hexachloroben zene n	ng/kg	< 0.0005	-	-	-	-	
Methoxychlor r	ng/kg	< 0.0005	-	-	-	-	

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that divisions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at HI Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Shellfish			
Test	Method Description	Default Detection Limit	Sample No
Shucking of Shellfish	Removal of tissue from shell.	-	1-6
Homogenise	Mincing, chopping, or blending of sample to form homogenous sample fraction.	-	1-6
Dry Matter	Drying for 16 hours at 103 °C, gravimetry. AOAC 945.15, 19th Edition.	0.10 g/100g as rcvd	1-6
Organochlorine Pesticides in Biomatter	Sonication extraction, GC-ECD analysis. In-house based on US EPA 8081.	0.0005 mg/kg	1-6

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 12-Apr-2022 and 11-May-2022. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

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7

Ara Heron BSc (Tech) Client Services Manager - Environmental

Lab No: 2935625-SPv1

Appendix 5. Sediment data 2019

Certificate of Analysis



Hill Laboratories Limited 28 Duke Street Frankton 3204 TRIED, TESTED **AND TRUSTED** R J Hill Laboratories Limited 28 Duke Street Frankton 3204 Private Bag 3205 Hamilton 3240 New Zealand

T 0508 HILL LAB (44 555 22) T +64 7 858 2000

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E mail@hill-labs.co.nz

W www.hill-laboratories.com

Client: Contact:	Client: Davidson Environmental Ltd Contact: R Davidson C/- Davidson Environmental Ltd C/- Davidson PO Box 958 PO Box 958 Nelson 7040 C/- Davidson				o No: te Received: te Reported: ote No: der No: ent Reference: bmitted By:	2138931 09-Mar-2019 22-Mar-2019 91901 Mapua sample R Davidson	SPv1
Sample Ty	vpe: Sediment	1					
	:	Sample Name:	JME 080 West Control (Shallow) 07-Mar-2019 3:20 pm	JME 080 West Control (Deep) 07-Mar-2019 3:22 pm	JME 083 (Shallow) 07-Mar-2019 2:54 pm	JME 083 (Deep) 07-Mar-2019 2:55 pm	JME 081 (Shallow) 07-Mar-2019 2:57 pm
		Lab Number:	2138931.1	2138931.2	2138931.3	2138931.4	2138931.5
Organochlor	ine Pesticides Tra	ace in Soil					
Aldrin		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	0.0012	< 0.0010
alpha-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC	(Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	0.0014	< 0.0010
cis-Chlordan	e	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlord	ane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD		mg/kg dry wt	< 0.0010	< 0.0010	0.036	0.107	0.0024
4,4'-DDD		mg/kg dry wt	< 0.0010	< 0.0010	0.091	0.28	0.0073
2,4'-DDE		mg/kg dry wt	< 0.0010	< 0.0010	0.0136	0.046	< 0.0010
4,4'-DDE		mg/kg dry wt	< 0.0010	< 0.0010	0.092	0.28	0.0082
2,4'-DDT		mg/kg dry wt	< 0.0010	< 0.0010	0.0035	0.0055	< 0.0010
4,4'-DDT		mg/kg dry wt	0.0015	< 0.0010	0.0147	0.028	0.0032
Total DDT Is	omers	mg/kg dry wt	< 0.006	< 0.006	0.25	0.75	0.021
Dieldrin		mg/kg dry wt	< 0.0010	< 0.0010	0.0048	0.0098	< 0.0010
Endosulfan I		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan I	I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan s	sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldeh	yde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin keton	e	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor e	poxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorob	enzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlo	r	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Chlorda 100/42]	ane [(cis+trans)*	mg/kg dry wt	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	:	Sample Name:	JME 081 (Deep) 07-Mar-2019 2:58 pm	JME 082 (Shallow) 07-Mar-2019 3:01 pm	JME 082 (Deep) 07-Mar-2019 3:02 pm	West FCC New 1 (West) (Shallow) 07-Mar-2019 2:40 pm	West FCC New 1 (West) (Deep) 07-Mar-2019 2:42 pm
		Lab Number:	2138931.6	2138931.7	2138931.8	2138931.9	2138931.10
Organochlor	ine Pesticides Tra	ace in Soil					
Aldrin		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
alpha-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC		mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.

Sample Type: Sedime	nt					
	Sample Name:	JME 081 (Deep)	JME 082	JME 082 (Deep)	West FCC New 1	West FCC New 1
		07-Mar-2019 2:58	(Shallow)	07-Mar-2019 3:02	(West) (Shallow)	(West) (Deep)
		pm	pm	pm	pm	pm
	Lab Number:	2138931.6	2138931.7	2138931.8	2138931.9	2138931.10
Organochlorine Pesticides T	Frace in Soil					
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.0053	0.0014	0.0032	0.0091	< 0.0010
4,4'-DDD	mg/kg dry wt	0.0152	0.0044	0.0081	0.0099	0.0013
2,4'-DDE	mg/kg dry wt	0.0023	< 0.0010	0.0019	0.0056	< 0.0010
4,4'-DDE	mg/kg dry wt	0.021	0.0060	0.021	0.061	0.0048
2,4'-DDT	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
4,4'-DDT	mg/kg dry wt	0.0077	0.0010	0.0017	0.0129	0.0013
Total DDT Isomers	mg/kg dry wt	0.052	0.013	0.035	0.098	0.007
Dieldrin	mg/kg dry wt	< 0.0010	0.0026	< 0.0010	< 0.0010	< 0.0010
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Chlordane [(cis+trans) 100/42]	* mg/kg dry wt	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Sample Name:	West FCC New 2 (Middle) (Shallow)	West FCC New 2 (Middle) (Deep) 07-Mar-2019 2:46	West FCC New 3 (East) (Shallow)	West FCC New 3 (East) (Deep) 07-Mar-2019 2:50	JME 084 (Shallow) 07-Mar-2019 3:08
		pm	pm	pm	pm	pm
	Lab Number:	2138931.11	2138931.12	2138931.13	2138931.14	2138931.15
Organochlorine Pesticides T	Frace in Soil					
Aldrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.0085	0.0073	< 0.0010	< 0.0010	0.0014
4,4'-DDD	mg/kg dry wt	0.0138	0.0106	0.0018	0.0033	0.0040
2,4'-DDE	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
4,4'-DDE	mg/kg dry wt	0.024	0.0124	0.0036	0.0041	0.0080
2,4'-DDT	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
4,4'-DDT	mg/kg dry wt	0.0022	0.0116	< 0.0010	< 0.0010	0.0022
Total DDT Isomers	mg/kg dry wt	0.048	0.042	< 0.006	0.007	0.016
Dieldrin	mg/kg dry wt	< 0.0010	0.0011	< 0.0010	< 0.0010	< 0.0010
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	ma/ka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010

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Sample Type: Sediment							
	Sample Name:	West FCC New 2	West FCC New 2	West FCC New 3	West FCC New 3	JME 084	
		(Middle) (Shallow)	(Middle) (Deep)	(East) (Shallow)	(East) (Deep)	(Shallow)	
		07-Mar-2019 2:44	07-Mar-2019 2:46	07-Mar-2019 2:49	07-Mar-2019 2:50 pm	07-Mar-2019 3:08	
	Lab Number:	2138931.11	2138931.12	2138931.13	2138931.14	2138931.15	
Organochlorine Pesticides T	race in Soil						
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	
	Sample Name:	JME 084 (Deep)	West FCC	West FCC Stream	West FCC	West FCC	
		07-Mar-2019 3:09 pm	Stream (Lower) (Shallow) 07-Mar-2019 2:24	(Lower) (Deep) 07-Mar-2019	Stream (Middle) (Shallow) 07-Mar-2019 2:19	Stream (Middle) (Deep) 07-Mar-2019 2:22	
	Lab Number	2138931 16	2138931 17	2138931 18	2138931 19	2138931 20	
Organochlorine Pesticides T	race in Soil	2100001110	2100001117	2100001110	2100001110	2100001.20	
Aldrin	ma/ka dry wt	< 0.0010	< 0.0010	0.0013	0.0014	0.0033	
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	0.0011	0.0021	
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
2,4'-DDD	mg/kg dry wt	0.056	0.023	0.040	0.192	0.44	
4,4'-DDD	mg/kg dry wt	0.062	0.055	0.096	0.47	1.09	
2,4'-DDE	mg/kg dry wt	0.0059	0.0089	0.0173	0.091	0.23	
4,4'-DDE	mg/kg dry wt	0.160	0.094	0.21	0.77	1.42	
2,4'-DDT	mg/kg dry wt	0.0012	0.0015	0.0020	0.0129	0.035	
4,4'-DDT	mg/kg dry wt	0.0031	0.0055	0.0090	0.051	0.155	
Total DDT Isomers	mg/kg dry wt	0.29	0.188	0.37	1.59	3.4	
Dieldrin	mg/kg dry wt	0.0105	0.0076	0.0154	0.085	0.105	
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	
	Sample Name:	West FCC Stream (Upper) (Shallow) 07-Mar-2019 2:15 pm	West FCC Stream (Upper) (Deep) 07-Mar-2019 2:16 pm	JME 088 (Shallow) 07-Mar-2019 4:36 pm	JME 088 (Deep) 07-Mar-2019 4:38 pm	JME 087 (Shallow) 07-Mar-2019 4:34 pm	
	Lab Number:	2138931.21	2138931.22	2138931.23	2138931.24	2138931.25	
Organochlorine Pesticides T	race in Soil						
Aldrin	mg/kg dry wt	< 0.0010	0.0019	< 0.0010	< 0.0010	< 0.0010	
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
2,4'-DDD	mg/kg dry wt	0.071	0.22	0.0049	0.0081	0.0016	
4,4'-DDD	mg/kg dry wt	0.170	0.59	0.0127	0.023	0.0038	
2,4'-DDE	mg/kg dry wt	0.027	0.076	< 0.0010	< 0.0010	< 0.0010	
4,4'-DDE	mg/kg dry wt	0.23	0.27	0.0100	0.0121	0.0054	
2,4'-DDT	mg/kg dry wt	0.0035	0.0025	0.0040	< 0.0010	0.0030	

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Sample Type: Sedimer	nt					
	Sample Name:	West FCC	West FCC	JME 088	JME 088 (Deep)	JME 087
		Stream (Upper)	Stream (Upper)	(Shallow)	07-Mar-2019 4:38	(Shallow)
		(Snallow) 07-Mar-2019 2:15	(Deep) 07-Mar-2019 2:16	07-Mar-2019 4:36 pm	pm	07-Mar-2019 4:34
		pm	pm	P		.
	Lab Number:	2138931.21	2138931.22	2138931.23	2138931.24	2138931.25
Organochlorine Pesticides T	race in Soil					
4,4'-DDT	mg/kg dry wt	0.0104	0.0070	0.0125	0.0094	0.0082
Total DDT Isomers	mg/kg dry wt	0.52	1.18	0.044	0.053	0.022
Dieldrin	mg/kg dry wt	0.032	0.025	0.0019	0.0015	0.0031
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosuitan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin Endrin oldobudo	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin kotono	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin kelone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epovide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heyachlorobenzene	mg/kg dry Wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Chlordane [(cis+trane)*	ma/ka dry wt	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
100/42]	inging dry we	0.002	- 0.002	0.002	0.002	0.002
	Sample Name:	JME 087 (Deep)	JME 086	JME 086 (Deep)	East FCC New 1	East FCC New 1
		07-Mar-2019 4:35	(Shallow)	07-Mar-2019 4:30	(North) (Shallow)	(North) (Deep)
		pm	07-Mar-2019 4:29	pm	07-Mar-2019 4:39	07-Mar-2019 4:40
	Lab Number:	2138931.26	2138931.27	2138931.28	2138931.29	2138931.30
Organochlorine Pesticides T	race in Soil					
Aldrin	mg/kg dry wt	0.0138	< 0.0010	< 0.0010	< 0.0010	< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.0070	< 0.0010	0.0020	0.0060	0.0176
4,4'-DDD	mg/kg dry wt	0.022	0.0017	0.0042	0.0135	0.104
2,4'-DDE	mg/kg dry wt	< 0.0010	< 0.0010	0.0011	< 0.0010	0.0019
4,4'-DDE	mg/kg dry wt	0.0090	0.0020	0.0055	0.0136	0.036
2,4'-DDT	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	0.0058	0.039
4,4'-DDT	mg/kg dry wt	0.0033	0.0024	0.0011	0.0193	0.097
Total DDT Isomers	mg/kg dry wt	0.041	0.006	0.014	0.058	0.30
Dieldrin	mg/kg dry wt	0.084	< 0.0010	< 0.0010	0.0010	0.0035
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosultan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin oldobudo	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldenyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hentachlor	mg/kg dry Wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epovide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Chlordane I(cis+trans)*	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
100/42]	ing/itg dry Wt	- 0.002	- 0.002	- 0.002	- 0.002	- 0.002
	Sample Name:	East FCC New 2	East FCC New 2	JME 090	JME 090 (Deep)	Hunter-Brown
		(South) (Shallow)	(South) (Deep)	(Shallow)	07-Mar-2019 4:22	(Control)
		07-Mar-2019 4:23	07-Mar-2019 4:26	07-Mar-2019 4:20	pm	(Shallow) 07-Mar-2019 5:34
		P	P	P		pm
	Lab Number:	2138931.31	2138931.32	2138931.33	2138931.34	2138931.35

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Sample Type: Sedimer	nt					
	Sample Name:	East FCC New 2	East FCC New 2	JME 090	JME 090 (Deep)	Hunter-Brown
		(South) (Shallow)	(South) (Deep)	(Shallow)	07-Mar-2019 4:22	(Control)
		07-Mar-2019 4:23	07-Mar-2019 4:26	07-Mar-2019 4:20	pm	(Shallow) 07-Mar-2019 5:34
		pin	pin	pin		pm
	Lab Number:	2138931.31	2138931.32	2138931.33	2138931.34	2138931.35
Organochlorine Pesticides T	race in Soil					
Aldrin	mg/kg dry wt	< 0.0010	0.0019	< 0.0010	< 0.0010	< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	0.0013	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.0027	0.21	0.0045	0.0154	< 0.0010
4,4'-DDD	mg/kg dry wt	0.0088	0.70	0.0133	0.051	< 0.0010
2,4'-DDE	mg/kg dry wt	< 0.0010	0.0139	< 0.0010	0.0011	< 0.0010
4,4'-DDE	mg/kg dry wt	0.0054	0.194	0.0096	0.023	< 0.0010
2,4'-DDT	mg/kg dry wt	0.0011	0.134	0.0041	0.021	< 0.0010
4,4'-DDT	mg/kg dry wt	0.0046	0.95	0.032	0.166	< 0.0010
Total DDT Isomers	mg/kg dry wt	0.023	2.2	0.064	0.28	< 0.006
Dieldrin	mg/kg dry wt	< 0.0010	0.029	0.0011	0.0027	< 0.0010
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Sample Name:	Hunter-Brown				
	Gample Name.	(Control) (Deep)				
		07-Mar-2019 5:32				
	Lab Number	pm 2138931.36				
Organochlorine Pesticides T	race in Soil	2130331.30				
Aldrin	ma/ka day wt	< 0.0010	_	-	-	_
alpha-BHC	mg/kg dry wt	< 0.0010	-	-	-	-
beta-BHC	mg/kg dry wt	< 0.0010				
delta-BHC	ma/ka dry wt	< 0.0010	_		-	-
gamma-BHC (Lindane)	ma/ka dry wt	< 0.0010	-	-	-	-
cis-Chlordane	mg/kg dry wt	< 0,0010	-	-	-	-
trans-Chlordane	ma/ka dry wt	< 0.0010	-	-	-	-
2.4'-DDD	ma/ka dry wt	< 0.0010	-	_	-	-
4.4'-DDD	ma/ka dry wt	< 0.0010	-	-	-	-
2,4'-DDE	ma/ka dry wt	< 0.0010	-	-	-	-
4,4'-DDE	mg/kg dry wt	< 0.0010	-	-	-	-
2,4'-DDT	mg/kg dry wt	< 0.0010	-	-	-	-
4,4'-DDT	mg/kg dry wt	< 0.0010	-	-	-	-
Total DDT Isomers	mg/kg dry wt	< 0.006	-	-	-	-
Dieldrin	mg/kg dry wt	< 0.0010	-	-	-	-
Endosulfan I	mg/kg dry wt	< 0.0010	-	-	-	-
Endosulfan II	mg/kg dry wt	< 0.0010	-	-	-	-
Endosulfan sulphate	mg/kg dry wt	< 0.0010	-	-	-	-
Endrin	mg/kg dry wt	< 0.0010	-	-	-	-
Endrin aldehyde	mg/kg dry wt	< 0.0010	-	-	-	-
1		1	1	1	1	1

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Sample Type: Sediment							
S	ample Name:	Hunter-Brown (Control) (Deep) 07-Mar-2019 5:32 pm					
	Lab Number:	2138931.36					
Organochlorine Pesticides Trac	ce in Soil						
Endrin ketone	mg/kg dry wt	< 0.0010	-	-	-	-	
Heptachlor	mg/kg dry wt	< 0.0010	-	-	-	-	
Heptachlor epoxide	mg/kg dry wt	< 0.0010	-	-	-	-	
Hexachlorobenzene	mg/kg dry wt	< 0.0010	-	-	-	-	
Methoxychlor	mg/kg dry wt	< 0.0010	-	-	-	-	
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.002	-	-	-	-	

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Sediment			
Test	Method Description	Default Detection Limit	Sample No
Soil Prep Dry for Organics, Trace*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-36
Organochlorine Pesticides Trace in Soil	Sonication extraction, SPE cleanup, GPC cleanup (if required), dual column GC-ECD analysis. Tested on dried sample	0.0010 - 0.006 mg/kg dry wt	1-36

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

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Ara Heron BSc (Tech) Client Services Manager - Environmental

Appendix 6. Invertebrate data 2019



Hill Laboratories TRIED, TESTED **AND TRUSTED**

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Certi	ficate of A	naly	sis				Page 1 of 3
Client: Contact:	Davidson Environmental Ltd R Davidson C/- Davidson Environmental Ltd PO Box 958 Nelson 7040			Lab Dat Dat Qu Orc Clie Sul	o No: te Received: te Reported: ote No: ter No: ent Reference: omitted By:	2138930 09-Mar-2019 25-Mar-2019 91901 Mapua FCC R Davidson	SPv1
Sample Ty	pe: Shellfish						
	Sample	Name:	West Control JME 080 07-Mar-2019	JME 084 07-Mar-2019	East FCC Diloma Soft 07-Mar-2019	East FCC Amphibola 07-Mar-2019	East FCC Cockle 07-Mar-2019
	Lab N	lumber:	2138930.1	2138930.2	2138930.3	2138930.4	2138930.5
Individual Te	sts						
Dry Matter	g/100	g as rcvd	14.0	13.8	-	12.0	10.3
Organochlori	ne Pesticides in Biomatter						
Aldrin		mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
alpha-BHC		mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
beta-BHC		mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
delta-BHC		mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
gamma-BHC	(Lindane)	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
cis-Chlordan	9	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
trans-Chlorda	ane	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
2,4'-DDD		mg/kg	0.0006	0.064	0.0007	0.025	< 0.0005
4,4'-DDD		mg/kg	0.0027	0.113	0.0053	0.082	< 0.0005
2,4'-DDE		mg/kg	< 0.0005	0.0066	< 0.0005	0.0008	< 0.0005
4,4'-DDE		mg/kg	0.0139	0.93	0.0052	0.130	< 0.0005
2,4'-DDT		mg/kg	< 0.0005	0.0006	< 0.0005	0.0013	< 0.0005
4,4'-DDT		mg/kg	0.0019	0.023	0.0020	0.023	< 0.0005
Dieldrin		mg/kg	< 0.0005	0.029	0.0015	0.068	< 0.0005
Endosulfan I		mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Endosulfan I		mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Endosulfan s	ulfate	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Endrin		mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Endrin aldeh	/de	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Endrin keton	e	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Heptachlor		mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Heptachlor e	poxide	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Hexachlorobe	enzene	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Methoxychlor		mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Total Chlorda	ne [(cis+trans)*100/42]	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Sample	Name:	Hunter-Brown Control 07-Mar-2019 2138930 6				
Individual To	Lab N	umper:	2130930.0				
Der Metter	515		0.2				
Dry Matter	g/100	y as rovd	9.2	-	-	-	-

Sample Type: Shellfish							
Sa	mple Name:	Hunter-Brown Control 07-Mar-2019					
L	ab Number:	2138930.6					
Organochlorine Pesticides in Bior	matter						
Aldrin	mg/kg	< 0.0005	-	-	-	-	
alpha-BHC	mg/kg	< 0.0005	-	-	-	-	
beta-BHC	mg/kg	< 0.0005	-	-	-	-	
delta-BHC	mg/kg	< 0.0005	-	-	-	-	
gamma-BHC (Lindane)	mg/kg	< 0.0005	-	-	-	-	
cis-Chlordane	mg/kg	< 0.0005	-	-	-	-	
trans-Chlordane	mg/kg	< 0.0005	-	-	-	-	
2,4'-DDD	mg/kg	< 0.0005	-	-	-	-	
4,4'-DDD	mg/kg	< 0.0005	-	-	-	-	
2,4'-DDE	mg/kg	< 0.0005	-	-	-	-	
4,4'-DDE	mg/kg	< 0.0005	-	-	-	-	
2,4'-DDT	mg/kg	< 0.0005	-	-	-	-	
4,4'-DDT	mg/kg	< 0.0005	-	-	-	-	
Dieldrin	mg/kg	< 0.0005	-	-	-	-	
Endosulfan I	mg/kg	< 0.0005	-	-	-	-	
Endosulfan II	mg/kg	< 0.0005	-	-	-	-	
Endosulfan sulfate	mg/kg	< 0.0005	-	-	-	-	
Endrin	mg/kg	< 0.0005	-	-	-	-	
Endrin aldehyde	mg/kg	< 0.0005	-	-	-	-	
Endrin ketone	mg/kg	< 0.0005	-	-	-	-	
Heptachlor	mg/kg	< 0.0005	-	-	-	-	
Heptachlor epoxide	mg/kg	< 0.0005	-	-	-	-	
Hexachlorobenzene	mg/kg	< 0.0005	-	-	-	-	
Methoxychlor	mg/kg	< 0.0005	-	-	-	-	
Total Chlordane [(cis+trans)*100/	42] mg/kg	< 0.002	-	-	-	-	

Analyst's Comments

It should be noted that there was insufficient sample for 2138930.3 (East FCC Diloma Soft) to complete the dry matter analysis.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Shellfish			
Test	Method Description	Default Detection Limit	Sample No
Homogenisation of Biological samples for Organics Tests	Mincing, chopping, or blending of sample to form homogenous sample fraction.	-	1-6
Shucking of Shellfish	Removal of tissue from shell.	-	1-6
Homogenise	Mincing, chopping, or blending of sample to form homogenous sample fraction.	-	1-6
Dry Matter	Drying for minimum of 24 hours at 65°C, gravimetry. Fact Sheet No 2.3.2-14, A Compendium of Chemical, Physical and Biological Methods for Assessing and Monitoring the Remediation of Contaminated Sediment Sites, 2003.	0.10 g/100g as rcvd	1-2, 4-6
Organochlorine Pesticides in Biomatter	Sonication extraction, alumina cleanup, GPC cleanup, dual column GC-ECD analysis	0.0005 - 0.002 mg/kg	1-6

Lab No: 2138930 v 1

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These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

Graham Corban MSc Tech (Hons) Client Services Manager - Environmental

Appendix 7. Sediment data 2018

Certificate of Analysis



Hill Laboratories Limited
28 Duke Street Frankton 3204T0508 HILL LAB (44 555 22)TRIED, TESTED AND TRUSTEDPrivate Bag 3205
Hamilton 3240 New ZealandT+64 7 858 2000
E mail@hill-labs.co.nz
W www.hill-laboratories.com

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Client: Davidson E Contact: R Davidson C/- Davidson PO Box 958 Nelson 704	lient: Davidson Environmental Ltd ontact: R Davidson C/- Davidson Environmental Ltd PO Box 958 Nelson 7040			Lab No: Date Received: Date Reported: Quote No: Order No:		SPv1
				Client Reference: Submitted By:		
Sample Type: Sedimer	nt					
	Sample Name:	West Control JME 080 Shallow 28-May-2018	West Control JME 080 Deep 28-May-2018	JME 083 Shallow 28-May-2018 12:29 am	JME 083 Deep 28-May-2018 12:29 am	JME 081 Shallow 28-May-2018 12:25 am
		11:57 am	11:57 am	4004740.0	4004740.4	1001710 5
Organachlaring Destinidas T	Lab Number:	1991748.1	1991748.2	1991748.3	1991748.4	1991748.5
Aldria	race in Soli	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Alunn alaba RHC	mg/kg dry wi	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	ma/ka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	ma/ka dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2.4'-DDD	ma/ka dry wt	< 0.0010	< 0.0010	0.0047	0.044	0.0016
4.4'-DDD	ma/ka dry wt	< 0.0010	< 0.0010	0.0073	0.032	0.0038
2.4'-DDE	ma/ka dry wt	< 0.0010	< 0.0010	< 0.0010	0.0081	< 0.0010
4,4'-DDE	mg/kg dry wt	< 0.0010	0.0020	0.021	0.153	0.0084
2,4'-DDT	mg/kg dry wt	< 0.0010	< 0.0010	0.0012	0.021	< 0.0010
4,4'-DDT	mg/kg dry wt	< 0.0010	< 0.0010	0.0168	0.182	0.0018
Total DDT Isomers	mg/kg dry wt	< 0.006	< 0.006	0.051	0.44	0.016
Dieldrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	0.0144	< 0.0010
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.002	< 0.002	< 0.002	0.002	< 0.002
	Sample Name:	JME 081 Deep 28-May-2018 12:26 am	JME 082 Shallow 28-May-2018 12:17 am	JME 082 Deep 28-May-2018 12:18 am	West FCC New 1 Shallow 28-May-2018 12:48 am	West FCC New 1 Deep 28-May-2018 12:49 am
	Lab Number:	1991748.6	1991748.7	1991748.8	1991748.9	1991748.10
Organochlorine Pesticides T	race in Soil					
Aldrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.

Sample Type: Sedimer	nt					
	Sample Name:	JME 081 Deep	JME 082 Shallow	JME 082 Deep	West FCC New 1	West FCC New 1
		28-May-2018	28-May-2018	28-May-2018	Shallow	Deep
		12:20 am	12:17 am	12:10 am	12:48 am	12:49 am
	Lab Number:	1991748.6	1991748.7	1991748.8	1991748.9	1991748.10
Organochlorine Pesticides T	race in Soil					
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.0143	< 0.0010	< 0.0010	0.0069	0.0106
4,4'-DDD	mg/kg dry wt	0.030	0.0037	0.0011	0.0137	0.029
2,4'-DDE	mg/kg dry wt	0.0057	< 0.0010	< 0.0010	0.0067	0.0049
4,4'-DDE	mg/kg dry wt	0.049	0.0060	0.0063	0.047	0.048
2,4'-DDT	mg/kg dry wt	0.0036	< 0.0010	< 0.0010	0.0033	< 0.0010
4,4'-DDT	mg/kg dry wt	0.020	0.0027	0.0021	0.0107	0.0055
Total DDT Isomers	mg/kg dry wt	0.122	0.012	0.010	0.088	0.097
Dieldrin	mg/kg dry wt	0.0039	< 0.0010	< 0.0010	0.0028	0.0019
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachiorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
100/42]	mg/kg dry wt	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Sample Name:	West FCC New 2	West FCC New 2	West FCC New 3	West FCC New 3	JME 084 Shallow
		Shallow 28-May-2018 12:52 am	Deep 28-May-2018	Shallow 28-May-2018 12:57 am	Deep 28-May-2018	28-May-2018 12:36 am
	Lab Number:	1991748.11	1991748.12	1991748.13	1991748.14	1991748.15
Organochlorine Pesticides T	race in Soil					
Aldrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.0088	0.0147	0.0013	< 0.0010	0.0027
4,4'-DDD	mg/kg dry wt	0.021	0.032	0.0028	0.0024	0.0069
2,4'-DDE	mg/kg dry wt	0.0020	0.0022	< 0.0010	< 0.0010	< 0.0010
4,4'-DDE	mg/kg dry wt	0.037	0.054	0.0069	0.0062	0.0115
2,4'-DDT	mg/kg dry wt	0.0027	< 0.0010	< 0.0010	< 0.0010	< 0.0010
4,4'-DDT	mg/kg dry wt	0.0101	0.0062	0.0015	< 0.0010	0.0018
Total DDT Isomers	mg/kg dry wt	0.082	0.110	0.012	0.009	0.023
Dieldrin	mg/kg dry wt	0.0012	0.0014	< 0.0010	< 0.0010	< 0.0010
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosultan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachior	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
neptachior epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methowebler	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychior	mg/kg ary wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010

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Sample Type: Sediment						
	Sample Name:	West FCC New 2	West FCC New 2	West FCC New 3	West FCC New 3	JME 084 Shallow
	•	Shallow	Deep	Shallow	Deep	28-May-2018
		28-May-2018	28-May-2018	28-May-2018	28-May-2018	12:36 am
	Lab Number:	1991748.11	1991748.12	1991748.13	1991748.14	1991748.15
Organochlorine Pesticides T	race in Soil					
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Sample Name:	JME 084 Deep	West FCC	West FCC Stream	West FCC	West FCC
		28-May-2018	Stream 1 Shallow	1 Deep	Stream 2 Shallow	Stream 2 Deep
		12:37 am	28-May-2018 1:04	28-May-2018 1:05	28-May-2018 1:09	28-May-2018 1:10
	Lab Number:	1991748.16	1991748.17	1991748.18	1991748.19	1991748.20
Organochlorine Pesticides T	race in Soil					
Aldrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0043
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	0.0013	< 0.0010	< 0.0010	< 0.0010	0.0043
cis-Chlordane	mg/kg dry wt	0.0015	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.041	0.029	0.034	0.099	0.71
4,4'-DDD	mg/kg dry wt	0.056	0.077	0.089	0.26	2.0
2,4'-DDE	mg/kg dry wt	0.0080	0.0103	0.0127	0.042	0.35
4,4'-DDE	mg/kg dry wt	0.154	0.133	0.175	0.45	2.6
2,4'-DDT	mg/kg dry wt	0.0012	0.0028	0.0032	0.0114	0.060
4,4'-DDT	mg/kg dry wt	0.0032	0.0099	0.0128	0.044	0.26
Total DDT Isomers	mg/kg dry wt	0.26	0.26	0.33	0.91	6.0
Dieldrin	mg/kg dry wt	0.0101	0.0131	0.0121	0.061	0.136
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	0.006	< 0.002	< 0.002	< 0.002	< 0.002
	Sample Name:	West FCC	West FCC	JME 088 Shallow	JME 088 Deep	JME 087 Shallow
		Stream S (upper) Shallow	Deep	20-Way-2010 2:44 pm	20-Way-2016 2:45 pm	20-Way-2010 2:50 pm
		28-May-2018 1:14 pm	28-May-2018 1:15 pm			
	Lab Number:	1991748.21	1991748.22	1991748.23	1991748.24	1991748.25
Organochlorine Pesticides T	race in Soil					
Aldrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	0.0011	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	0.0011	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.0170	0.099	0.0069	0.0168	0.0021
4,4'-DDD	mg/kg dry wt	0.045	0.28	0.0135	0.041	0.0042
2,4'-DDE	mg/kg dry wt	0.0047	0.031	< 0.0010	< 0.0010	< 0.0010
4,4'-DDE	mg/kg dry wt	0.069	0.29	0.0074	0.028	0.0038
2,4'-DDT	mg/kg dry wt	0.0030	0.0035	0.0121	0.0016	0.0030
4,4°-DDT	mg/kg dry wt	0.0089	0.0140	0.032	0.050	0.0134

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Sample Type: Sedime	nt					
	Sample Name:	West FCC	West FCC	JME 088 Shallow	JME 088 Deep	JME 087 Shallow
	•	Stream 3 (upper)	Stream 3 (upper)	28-May-2018 2:44	28-May-2018 2:45	28-May-2018 2:58
		Shallow 28-May-2018 1:14	Deep 28-May-2018 1:15	pm	pm	pm
		pm	pm			
	Lab Number:	1991748.21	1991748.22	1991748.23	1991748.24	1991748.25
Organochlorine Pesticides T	race in Soil					
Total DDT Isomers	mg/kg dry wt	0.147	0.72	0.072	0.137	0.027
Dieldrin	mg/kg dry wt	0.0167	0.069	0.0083	0.0029	< 0.0010
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.002	0.005	< 0.002	< 0.002	< 0.002
	Sample Name:	JME 087 Deep	JME 086 Shallow	JME 086 Deep	East FCC New 1	East FCC New 1
	•	28-May-2018 2:50	28-May-2018 2:52	28-May-2018 2:53	Shallow	Deep
		pm	pm	pm	28-May-2018 2:57	28-May-2018 2:56
	Lab Number:	1991748.26	1991748.27	1991748.28	1991748.29	1991748.30
Organochlorine Pesticides T	race in Soil					
Aldrin	mg/kg dry wt	< 0.0010	< 0.0010	0.0013	< 0.0010	< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.0037	0.0011	0.0051	0.0083	0.021
4,4'-DDD	mg/kg dry wt	0.0086	0.0065	0.0117	0.0198	0.052
2,4'-DDE	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0021
4,4'-DDE	mg/kg dry wt	0.0059	0.0016	0.0052	0.0162	0.051
2,4'-DDT	mg/kg dry wt	0.0049	0.0014	< 0.0010	0.0131	0.0197
4,4'-DDT	mg/kg dry wt	0.025	0.0134	0.0026	0.055	0.100
Total DDT Isomers	mg/kg dry wt	0.049	0.024	0.025	0.112	0.25
Dieldrin	mg/kg dry wt	< 0.0010	< 0.0010	0.0027	0.0014	0.0029
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heyesblersberger	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methowebler	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Chlordona ((cia through)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
100/42]	mg/kg ary wt	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Sample Name:	East FCC New 2 Shallow 28-May-2018 2:39	East FCC New 2 Deep 28-May-2018 2:40	Hunter-Brown Shallow 28-May-2018 4:05	Hunter-Brown Deep 28-May-2018 4:07	JME 090 Shallow 28-May-2018 2:35 am
		pm 1001748.31	pm	pm 1001748.22	pm 1001748-34	10017/18 35
l	Lab Number:	1331/40.31	1331740.32	1001140.00	1331740.34	1331740.30

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Sample Type: Sedime	nt					
	Sample Name:	East FCC New 2	East FCC New 2	Hunter-Brown	Hunter-Brown	JME 090 Shallow
		Shallow	Deep	Shallow	Deep	28-May-2018 2:35
		28-May-2018 2:39 pm	28-May-2018 2:40 pm	28-May-2018 4:05 pm	28-May-2018 4:07 pm	am
	Lab Number:	1991748.31	1991748.32	1991748.33	1991748.34	1991748.35
Organochlorine Pesticides T	race in Soil					
Aldrin	mg/kg dry wt	< 0.0010	0.0014	< 0.0010	< 0.0010	< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2,4'-DDD	mg/kg dry wt	0.0028	0.148	< 0.0010	< 0.0010	0.0189
4,4'-DDD	mg/kg dry wt	0.0074	0.38	< 0.0010	< 0.0010	0.047
2,4'-DDE	mg/kg dry wt	< 0.0010	0.0133	< 0.0010	< 0.0010	< 0.0010
4,4'-DDE	mg/kg dry wt	0.0076	0.23	< 0.0010	< 0.0010	0.0114
2,4'-DDT	mg/kg dry wt	0.0054	0.037	< 0.0010	< 0.0010	0.020
4,4'-DDT	mg/kg dry wt	0.0192	0.29	< 0.0010	< 0.0010	0.071
Total DDT Isomers	mg/kg dry wt	0.042	1.10	< 0.006	< 0.006	0.168
Dieldrin	mg/kg dry wt	< 0.0010	0.043	< 0.0010	< 0.0010	0.0016
Endosulfan I	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin Fadeia aldabuda	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Endrin aldenyde	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hontophler	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heptachior enovide	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Heyachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Chlordane [(cis+trans)*	* ma/ka dry wt	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
100/42]	inging aly in	0.002	0.002	0.002	0.002	0.002
	Sample Name:	JME 090 Deep				
		28-May-2018 2:36				
	Lab Marsham	pm				
Organashlaring Posticidas T	Lab Number:	1991/40.30				
Aldrin	ma/ka davut	< 0.0010				
Alumin aloba BHC	mg/kg dry wt	< 0.0010	-	-	-	-
beta-BHC	mg/kg dry wt	< 0.0010	-	-	-	-
delta-BHC	mg/kg dry wt	< 0.0010	-	-	-	-
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010	-	-	-	-
cis-Chlordane	mg/kg dry wt	< 0.0010	-	-	-	-
trans-Chlordane	mg/kg dry wt	< 0.0010	-	-	-	-
2,4'-DDD	mg/kg dry wt	0.033	-	-	-	-
4,4'-DDD	mg/kg dry wt	0.089	-	-	-	-
2,4'-DDE	mg/kg dry wt	0.0017	-	-	-	-
4,4'-DDE	mg/kg dry wt	0.028	-	-	-	-
2,4'-DDT	mg/kg dry wt	0.0038	-	-	-	-
4,4'-DDT	mg/kg dry wt	0.035	-	-	-	-
Total DDT Isomers	mg/kg dry wt	0.191	-	-	-	-
Dieldrin	mg/kg dry wt	0.0019	-	-	-	-
Endosulfan I	mg/kg dry wt	< 0.0010	-	-	-	-
Endosulfan II	mg/kg dry wt	< 0.0010	-	-	-	-
Endosulfan sulphate	mg/kg dry wt	< 0.0010	-	-	-	-
Endrin	mg/kg dry wt	< 0.0010	-	-	-	-
Endrin aldehyde	mg/kg dry wt	< 0.0010	-	-	-	-
Endrin ketone	mg/kg dry wt	< 0.0010	-	-	-	-
Heptachlor	mg/kg dry wt	< 0.0010	-	-	-	-

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Sample Type: Sediment							
5	Sample Name:	JME 090 Deep 28-May-2018 2:36					
		pm					
	Lab Number:	1991748.36					
Organochlorine Pesticides Tra	ace in Soil						
Heptachlor epoxide	mg/kg dry wt	< 0.0010	-	-	-	-	
Hexachlorobenzene	mg/kg dry wt	< 0.0010	-	-	-	-	
Methoxychlor	mg/kg dry wt	< 0.0010	-	-	-	-	
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.002	-	-	-	-	
0							

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Sediment								
Test	Method Description	Default Detection Limit	Sample No					
Organochlorine Pesticides Trace in Soil	Sonication extraction, SPE cleanup, GPC cleanup (if required),	0.0010 - 0.006 mg/kg dry	1-36					
	dual column GC-ECD analysis. Tested on dried sample	wt						

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Graham Corban MSc Tech (Hons) Client Services Manager - Environmental

Appendix 8. Invertebrate data 2018



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Certificate of Analysis Page 1 of 2							
Client: Contact:	lient: Davidson Environmental Ltd ontact: R Davidson C/- Davidson Environmental Ltd PO Box 958 Nelson 7040			Lab No: Date Received: Date Reported: Quote No: Order No: Client Reference:		1991753 30-May-2018 06-Jul-2018 91901	SPv1
Sample Tu	vne: Shellfish					TT Darradon	
oampie ry	Sample	o Namo:	West Control JME	West FCC JME	East ECC	East ECC NEW 2	EAST FCC JME
	Sampi	e Name.	080 (Amplibola) 28-May-2018	084 (Amplibola) 28-May-2018	(Amplibola) 28-May-2018	(Diloma) 28-May-2018	090 (Cockle) 28-May-2018
	Lab I	Number:	1991753.1	1991753.2	1991753.3	1991753.4	1991753.5
Individual Te	sts						
Dry Matter	g/10	0g as rcvd	13.9	12.7	11.1	16.6	10.0
Organochlor	ine Pesticides in Biomatte	ər					
Aldrin		mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
alpha-BHC		mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
beta-BHC		mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
delta-BHC		mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
gamma-BHC	(Lindane)	mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
cis-Chlordan	e	mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
trans-Chlord	ane	mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
2,4'-DDD		mg/kg	< 0.0007	0.027	0.0168	0.0012	< 0.0005
4,4'-DDD		mg/kg	0.0014	0.076	0.060	0.0040	< 0.0005
2,4'-DDE		mg/kg	< 0.0007	0.0019	0.0011	< 0.0008	< 0.0005
4,4'-DDE		mg/kg	0.0116	0.64	0.106	0.0076	0.0007
2,4'-DDT		mg/kg	< 0.0007	< 0.0005	0.0031	< 0.0008	< 0.0005
4,4'-DDT		mg/kg	0.0030	0.0135	0.040	0.0041	< 0.0005
Dieldrin		mg/kg	< 0.0007	0.0157	0.049	0.0036	0.0007
Endosulfan I		mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
Endosulfan I	I	mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
Endosulfan s	sulfate	mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
Endrin		mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
Endrin aldeh	yde	mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
Endrin keton	e	mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
Heptachlor		mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
Heptachlor e	poxide	mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
Hexachlorob	enzene	mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
Methoxychlo	r	mg/kg	< 0.0007	< 0.0005	< 0.0005	< 0.0008	< 0.0005
Total Chlorda	ane [(cis+trans)*100/42]	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Sampl	e Name: Number:	East Control Hunter Brown (Cockle) 28-May-2018 1991753.6				
Individual Te	sts						
Dry Matter	a/10	0g as rcvd	10.5	-	-	-	-
	2		I				

Sample Type: Shellfish						
Samp	le Name:	East Control Hunter Brown (Cockle) 28-May-2018				
Lab	Number:	1991753.6				
Organochlorine Pesticides in Biomath	ter					
Aldrin	mg/kg	< 0.0005	-	-	-	-
alpha-BHC	mg/kg	< 0.0005	-	-	-	-
beta-BHC	mg/kg	< 0.0005	-	-	-	-
delta-BHC	mg/kg	< 0.0005	-	-	-	-
gamma-BHC (Lindane)	mg/kg	< 0.0005	-	-	-	-
cis-Chlordane	mg/kg	< 0.0005	-	-	-	-
trans-Chlordane	mg/kg	< 0.0005	-	-	-	-
2,4'-DDD	mg/kg	< 0.0005	-	-	-	-
4,4'-DDD	mg/kg	< 0.0005	-	-	-	-
2,4'-DDE	mg/kg	< 0.0005	-	-	-	-
4,4'-DDE	mg/kg	< 0.0005	-	-	-	-
2,4'-DDT	mg/kg	< 0.0005	-	-	-	-
4,4'-DDT	mg/kg	< 0.0005	-	-	-	-
Dieldrin	mg/kg	< 0.0005	-	-	-	-
Endosulfan I	mg/kg	< 0.0005	-	-	-	-
Endosulfan II	mg/kg	< 0.0005	-	-	-	-
Endosulfan sulfate	mg/kg	< 0.0005	-	-	-	-
Endrin	mg/kg	< 0.0005	-	-	-	-
Endrin aldehyde	mg/kg	< 0.0005	-	-	-	-
Endrin ketone	mg/kg	< 0.0005	-	-	-	-
Heptachlor	mg/kg	< 0.0005	-	-	-	-
Heptachlor epoxide	mg/kg	< 0.0005	-	-	-	-
Hexachlorobenzene	mg/kg	< 0.0005	-	-	-	-
Methoxychlor	mg/kg	< 0.0005	-	-	-	-
Total Chlordane [(cis+trans)*100/42]	mg/kg	< 0.002	-	-	-	-

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Shellfish			
Test	Method Description	Default Detection Limit	Sample No
Shucking of Shellfish	Removal of tissue from shell.	-	1-6
Homogenise	Mincing, chopping, or blending of sample to form homogenous sample fraction.	-	1-6
Dry Matter	Drying for minimum of 24 hours at 65°C, gravimetry. Fact Sheet No 2.3.2-14, A Compendium of Chemical, Physical and Biological Methods for Assessing and Monitoring the Remediation of Contaminated Sediment Sites, 2003.	0.10 g/100g as rcvd	1-6
Organochlorine Pesticides in Biomatter	Sonication extraction, alumina cleanup, GPC cleanup, dual column GC-ECD analysis	0.0005 - 0.002 mg/kg	1-6

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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J/

Ara Heron BSc (Tech) Client Services Manager - Environmental