
**PERIOD CONTRACT FOR THE ANALYSIS OF WATER
SAMPLES FROM SELECTED GROUNDWATER
BODIES IN THE MALTESE WATER CATCHMENT
DISTRICT**

**Final Report to the
Malta Resources Authority
on
Chemical & Microbiological Analysis
of Groundwater**

Prepared by



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Introduction

1. In December 2008 the Malta Resources Authority (MRA) issued a call for a Period Contract (Tender no. MRA/WAT/01/08) for the analysis of water samples from selected groundwater bodies in the Maltese Water Catchment District. This work forms part of an extensive survey that the MRA is carrying out to obtain data on the quality of groundwater in the Maltese Islands, as part of the Groundwater Surveillance Monitoring Campaign required under Article 8 of the Water Framework Directive (CD 2000/60/EC).
2. Ecoserv Ltd (hereafter 'Ecoserv') had submitted a bid for this tender and was subsequently informed, by correspondence from MRA dated 26th January 2009, that it had been awarded the contract based on Ecoserv's offer and terms outlined in the tender document.
3. The analysis involved a total of thirty-five (35) sampling locations from Malta, Gozo and Comino (see Figure 1). From each location one sample had to be collected and analysed for 5 bacteriological tests and 141 chemical parameters. The analytical methodology used for the testing had to conform to national and/or international standards. Where applicable, international accreditation for the analysis of the concerned parameters and respective certification of results, was requested by the MRA.
4. It was agreed between the MRA and Ecoserv that sampling would be carried out in two separate surveys. Details of the groundwater sources required to be analysed were provided by the MRA; stations consisted of both private wells, as well as sources managed by the Water Services Corporation (WSC). The MRA initially informed the respective private owners and the WSC of the planned sampling activity. Ecoserv took care of the logistical arrangements concerning sample collection and analysis.
5. It was also agreed between the MRA and Ecoserv that once the results of the first batch of samples would be available, the MRA would review them so as to determine whether any stations would require repeat sampling, in which case sample collection would be repeated as part of the second batch of sampling.
6. The first interim report giving results of the microbiological and chemical analysis for the first batch of samples, which consisted of samples collected from 18 sampling stations, was submitted to the MRA on 15th May 2009.
7. Following the second sampling session, a second interim report was submitted on 18th August 2009. This report presented the results of microbiological analysis of the groundwater samples from the second batch of samples, that consisted of 17 water samples.
8. The present final report includes the full set of results for the microbiological and chemical testing of all samples collected as per obligations of the above mentioned contract, as well as observations noted at the various groundwater stations.

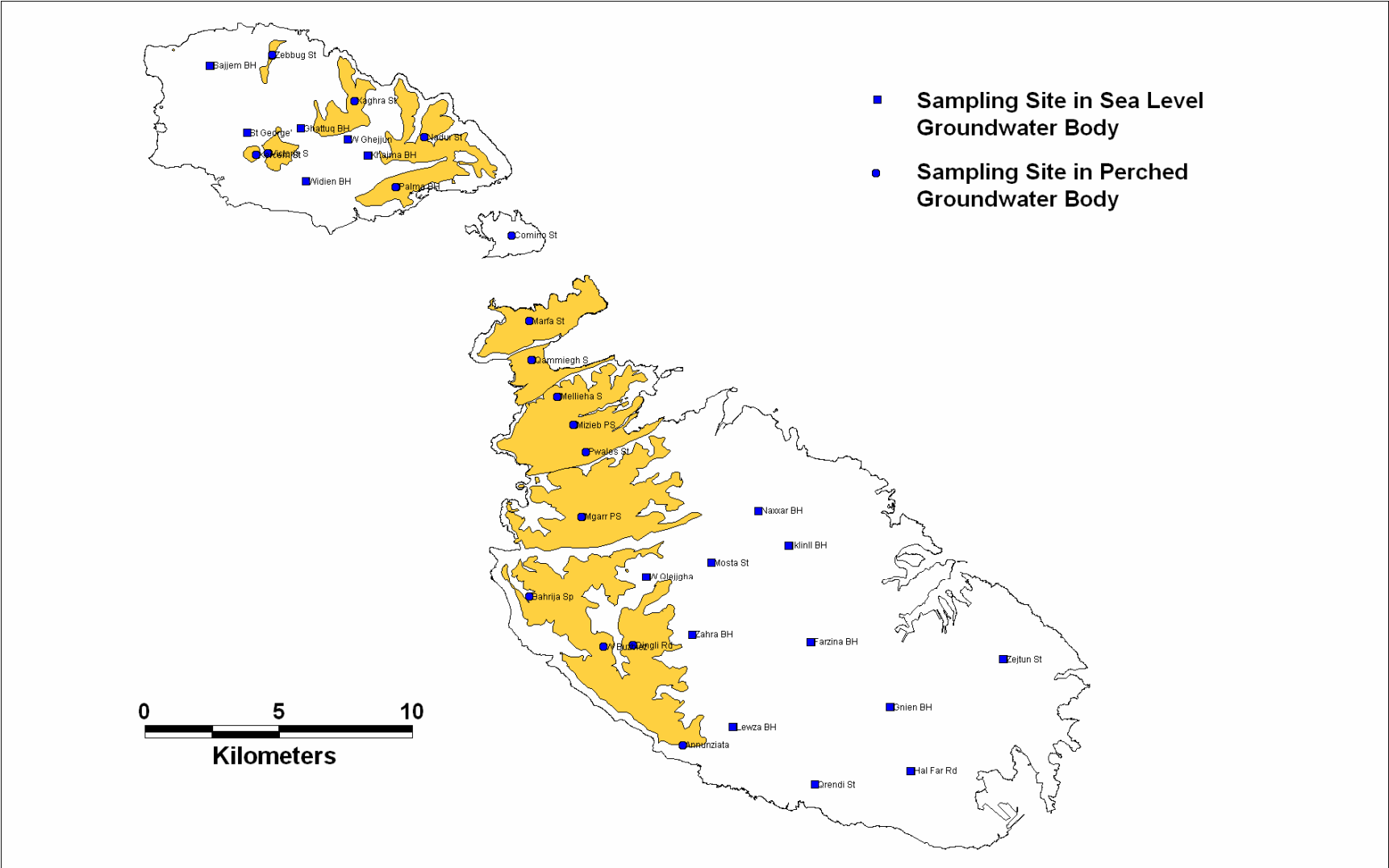


Figure 1. Map showing location of all sampling stations (Source. MRA)

Methodology

9. The first batch of samples was collected on Tuesday 7th April 2009 and the second batch was collected on Wednesday 22nd July 2009. All the sampling stations included in both sessions are listed in Table 1.

Table 1: List of sampling station names and sample codes given for samples collected.

Sampling Station Name	Station Lab Code
Session 1 (April 2009)	
Għattuq Borehole	G-WSC_1 Għattuq
Wied I-Ghejjun Borehole	G-WSC_2 Ghejjun
Xħajma Borehole	G-WSC_3 Xħajma
Tal-Palma Borehole	G-WSC_4 Tal-Palma
Widien Borehole	G-WSC_5 Widien
St George Borehole	G-WSC_6 St George
Sajjem Borehole	G-WSC_7 Sajjem
Xagħra Station	G-P_1 Xagħra
Kerċem Station	G-P_2 Kerċem
Nadur Station	G-P_3 Nadur
Victoria Station	G-P_4 Victoria
Żebbuġ Station	G-P_5 Żebbuġ
Comino Station	C-P_5 Comino
Qammieġħ Station	M-P_2 Qammieġħ
Mellieħa Station	M-P_3 Mellieħa
Pwales Station	M-P_4 Pwales
Mizieb Station	M-WSC_1 Mizieb
Mġarr Station	M-WSC_2 Mġarr
Session 2 (July 2009)	
Wied il-Qlejġħa Pumping Station	WB-264-09
Naxxar Pumping Station	WB-265-09
Lewża Borehole	WB-266-09
Iklin II Borehole	WB-267-09
Żahra Borehole	WB-268-09
Farżina (OLD) Borehole	WB-269-09
Tal-Ġnien Borehole	WB-270-09
Ħal Far Reservoir	WB-271-09
Dingli Road Borehole	WB-272-09
Wied il-Bużbież Spring	WB-273-09
Annunziata Spring	WB-274-09
Mosta Private Well	WB-275-09
Żejtun Private Well	WB-276-09
Qrendi Private Well	WB-277-09
Baħrija Private Spring	WB-278-09
Marfa Private Well	WB-279-09
Xagħra, Gozo Private Well	WB-280-09

10. At each station, photographs of the pump or well opening and of the general area were taken and any relevant observations of the general state of the station were recorded.
11. At stations where an electrical water pump was available, groundwater samples were collected after the water was allowed to flow out for 3 to 5 minutes. Where no pump was available, collection from these stations was carried out using a clean bucket and rope. The bucket was rinsed three times with the groundwater being sampled.
12. Samples intended for microbiological analysis were collected directly in sterile glass bottles. Samples intended for the chemical analysis of organic compounds were collected in glass bottles, whereas for the remaining chemical analysis, samples were collected in plastic bottles. All bottles intended for chemical analysis (plastic and glass) were rinsed three times with the water being sampled prior to having them filled with the sample. All samples were transported to the laboratory in cooler boxes, with temperatures maintained between 1 and 5°C until analysis.
13. Microbiological analysis was carried out at Ecoserv's laboratories within 24 hours from sample collection. The method used consisted of membrane filtration, followed by inoculation of appropriate media, and incubation at temperatures as indicated in the respective standard methodology. Chemical analysis was carried out by CADA Laboratories, a laboratory accredited for ISO/EN 17025. The analytical methodology followed for the respective parameters is given in Appendix I of this report.

Results

14. The results for the microbiological analysis of the groundwater samples collected in the first (April 2009) and second (July 2009) sampling sessions are given in Tables 2 and 3 respectively.
15. The results for the chemical analysis of the groundwater samples collected in the first session (April 2009) from G-WSC_1 to GWSC_6 are given in Table 4; those for G-WSC_7, G-P_1 Xagħra, G-P_2 Kerċem, G-P_3 Nadur, G-P_4 Victoria and G-P_5 Żebbuġ are given in Table 5, and those for C-P_5 Comino, M-P_2 Qammieġħ, M-P_3 Mellieħa, M-P_4 Pwales, M-WSC_1 Miżieb and M-WSC_2 Mġarr are given in Table 6.
16. The results for the chemical analysis of the groundwater samples collected in the second session (July 2009) from WB-264-09 to WB-269-09 are given in Table 7, those for WB-270-09 to WB-275-09 are given in Table 8, and those for WB-276-09 to WB-280-09 are given in Table 9.

Table 2: Results of the microbiological analysis of groundwater samples collected in SESSION 1 (April 2009), reported in colony forming units (cfu). The diamond symbol (♦) denotes that numerous non-coliform colonies were present in the sample; these could have obscured growth of the target coliform colonies.

Sample Code	Total Coliforms		Faecal Coliforms	Faecal Streptococci	Total Bacterial Count at 37°C	Total Bacterial Count at 22.5°C
	(cfu/100mL)		(cfu/100mL)	(cfu/100mL)	(cfu/mL)	(cfu/mL)
SESSION 1						
G-WSC_1 Għattuq	90	♦	5	0	> 100	> 100
G-WSC_2 Għejjun	> 100	♦		20	> 100	> 100
G-WSC_3 Xħajma	10		0	0	> 100	> 100
G-WSC_4 Tal-Palma	> 100		50	0	> 100	> 100
G-WSC_5 Widien	80	♦	40	0	> 100	> 100
G-WSC_6 St George	5		0	0	5	> 100
G-WSC_7 Sajjem	5		0	0	> 100	> 100
G-P_1 Xagħra	> 100	♦	> 100	> 100	> 100	> 100
G-P_2 Kerċem	> 100		> 100	5	> 100	> 100
G-P_3 Nadur	> 100		> 100	> 100	> 100	> 100
G-P_4 Victoria	> 100		> 100	> 100	> 100	> 100
G-P_5 Żebbuġ	> 100	♦	10	26	> 100	> 100
C-P_5 Comino	> 100	♦	70	0	> 100	> 100
M-P_2 Qammiegħ	> 100	♦	90	5	> 100	> 100
M-P_3 Mellieħa	40	♦	10	0	> 100	> 100
M-P_4 Pwales	> 100		> 100	70	> 100	> 100
M-WSC_1 Miżieb	0		0	0	5	> 100
M-WSC_2 Mġarr	40	♦	20	0	> 100	> 100

Table 3: Results of the microbiological analysis of groundwater samples collected in SESSION 2 (July 2009), reported in colony forming units (cfu). The diamond symbol (♦) denotes that numerous non-coliform colonies were present in the sample; these could have obscured growth of the target coliform colonies.

Sample Code	Total Coliforms		Faecal Coliforms	Faecal Streptococci	Total Bacterial Count at 37°C	Total Bacterial Count at 22.5°C
	(cfu/100mL)		(cfu/100mL)	(cfu/100mL)	(cfu/mL)	(cfu/mL)
SESSION 2						
WB-264-09	> 100	♦	25	60	> 100	> 100
WB-265-09	5		0	0	5	5
WB-266-09	20		0	0	5	10
WB-267-09	45		0	5	5	> 100
WB-268-09	100		0	0	> 100	> 100
WB-269-09	0		0	0	5	5
WB-270-09	5		0	0	5	> 100
WB-271-09	5		0	0	10	> 100
WB-272-09	90	♦	10	5	> 100	> 100
WB-273-09	25	♦	30	5	> 100	> 100
WB-274-09	> 100	♦	> 100	> 100	> 100	> 100
WB-275-09	> 100		80	0	> 100	> 100
WB-276-09	15	♦	5	> 100	> 100	> 100
WB-277-09	10		0	0	> 100	> 100
WB-278-09	> 100	♦	> 100	> 100	> 100	> 100
WB-279-09	> 100	♦	45	> 100	> 100	> 100
WB-280-09	90	♦	10	90	> 100	> 100

Table 4: Results of the chemical analysis of groundwater samples collected in SESSION 1 (April 2009), from G-WSC_1 to GWSC_6. 'ND' denotes that the element or compound was not detectable because the respective value was below the detection limit of the method of analysis. Asterisk (*) indicates that the particular test is not accredited.

PARAMETER	Units	Groundwater sample code					
		G-WSC_1 Ghattuq	G-WSC_2 Ghejjun	G-WSC_3 Xhajma	G-WSC_4 Tal- Palma	G-WSC_5 Widien	G-WSC_6 St George
Ammonium	mg/l NH ₄ ⁺	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Bromate	mg/l	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002
Calcium Hardness	mg/l CaCO ₃	262.7	222.9	222.9	398	270.6	246.8
Magnesium Hardness	mg/l CaCO ₃	214.9	501.5	421.9	143.3	55.7	167.2
Total Hardness	mg/l CaCO ₃	477.6	724.4	644.8	541.3	326.4	413.9
Chlorides	mg/l Cl ⁻	351.8	832.8	663.5	294.7	227.6	262.4
Chlorite	mg/l	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002
Cyanide	mg/l	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001
Colour	/	10	10	10	10	10	10
Fluoride	mg/l F	0.83	2	1.75	0.81	0.57	1.03
Nitrates	mg/l NO ₃ ⁻	70.4	29.5	28.6	99.9	61.7	72.7
Nitrites	mg/l NO ₂ ⁻	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Phosphates	mg/l PO ₄ ³⁻	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Silica	mg/l SiO ₂	5.54	6.24	6.19	5.77	4.96	6.69
Sulphates	mg/l SO ₄ ²⁻	101.7	178.6	181.9	171	37.2	77.6
Surfactants	mg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Total Dissolved Solids	mg/l	1206	2321	2041	1260	870	994
Aluminium	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Antimony	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001

PARAMETER	Units	Groundwater sample code					
		G-WSC_1 Ghattuq	G-WSC_2 Ghejjun	G-WSC_3 Xhajma	G-WSC_4 Tal- Palma	G-WSC_5 Widien	G-WSC_6 St George
Arsenic	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Barium	mg/l	0.03	0.03	0.03	0.03	0.02	0.03
Boron	mg/l	0.19	0.27	0.24	0.21	0.07	0.18
Cadmium	mg/l	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001
Calcium	mg/l	105.1	89.2	89.2	159.2	108.3	98.7
Chromium	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Copper	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	0.07	ND <0.001
Iron	mg/l	ND <0.005	ND <0.005	ND <0.005	ND <0.005	ND <0.005	ND <0.005
Lead	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Manganese	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Magnesium	mg/l	52.2	121.9	102.5	34.8	13.5	40.6
Mercury	mg/l	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001
Nickel	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Potassium	mg/l	31.3	23.3	21.3	5	5.3	28.3
Selenium	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Sodium	mg/l	283.3	606.7	500	233.3	161.7	193.3
Strontium (*)	mg/l	0.978	4.4	3.73	0.65	0.35	0.9
Zinc	mg/l	ND <0.005	0.02	0.06	0.02	0.29	0.02
Total Organic Carbon (TOC)	mg/l C	0.52	0.29	0.29	1.08	0.29	0.48
Metalaxyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benalaxyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

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		G-WSC_1 Ghattuq	G-WSC_2 Ghejjun	G-WSC_3 Xhajma	G-WSC_4 Tal- Palma	G-WSC_5 Widien	G-WSC_6 St George
Oxadixyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Propachlor (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Triforine (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Alachlor	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Cymoxanil (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorothalonil (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benomyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Carbendazim (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Lufenuron (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Propamocarb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Mancozeb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Zineb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Ethiofencarb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Carbaryl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Ziram (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
C10-13- chloroalkanes (*)	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.2 Dichloroethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.1.1. Trichloroethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.1.1.2 Tetrachloroethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.2 Dichloropropane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Trichlorobenzenes	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

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Pentacholobenzene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Hexachlorobenzene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
MCPA (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Captan	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Folpet	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Procymidone (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Iprodione (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Trifluralin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Dinocap (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Thiacloprid (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Imidacloprid (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Acetamiprid (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Cloropicrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Dalapon (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetradifon (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Endosulfan	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Lindane	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Hexachlorobutadiene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Pentachlorophenol	µg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Dimethoate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Malathion (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

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		G-WSC_1 Ghattuq	G-WSC_2 Ghejjun	G-WSC_3 Xhajma	G-WSC_4 Tal- Palma	G-WSC_5 Widien	G-WSC_6 St George
Phentoate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Fosetyl – AI (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Glyphosate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Glufosinate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorpyrifos-methyl	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorpyrifos	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Pirimiphos-methyl	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Fenitrothion	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorfenphos	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Anthracene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Fluoranthene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo(a)pyrene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo(b)fluoranthene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo (g,h,i) perylene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo (k)fluoranthene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Indeno(1.2.3-cd)pyrene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Deltamethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Permethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Allethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Cypermethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Bupirimate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		G-WSC_1 Ghattuq	G-WSC_2 Ghejjun	G-WSC_3 Xhajma	G-WSC_4 Tal- Palma	G-WSC_5 Widien	G-WSC_6 St George
Linuron (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Diquat dibromide (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Simazine (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Atrazine	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Prometryn	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Anilazine (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetrabutryn (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Myclobutanil (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Penconazole (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Triadimenol (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Bromoconazole (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Carbon tetrachloride	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Dichloromethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Bromodichloromethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Chlorodibromomethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Bromoform	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Chloroform	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Total Trihalomethanes	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Diuron (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Isoproturon (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Acrylamide	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		G-WSC_1 Ghattuq	G-WSC_2 Ghejjun	G-WSC_3 Xhajma	G-WSC_4 Tal- Palma	G-WSC_5 Widien	G-WSC_6 St George
Benzene	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Brominated diphenylethers (*)	µg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Chlorinated Acetic Acids (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Di(2-ethylhexyl)phthalate (DEHP) (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
EPA 524 screen (*)	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Epichlorhydrin	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Formaldehyde (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Naphthalene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Nonylphenols (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Polyvinyl Methyl Ether (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetrachloroethene	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Trichloroethene	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Tributyltin Compounds:							
Monobutyltin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Dibutyltin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tributyltin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetrabutyltin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Trichloroacetaldehyde (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
2,4,6 Trichlorophenol	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Vinyl chloride	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1

Table 5: Results of the chemical analysis of groundwater samples collected in SESSION 1 (April 2009), from G-WSC_7, G-P_1 Xaghra, G-P_2 Kerċem, G-P_3 Nadur, G-P_4 Victoria and G-P_5 Żebbuġ. 'ND' denotes that the element or compound was not detectable because the respective value was below the detection limit of the method of analysis. Asterisk (*) indicates that the particular test is not accredited.

PARAMETER	Units	Groundwater sample code					
		G-WSC_7 Sajjem	G-P_1 Xagħra	G-P_2 Kerċem	G-P_3 Nadur	G-P_4 Victoria	G-P_5 Żebbuġ
Ammonium	mg/l NH ₄ ⁻	ND <0.01	4.99	ND <0.01	0.1	ND <0.01	ND <0.01
Bromate	mg/l	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002
Calcium Hardness	mg/l CaCO ₃	413.9	286.6	286.6	238.8	278.6	429.8
Magnesium Hardness	mg/l CaCO ₃	501.5	127.4	127.4	33.8	278.6	119.4
Total Hardness	mg/l CaCO ₃	915.4	413.9	413.9	272.6	557.2	549.2
Chlorides	mg/l Cl ⁻	1413.3	202.9	156.5	152.6	344.2	261.6
Chlorite	mg/l	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002
Cyanide	mg/l	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001
Colour	/	10	70	10	10	10	10
Fluoride	mg/l F	0.93	0.42	0.39	0.31	0.43	0.35
Nitrates	mg/l NO ₃ ⁻	33.3	3.4	126.4	88.4	140.6	315.9
Nitrites	mg/l NO ₂ ⁻	ND <0.01	ND <0.01	ND <0.01	0.76	ND <0.01	ND <0.01
Phosphates	mg/l PO ₄ ³⁻	ND <0.1	0.6	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Silica	mg/l SiO ₂	6.68	6.59	6.39	2.13	5.65	3.87
Sulphates	mg/l SO ₄ ²⁻	254.8	24.4	66.1	32.5	105.1	139.9
Surfactants	mg/l	ND <0.01	0.43	ND <0.01	0.62	ND <0.01	ND <0.01
Total Dissolved Solids	mg/l	3759	820	910	630	1339	1411
Aluminium	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Antimony	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001

PARAMETER	Units	Groundwater sample code					
		G-WSC_7 Sajjem	G-P_1 Xagħra	G-P_2 Kerċem	G-P_3 Nadur	G-P_4 Victoria	G-P_5 Żebbuġ
Arsenic	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Barium	mg/l	0.02	0.03	0.02	0.02	0.03	0.04
Boron	mg/l	0.4	0.11	0.09	0.04	0.14	0.07
Cadmium	mg/l	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001
Calcium	mg/l	165.6	114.6	114.6	95.5	111.4	171.9
Chromium	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Copper	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Iron	mg/l	ND <0.005	0.02	ND <0.005	ND <0.005	ND <0.005	ND <0.005
Lead	mg/l	ND <0.001	ND<1	ND<1	ND<1	ND<1	ND<1
Manganese	mg/l	ND <0.001	0.02	ND<1	ND<1	ND<1	ND<1
Magnesium	mg/l	121.9	30.9	30.9	8.2	67.6	29
Mercury	mg/l	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001
Nickel	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Potassium	mg/l	51.3	11.3	4.2	9.6	15.3	31.3
Selenium	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Sodium	mg/l	1058.3	123.3	103.3	86.7	253.3	233.3
Strontium (*)	mg/l	0.96	0.32	0.48	0.17	0.57	0.37
Zinc	mg/l	0.02	ND <0.005	0.02	ND <0.005	ND <0.005	0.1
Total Organic Carbon (TOC)	mg/l C	1.59	12.87	2.07	1.48	1.28	1.24
Metalaxyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benalaxyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		G-WSC_7 Sajjem	G-P_1 Xagħra	G-P_2 Kercem	G-P_3 Nadur	G-P_4 Victoria	G-P_5 Żebbuġ
Oxadixyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Propachlor (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Triforine (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Alachlor	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Cymoxanil (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorothalonil (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benomyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Carbendazim (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Lufenuron (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Propamocarb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Mancozeb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Zineb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Ethiofencarb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Carbaryl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Ziram (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
C10-13- chloroalkanes (*)	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.2 Dichloroethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.1.1. Trichloroethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.1.1.2 Tetrachloroethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.2 Dichloropropane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Trichlorobenzenes	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		G-WSC_7 Sajjem	G-P_1 Xagħra	G-P_2 Kercem	G-P_3 Nadur	G-P_4 Victoria	G-P_5 Żebbuġ
Pentacholobenzene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Hexachlorobenzene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
MCPA (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Captan	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Folpet	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Procymidone (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Iprodione (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Trifluralin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Dinocap (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Thiacloprid (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Imidacloprid (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Acetamiprid (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Cloropicrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Dalapon (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetradifon (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Endosulfan	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Lindane	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Hexachlorobutadiene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Pentachlorophenol	µg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Dimethoate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Malathion (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		G-WSC_7 Sajjem	G-P_1 Xagħra	G-P_2 Kercem	G-P_3 Nadur	G-P_4 Victoria	G-P_5 Żebbuġ
Phentoate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Fosetyl – Al (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Glyphosate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Glufosinate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorpyrifos-methyl	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorpyrifos	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Pirimiphos-methyl	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Fenitrothion	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorfenphos	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Anthracene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Fluoranthene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo(a)pyrene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo(b)fluoranthene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo (g,h,i) perylene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo (k)fluoranthene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Indeno(1.2.3-cd)pyrene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Deltamethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Permethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Allethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Cypermethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Bupirimate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		G-WSC_7 Sajjem	G-P_1 Xagħra	G-P_2 Kercem	G-P_3 Nadur	G-P_4 Victoria	G-P_5 Żebbuġ
Linuron (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Diquat dibromide (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Simazine (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Atrazine	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Prometryn	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Anilazine (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetrabutryn (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Myclobutanil (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Penconazole (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Triadimenol (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Bromoconazole (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Carbon tetrachloride	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Dichloromethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Bromodichloromethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Chlorodibromomethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Bromoform	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Chloroform	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Total Trihalomethanes	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Diuron (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Isoproturon (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Acrylamide	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		G-WSC_7 Sajjem	G-P_1 Xagħra	G-P_2 Kerċem	G-P_3 Nadur	G-P_4 Victoria	G-P_5 Żebbuġ
Benzene	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Brominated diphenylethers (*)	µg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Chlorinated Acetic Acids (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Di(2-ethylhexyl)phthalate (DEHP) (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
EPA 524 screen (*)	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Epichlorhydrin	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Formaldehyde (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Naphthalene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Nonylphenols (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Polyvinyl Methyl Ether (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetrachloroethene	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Trichloroethene	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Tributyltin Compounds:							
Monobutyltin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Dibutyltin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tributyltin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetrabutyltin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Trichloroacetaldehyde (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
2,4,6 Trichlorophenol	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Vinyl chloride	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1

Table 6: Results of the chemical analysis of groundwater samples collected in SESSION 1 (April 2009), from C-P_5 Comino, M-P_2 Qammiegh, M-P_3 Mellieha, M-P_4 Pwales, M-WSC_1 Mizieb and M-WSC_2 Mgarr. 'ND' denotes that the element or compound was not detectable because the respective value was below the detection limit of the method of analysis. Asterisk (*) indicates that the particular test is not accredited.

PARAMETER	Units	Groundwater sample code					
		C-P_5 Comino	M-P_2 Qammiegh	M-P_3 Mellieha	M-P_4 Pwales	M-WSC_1 Mizieb	M-WSC_2 Mgarr
Ammonium	mg/l NH ₄ ⁺	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Bromate	mg/l	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002
Calcium Hardness	mg/l CaCO ₃	238.8	891.5	254.7	1401	262.7	398
Magnesium Hardness	mg/l CaCO ₃	127.4	509.4	63.7	780.1	111.4	79.6
Total Hardness	mg/l CaCO ₃	366.2	1401	318.4	2181	374.1	477.6
Chlorides	mg/l Cl ⁻	397.4	1296.1	143.4	2430.7	292.7	183.1
Chlorite	mg/l	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002	ND <0.002
Cyanide	mg/l	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001
Colour	/	10	25	20	10	10	10
Fluoride	mg/l F	0.5	0.39	0.35	0.41	0.46	0.36
Nitrates	mg/l NO ₃ ⁻	35.9	335.4	91.8	364.6	34.1	139
Nitrites	mg/l NO ₂ ⁻	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Phosphates	mg/l PO ₄ ³⁻	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Silica	mg/l SiO ₂	6.95	5.67	3.99	7.86	6.2	5.18
Sulphates	mg/l SO ₄ ²⁻	72.5	488.9	34.2	428.2	55.7	93.8
Surfactants	mg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Total Dissolved Solids	mg/l	1225	4403	717	6781	1043	987
Aluminium	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Antimony	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001

PARAMETER	Units	Groundwater sample code					
		C-P_5 Comino	M-P_2 Qammiegh	M-P_3 Mellieħa	M-P_4 Pwales	M-WSC_1 Miżieb	M-WSC_2 Mġarr
Arsenic	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Barium	mg/l	0.02	0.1	0.02	0.1	0.02	0.02
Boron	mg/l	0.18	0.6	0.1	0.28	0.17	0.09
Cadmium	mg/l	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001
Calcium	mg/l	95.5	356.6	101.9	560.4	105.1	159.2
Chromium	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Copper	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Iron	mg/l	ND <0.005	ND <0.005	ND <0.005	ND <0.005	ND <0.005	ND <0.005
Lead	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Manganese	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Magnesium	mg/l	30.9	123.8	15.5	189.6	27.1	19.3
Mercury	mg/l	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001
Nickel	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Potassium	mg/l	9.3	49.3	22.3	24.3	8.1	3.7
Selenium	mg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Sodium	mg/l	313.3	1033.3	93.3	1516.7	223.3	113.3
Strontium (*)	mg/l	0.33	0.99	0.21	1.77	0.33	0.27
Zinc	mg/l	0.03	0.19	ND <0.005	ND <0.005	ND <0.005	0.01
Total Organic Carbon (TOC)	mg/l C	0.82	5.67	0.5	1.04	0.31	0.92
Metalaxyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benalaxyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		C-P_5 Comino	M-P_2 Qammieġh	M-P_3 Mellieħa	M-P_4 Pwales	M-WSC_1 Miżieb	M-WSC_2 Mġarr
Oxadixyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Propachlor (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Triforine (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Alachlor	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Cymoxanil (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorothalonil (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benomyl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Carbendazim (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Lufenuron (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Propamocarb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Mancozeb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Zineb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Ethiofencarb (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Carbaryl (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Ziram (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
C10-13- chloroalkanes (*)	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.2 Dichloroethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.1.1. Trichloroethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.1.2.2 Tetrachloroethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
1.2 Dichloropropane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Trichlorobenzenes	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		C-P_5 Comino	M-P_2 Qammieġh	M-P_3 Mellieħa	M-P_4 Pwales	M-WSC_1 Miżieb	M-WSC_2 Mġarr
Pentacholobenzene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Hexachlorobenzene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
MCPA (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Captan	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Folpet	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Procymidone (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Iprodione (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Trifluralin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Dinocap (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Thiacloprid (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Imidacloprid (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Acetamiprid (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Cloropicrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Dalapon (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetradifon (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Endosulfan	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Lindane	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Hexachlorobutadiene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Pentachlorophenol	µg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Dimethoate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Malathion (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		C-P_5 Comino	M-P_2 Qammieġh	M-P_3 Mellieħa	M-P_4 Pwales	M-WSC_1 Miżieb	M-WSC_2 Mġarr
Phentoate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Fosetyl – Al (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Glyphosate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Glufosinate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorpyrifos-methyl	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorpyrifos	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Pirimiphos-methyl	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Fenitrothion	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Chlorfenphos	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Anthracene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Fluoranthene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo(a)pyrene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo(b)fluoranthene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo (g,h,i) perylene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Benzo (k)fluoranthene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Indeno(1.2.3-cd)pyrene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Deltamethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Permethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Allethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Cypermethrin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Bupirimate (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		C-P_5 Comino	M-P_2 Qammieġh	M-P_3 Mellieħa	M-P_4 Pwales	M-WSC_1 Miżieb	M-WSC_2 Mġarr
Linuron (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Diquat dibromide (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Simazine (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Atrazine	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Prometryn	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Anilazine (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetrabutryn (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Myclobutanil (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Penconazole (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Triadimenol (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Bromoconazole (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Carbon tetrachloride	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Dichloromethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Bromodichloromethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Chlorodibromomethane	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Bromoform	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Chloroform	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Total Trihalomethanes	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Diuron (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Isoproturon (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Acrylamide	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01

PARAMETER	Units	Groundwater sample code					
		C-P_5 Comino	M-P_2 Qammieġh	M-P_3 Mellieħa	M-P_4 Pwales	M-WSC_1 Miżieb	M-WSC_2 Mġarr
Benzene	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Brominated diphenylethers (*)	µg/l	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001
Chlorinated Acetic Acids (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Di(2-ethylhexyl)phthalate (DEHP) (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
EPA 524 screen (*)	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Epichlorhydrin	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Formaldehyde (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Naphthalene	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Nonylphenols (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Polyvinyl Methyl Ether (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetrachloroethene	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Trichloroethene	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1
Tributyltin Compounds:							
Monobutyltin (*)	µg/l	ND <0.01	0.02	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Dibutyltin (*)	µg/l	ND <0.01	0.04	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tributyltin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Tetrabutyltin (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Trichloroacetaldehyde (*)	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
2.4.6 Trichlorophenol	µg/l	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01	ND <0.01
Vinyl chloride	µg/l	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1

Table 7: Results of the chemical analysis of groundwater samples collected in SESSION 2 (July 2009), from WB-264-09 to WB-269-09. 'ND' denotes that the element or compound was not detectable because the respective value was below the detection limit of the method of analysis. Asterisk (*) indicates that the particular test is not accredited.

PARAMETER	Units	Groundwater sample code					
		WB-264-09 Wied il-Qlejgħa	WB-265-09 Naxxar PS	WB-266-09 Lewża BH	WB-267-09 Iklin II BH	WB-268-09 Zahra BH	WB-269-09 Farżina BH
Ammonium	mg/l NH ₄ -	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Bromate	mg/l	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002
Calcium Hardness	mg/l CaCO ₃	291.9	205.1	260.3	327.4	268.2	351
Magnesium Hardness	mg/l CaCO ₃	98.6	47.3	57.2	159.7	145.9	124.2
Total Hardness	mg/l CaCO ₃	390.5	252.4	317.5	487.1	414.1	475.3
Chlorides	mg/l Cl ⁻	198.8	194.3	376.7	609.8	247.5	725.7
Chlorite	mg/l	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002
Cyanide	mg/l	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001
Colour	/	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Fluoride	mg/l F	0.64	0.31	0.58	0.47	1.07	0.73
Nitrates	mg/l NO ₃ -	94.5	68	67.8	84.9	58.7	77.4
Nitrites	mg/l NO ₂ -	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Phosphates	mg/l PO ₄ 3-	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Silica	mg/l SiO ₂	9.29	5.57	8.64	7.8	16.19	11.23
Sulphates	mg/l SO ₄ 2-	85	33.4	44.1	97.4	90.4	30.9
Surfactants	mg/l	0.194	0.068	0.099	0.198	0.111	0.129
Total Dissolved Solids	mg/l	803	655	1021	1652	916	1768
Aluminium	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Antimony	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001

PARAMETER	Units	Groundwater sample code					
		WB-264-09 Wied il-Qlejgħa	WB-265-09 Naxxar PS	WB-266-09 Lewża BH	WB-267-09 Iklin II BH	WB-268-09 Zahra BH	WB-269-09 Farżina BH
Arsenic	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Barium	mg/l	0.01	0.01	0.03	0.02	0.03	0.03
Boron	mg/l	0.11	0.09	0.09	0.21	0.14	0.09
Cadmium	mg/l	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001
Calcium	mg/l	105.1	89.2	89.2	159.2	108.3	98.7
Chromium	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Copper	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Iron	mg/l	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005
Lead	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Manganese	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Magnesium	mg/l	52.2	121.9	102.5	34.8	13.5	40.6
Mercury	mg/l	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001
Nickel	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Potassium	mg/l	6.9	9.6	6.3	11.3	7.8	9.4
Selenium	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Sodium	mg/l	131.3	117.3	201.7	378.3	147.3	388.3
Strontium (*)	mg/l	0.48	0.15	0.3	0.53	1.01	0.75
Zinc	mg/l	ND < 0.005	ND < 0.005	0.01	0.02	ND < 0.005	ND < 0.005
Total Organic Carbon (TOC)	mg/l C	0.7	0.45	0.87	0.87	1.2	0.56
Metalaxyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benalaxyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code					
		WB-264-09 Wied il-Qlejgħa	WB-265-09 Naxxar PS	WB-266-09 Lewża BH	WB-267-09 Iklin II BH	WB-268-09 Zahra BH	WB-269-09 Farżina BH
Oxadixyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Propachlor (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Triforine (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Alachlor	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Cymoxanil (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorothalonil (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benomyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Carbendazim (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Lufenuron (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Propamocarb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Mancozeb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Zineb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Ethiofencarb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Carbaryl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Ziram (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
C10-13- chloroalkanes (*)	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
1.2 Dichloroethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
1.1.1. Trichloroethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
1.1.2.2 Tetrachloroethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
1.2 Dichloropropane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Trichlorobenzenes	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code					
		WB-264-09 Wied il-Qlejgħa	WB-265-09 Naxxar PS	WB-266-09 Lewża BH	WB-267-09 Iklin II BH	WB-268-09 Zahra BH	WB-269-09 Farżina BH
Pentacholobenzene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Hexachlorobenzene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
MCPA (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Captan	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Folpet	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Procymidone (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Iprodione (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Trifluralin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Dinocap (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Thiacloprid (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Imidacloprid (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Acetamiprid (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Cloropicrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Dalapon (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetradifon (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Endosulfan	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Lindane	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Hexachlorobutadiene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Pentachlorophenol	µg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Dimethoate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Malathion (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code					
		WB-264-09 Wied il-Qlejgħa	WB-265-09 Naxxar PS	WB-266-09 Lewża BH	WB-267-09 Iklin II BH	WB-268-09 Zahra BH	WB-269-09 Farżina BH
Phentoate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Fosetyl – Al (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Glyphosate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Glufosinate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorpyrifos-methyl	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorpyrifos	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Pirimiphos-methyl	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Fenitrothion	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorfenphos	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Anthracene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Fluoranthene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo(a)pyrene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo(b)fluoranthene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo (g,h,i) perylene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo (k)fluoranthene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Indeno(1.2.3-cd)pyrene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Deltamethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Permethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Allethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Cypermethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Bupirimate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code					
		WB-264-09 Wied il-Qlejgħa	WB-265-09 Naxxar PS	WB-266-09 Lewża BH	WB-267-09 Iklin II BH	WB-268-09 Zahra BH	WB-269-09 Farżina BH
Linuron (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Diquat dibromide (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Simazine (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Atrazine	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Prometryn	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Anilazine (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetrabutryn (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Myclobutanil (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Penconazole (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Triadimenol (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Bromoconazole (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Carbon tetrachloride	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Dichloromethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Bromodichloromethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Chlorodibromomethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Bromoform	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Chloroform	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Total Trihalomethanes	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Diuron (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Isoproturon (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Acrylamide	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code					
		WB-264-09 Wied il-Qlejgħa	WB-265-09 Naxxar PS	WB-266-09 Lewża BH	WB-267-09 Iklin II BH	WB-268-09 Zahra BH	WB-269-09 Farżina BH
Benzene	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Brominated diphenylethers (*)	µg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Chlorinated Acetic Acids (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Di(2-ethylhexyl)phthalate (DEHP) (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
EPA 524 screen (*)	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Epichlorhydrin	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Formaldehyde (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Naphthalene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Nonylphenols (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Polyvinyl Methyl Ether (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetrachloroethene	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Trichloroethene	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Tributyltin Compounds:							
Monobutyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Dibutyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tributyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetrabutyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Trichloroacetaldehyde (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
2,4,6 Trichlorophenol	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Vinyl chloride	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1

Table 8: Results of the chemical analysis of groundwater samples collected in SESSION 2 (July 2009), from WB-270-09 to WB-275-09. 'ND' denotes that the element or compound was not detectable because the respective value was below the detection limit of the method of analysis. Asterisk (*) indicates that the particular test is not accredited.

PARAMETER	Units	Groundwater sample code					
		WB-270-09	WB-271-09	WB-272-09	WB-273-09	WB-274-09	WB-275-09
		Tal-Ġnien BH	Ħal Far Rsv BH	Dingli Road PS	Wied il-Bużbież Sp	Annunziata Sp	Mosta Private
Ammonium	mg/l NH ₄ ⁻	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Bromate	mg/l	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002
Calcium Hardness	mg/l CaCO ₃	319.5	366.8	579.8	358.9	228.8	291.9
Magnesium Hardness	mg/l CaCO ₃	185.4	319.5	78.9	35.5	41.4	71
Total Hardness	mg/l CaCO ₃	504.8	686.3	658.6	394.4	270.2	362.8
Chlorides	mg/l Cl ⁻	938.8	1486.5	323.2	186.2	106.3	209.2
Chlorite	mg/l	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002
Cyanide	mg/l	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001
Colour	/	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Fluoride	mg/l F	0.43	0.47	0.28	0.35	0.35	0.51
Nitrates	mg/l NO ₃ ⁻	50.8	56.7	353.2	172.5	48.8	72
Nitrites	mg/l NO ₂ ⁻	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Phosphates	mg/l PO ₄ ³⁻	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Silica	mg/l SiO ₂	7.69	7.16	7.24	6.96	6.31	7.86
Sulphates	mg/l SO ₄ ²⁻	75.3	192.4	164.2	85.6	29.8	64.1
Surfactants	mg/l	0.191	0.272	0.504	0.163	0.182	0.155
Total Dissolved Solids	mg/l	1954	3058	1606	886	513	788

PARAMETER	Units	Groundwater sample code					
		WB-270-09	WB-271-09	WB-272-09	WB-273-09	WB-274-09	WB-275-09
		Tal-Ġnien BH	Hal Far Rsv BH	Dingli Road PS	Wied il-Bużbież Sp	Annunziata Sp	Mosta Private
Aluminium	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Antimony	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Arsenic	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Barium	mg/l	0.02	0.02	0.02	0.01	0.01	0.02
Boron	mg/l	0.12	0.3	0.11	0.06	0.05	0.12
Cadmium	mg/l	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001
Calcium	mg/l	165.6	114.6	114.6	95.5	111.4	171.9
Chromium	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Copper	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Iron	mg/l	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005
Lead	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Manganese	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Magnesium	mg/l	121.9	30.9	30.9	8.2	67.6	29
Mercury	mg/l	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001
Nickel	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Potassium	mg/l	11.3	18.3	11.3	3.4	0.9	5.7
Selenium	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Sodium	mg/l	473.3	826.7	186.7	107.3	62.7	127.3
Strontium (*)	mg/l	0.27	0.45	0.55	0.25	0.14	0.36
Zinc	mg/l	ND < 0.005	0.01	0.03	ND < 0.005	0.01	0.02
Total Organic Carbon (TOC)	mg/l C	0.5	0.67	1.86	0.85	0.9	0.99

PARAMETER	Units	Groundwater sample code					
		WB-270-09	WB-271-09	WB-272-09	WB-273-09	WB-274-09	WB-275-09
		Tal-Ġnien BH	Hal Far Rsv BH	Dingli Road PS	Wied il-Bużbież Sp	Annunziata Sp	Mosta Private
Metalaxyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benalaxyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Oxadixyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Propachlor (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Triforine (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Alachlor	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Cymoxanil (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorothalonil (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benomyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Carbendazim (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Lufenuron (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Propamocarb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Mancozeb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Zineb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Ethiofencarb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Carbaryl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Ziram (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
C10-13- chloroalkanes (*)	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
1.2 Dichloroethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
1.1.1. Trichloroethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
1.1.2.2 Tetrachloroethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1

PARAMETER	Units	Groundwater sample code					
		WB-270-09	WB-271-09	WB-272-09	WB-273-09	WB-274-09	WB-275-09
		Tal-Ġnien BH	Hal Far Rsv BH	Dingli Road PS	Wied il-Bużbież Sp	Annunziata Sp	Mosta Private
1.2 Dichloropropane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Trichlorobenzenes	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Pentachlorobenzene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Hexachlorobenzene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
MCPA (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Captan	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Folpet	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Procymidone (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Iprodione (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Trifluralin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Dinocap (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Thiacloprid (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Imidacloprid (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Acetamiprid (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Cloropicrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Dalapon (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetradifon (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Endosulfan	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Lindane	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Hexachlorobutadiene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Pentachlorophenol	µg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001

PARAMETER	Units	Groundwater sample code					
		WB-270-09	WB-271-09	WB-272-09	WB-273-09	WB-274-09	WB-275-09
		Tal-Ġnien BH	Hal Far Rsv BH	Dingli Road PS	Wied il-Bużbież Sp	Annunziata Sp	Mosta Private
Dimethoate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Malathion (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Phentoate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Fosetyl – Al (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Glyphosate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Glufosinate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorpyrifos-methyl	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorpyrifos	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Pirimiphos-methyl	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Fenitrothion	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorfenphos	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Anthracene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Fluoranthene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo(a)pyrene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo(b)fluoranthene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo (g,h,i) perylene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo (k)fluoranthene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Indeno(1.2.3-cd)pyrene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Deltamethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Permethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Allethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code					
		WB-270-09	WB-271-09	WB-272-09	WB-273-09	WB-274-09	WB-275-09
		Tal-Ġnien BH	Ħal Far Rsv BH	Dingli Road PS	Wied il-Bużbież Sp	Annunziata Sp	Mosta Private
Cypermethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Bupirimate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Linuron (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Diquat dibromide (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Simazine (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Atrazine	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Prometryn	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Anilazine (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetrabutryn (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Myclobutanil (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Penconazole (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Triadimenol (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Bromoconazole (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Carbon tetrachloride	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Dichloromethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Bromodichloromethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Chlorodibromomethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Bromoform	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Chloroform	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Total Trihalomethanes	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Diuron (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code					
		WB-270-09	WB-271-09	WB-272-09	WB-273-09	WB-274-09	WB-275-09
		Tal-Ġnien BH	Ħal Far Rsv BH	Dingli Road PS	Wied il-Bużbież Sp	Annunziata Sp	Mosta Private
Isoproturon (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Acrylamide	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzene	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Brominated diphenylethers (*)	µg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Chlorinated Acetic Acids (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Di(2-ethylhexyl)phthalate (DEHP) (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
EPA 524 screen (*)	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Epichlorhydrin	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Formaldehyde (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Naphthalene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Nonylphenols (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Polyvinyl Methyl Ether (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetrachloroethene	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Trichloroethene	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Tributyltin Compounds:							
Monobutyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Dibutyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tributyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetrabutyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Trichloroacetaldehyde (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code					
		WB-270-09	WB-271-09	WB-272-09	WB-273-09	WB-274-09	WB-275-09
		Tal-Ġnien BH	Hal Far Rsv BH	Dingli Road PS	Wied il-Bużbież Sp	Annunziata Sp	Mosta Private
2.4.6 Trichlorophenol	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Vinyl chloride	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1

Table 9: Results of the chemical analysis of groundwater samples collected in SESSION 2 (July 2009), from WB-276-09 to WB-280-09. 'ND' denotes that the element or compound was not detectable because the respective value was below the detection limit of the method of analysis. Asterisk (*) indicates that the particular test is not accredited.

PARAMETER	Units	Groundwater sample code				
		WB-276-09 Żejtun Private	WB-277-09 Qrendi Private	WB-278-09 Baħrija Private	WB-279-09 Marfa Private	WB-280-09 Xagħra Private
Ammonium	mg/l NH ₄ -	ND < 0.01	0.03	ND < 0.01	ND < 0.01	ND < 0.01
Bromate	mg/l	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002
Calcium Hardness	mg/l CaCO ₃	631	323.4	260.3	418.1	429.9
Magnesium Hardness	mg/l CaCO ₃	335.2	59.2	47.3	358.9	153.8
Total Hardness	mg/l CaCO ₃	966.3	382.6	307.6	777	583.7
Chlorides	mg/l Cl ⁻	1634.9	271.7	161.1	878.9	189.2
Chlorite	mg/l	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002	ND < 0.002
Cyanide	mg/l	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001
Colour	/	ND < 0.1	ND < 0.1	ND < 0.1	25	ND < 0.1
Fluoride	mg/l F	0.44	0.38	0.31	0.48	0.32
Nitrates	mg/l NO ₃ -	137.9	152.2	84	213.4	215.2
Nitrites	mg/l NO ₂ -	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Phosphates	mg/l PO ₄ 3-	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Silica	mg/l SiO ₂	9.23	7.66	7.09	7.39	6.53
Sulphates	mg/l SO ₄ 2-	260.1	33.8	44.1	281.4	204.9
Surfactants	mg/l	0.315	0.27	0.096	0.573	0.404
Total Dissolved Solids	mg/l	3849	972	653	2425	1166
Aluminium	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001

PARAMETER	Units	Groundwater sample code				
		WB-276-09	WB-277-09	WB-278-09	WB-279-09	WB-280-09
		Żejtun Private	Qrendi Private	Baħrija Private	Marfa Private	Xagħra Private
Antimony	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Arsenic	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Barium	mg/l	0.04	0.03	0.01	0.05	0.03
Boron	mg/l	0.48	0.07	0.07	0.63	0.13
Cadmium	mg/l	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001
Calcium	mg/l	95.5	356.6	101.9	560.4	105.1
Chromium	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Copper	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Iron	mg/l	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005
Lead	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Manganese	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Magnesium	mg/l	30.9	123.8	15.5	189.6	27.1
Mercury	mg/l	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001	ND < 0.0001
Nickel	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Potassium	mg/l	17.3	8.3	8.3	16.3	8.1
Selenium	mg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Sodium	mg/l	985	147.3	82.7	483.3	157.3
Strontium (*)	mg/l	0.93	0.29	0.17	0.68	0.34
Zinc	mg/l	ND < 0.005	0.31	ND < 0.005	0.02	0.02
Total Organic Carbon (TOC)	mg/l C	1.77	0.64	0.68	7.74	2.74

PARAMETER	Units	Groundwater sample code				
		WB-276-09	WB-277-09	WB-278-09	WB-279-09	WB-280-09
		Żejtun Private	Qrendi Private	Baħrija Private	Marfa Private	Xagħra Private
Metalaxyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benalaxyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Oxadixyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Propachlor (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Triforine (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Alachlor	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Cymoxanil (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorothalonil (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benomyl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Carbendazim (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Lufenuron (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Propamocarb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Mancozeb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Zineb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Ethiofencarb (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Carbaryl (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Ziram (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
C10-13- chloroalkanes (*)	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
1.2 Dichloroethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
1.1.1. Trichloroethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
1.1.2.2 Tetrachloroethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1

PARAMETER	Units	Groundwater sample code				
		WB-276-09	WB-277-09	WB-278-09	WB-279-09	WB-280-09
		Żejtun Private	Qrendi Private	Baħrija Private	Marfa Private	Xagħra Private
1.2 Dichloropropane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Trichlorobenzenes	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Pentacholobenzene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Hexachlorobenzene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
MCPA (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Captan	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Folpet	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Procyimidone (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Iprodione (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Trifluralin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Dinocap (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Thiacloprid (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Imidacloprid (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Acetamiprid (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Cloropicrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Dalapon (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetradifon (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Endosulfan	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Lindane	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Hexachlorobutadiene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Pentachlorophenol	µg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001

PARAMETER	Units	Groundwater sample code				
		WB-276-09	WB-277-09	WB-278-09	WB-279-09	WB-280-09
		Żejtun Private	Qrendi Private	Baħrija Private	Marfa Private	Xagħra Private
Dimethoate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Malathion (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Phentoate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Fosetyl – AI (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Glyphosate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Glufosinate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorpyrifos-methyl	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorpyrifos	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Pirimiphos-methyl	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Fenitrothion	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Chlorfenphos	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Anthracene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Fluoranthene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo(a)pyrene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo(b)fluoranthene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo (g,h,i) perylene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzo (k)fluoranthene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Indeno(1.2.3-cd)pyrene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Deltamethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Permethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Allethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code				
		WB-276-09	WB-277-09	WB-278-09	WB-279-09	WB-280-09
		Żejtun Private	Qrendi Private	Baħrija Private	Marfa Private	Xagħra Private
Cypermethrin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Bupirimate (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Linuron (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Diquat dibromide (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Simazine (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Atrazine	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Prometryn	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Anilazine (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetrabutryn (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Myclobutanil (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Penconazole (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Triadimenol (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Bromoconazole (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Carbon tetrachloride	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Dichloromethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Bromodichloromethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Chlorodibromomethane	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Bromoform	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Chloroform	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Total Trihalomethanes	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Diuron (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code				
		WB-276-09	WB-277-09	WB-278-09	WB-279-09	WB-280-09
		Żejtun Private	Qrendi Private	Baħrija Private	Marfa Private	Xagħra Private
Isoproturon (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Acrylamide	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Benzene	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Brominated diphenylethers (*)	µg/l	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001	ND < 0.001
Chlorinated Acetic Acids (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Di(2-ethylhexyl)phthalate (DEHP) (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
EPA 524 screen (*)	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Epichlorhydrin	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Formaldehyde (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Naphthalene	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Nonylphenols (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Polyvinyl Methyl Ether (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetrachloroethene	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Trichloroethene	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1
Tributyltin Compounds:						
Monobutyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Dibutyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tributyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Tetrabutyltin (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01

PARAMETER	Units	Groundwater sample code				
		WB-276-09	WB-277-09	WB-278-09	WB-279-09	WB-280-09
		Żejtun Private	Qrendi Private	Baħrija Private	Marfa Private	Xagħra Private
Trichloroacetaldehyde (*)	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
2.4.6 Trichlorophenol	µg/l	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01	ND < 0.01
Vinyl chloride	µg/l	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1	ND < 0.1

Appraisal

17. Overall, the boreholes and stations operated by WSC in Gozo appeared better maintained than the ones in Malta. The housing rooms in Gozo were generally cleaner than those in Malta; while some pipe system components and flanges in Maltese borehole housing rooms appeared rusty (see Figures 2 and 3). Soil, sediment and dead plant material were particularly abundant on the floor of the borehole housing room at Wied il-Qlejjgħa.



Figure 2. Rusty flange at the Wied il-Qlejjgħa Pumping Station



Figure 3. Clean and well maintained pipe system components at Sajjem (Gozo) Pumping Station

18. Private wells varied in nature, from ones that do not have any pump to others that had an electrical or a solar powered pump (See Figure 4). Some sources transfer water directly to the irrigation system, whilst others divert water to a storage reservoir. In general, being located in agricultural settings, a number of wells had pump rooms that house agricultural tools and equipment but, overall, the systems were well maintained and clean. In particular, the pump

used to draw water from the Comino well appeared to be excessively oiled; since oil residue was present over a great part of the pump system surfaces (see Figure 5). Some private springs that directly supply water to fields were only covered by stone slabs, if at all.



Figure 4. Solar power operated water pump in Mosta



Figure 5. Water pump at the Comino borehole, having oily residues on the surface.

19. Specific observations for individual stations are presented in Table 10, whilst photos taken at every station are being appended on CD as Appendix II.

Table 10. Site specific observations made during sample collection.

SESSION 1 (April 2009)

Sample Reference Code	Site observations
Għattuq Borehole	No outstanding issues. Some pipework rusty.
Wied I-Għejjun Borehole	No outstanding issues. Some pipework rusty.
Xħajma Borehole	No outstanding issues.
Tal-Palma Borehole	No outstanding issues.
Widien Borehole	No outstanding issues.
St George Borehole	No outstanding issues.
Sajjem Borehole	No outstanding issues.
Xagħra Station	Sample collected from a different opening to same spring than that shown on map. Spring is located amidst worked fields, water was clearly seen flowing. No pump in place; used bucket to collect sample.
Kerċem Station	Spring is located amidst worked fields; working pump dispenses water to reservoir. Sample collected from pipe connected to pump. Retains water even in summer. Dug by owner, approximately 100 feet deep.
Nadur Station	Well located at the owner's residence. No water retained in summer, so connected to receive water from roof-top. No agriculture on site.
Victoria Station	Spring is located amidst worked fields. Sample collected by bucket. No permanent pump in place, a portable pump is used when watering the fields.
Żebbuġ Station	No outstanding issues.
Comino Station	Borehole having a well-oiled pump; the water was collected via a tap linked to the pump. The water collected initially to rinse the bucket seemed to contain a thin film of oil.
Qammiegħ Station	Spring is located amidst worked fields. Sample collected by bucket, pump in place but not in use.
Mellieħa Station	Spring of running water was present. Water passes through stone water-channels and is eventually collected in small reservoirs. Sample was collected from the fresh stream of water.
Pwales Station	Rusty pump in place; sample collected by pump.
Miżieb Station	Water collected via tap connected to pump
Mgarr Station	Water not in use, is on constant wash-out due to a fuel leak from a petrol station in the vicinity. Sample collected from the water being washed out.

SESSION 2 (July 2009)

Sample Reference Code	Site observations
Wied il-Qlejjgħa Pumping Station	Some pipework rusty. Soil and dead plant material abundant on the floor of the housing room.
Naxxar Pumping Station	Some pipework rusty.
Lewża Borehole	Clean and recently installed pipework.

Iklin II Borehole	No outstanding issues. Some pipework rusty.
Zahra Borehole	No outstanding issues. Some pipework rusty.
Farżina (OLD) Borehole	No outstanding issues.
Tal-Ġnien Borehole	No outstanding issues.
Hal Far Reservoir	No outstanding issues.
Dingli Road Borehole	No outstanding issues. Some pipework rusty.
Wied il-Bużbież Spring	No outstanding issues.
Annunziata Spring	Spring opening is protected by a small shed with steps leading to the water. The water was quite clear and reached the top of the second step. Moderately rusty pipework was visible beneath the surface.
Mosta Private Well	Solar powered pump in use, which continuously pumps water during the day, filling a reservoir.
Żejtun Private Well	All pipework clean, with PVC components; borehole located in a clean, locked shed. Water collected from irrigation pipe.
Qrendi Private Well	Borehole located in a field, normally covered with a stone slab. Water collected in a bucket from a wide bore pipe connected to a pump.
Baħrija Private Spring	Spring with open access. Water fills reservoir which has a tap at the bottom leading flow of water through stone troughs towards fields. Samples collected directly from the flow in the stone trough.
Marfa Private Well	Borehole selected by MRA is no longer in use by owner due to malfunctioning old pump, which was rusty and oiled. Borehole opening is within an agricultural shed that contains many tools and other equipment. Samples were collected directly from the well using a bucket. Water was not clear.
Xagħra, Gozo Private Well	Four boreholes present in the field, samples collected from the one used most. Sample collected by fuel driven motor pump. Water supply lasts throughout the year. The well opening is at the soil surface.

APPENDIX I

Analytical Methodology used for the analysis of groundwater

Microbiological Parameters			
Parameter		Units	Analytical Methodology
1	Total Coliforms	cfu/100ml	ISO7704 & ISO 9308-1
2	Faecal Coliforms	cfu/100ml	ISO7704 & ISO 9308-1
3	Faecal Streptococci	cfu/100ml	ISO7704 & ISO 6222
4	Total Bacterial Count 37°C	cfu/ml	ISO7704 & ISO 6222
5	Total Bacterial Count 22°C	cfu/ml	ISO7704& ISO 6222

INORGANICS			
Parameter		Units	Analytical Methodology
1	Ammonium	mg/l NH ₄ ⁺	APAT CNR IRSA 4030 A1 Man 29 2003
2	Bromate	mg/l	EPA 300.1 1999
3	Calcium Hardness	mg/l CaCO ₃	APAT CNR IRSA 3130 A Man 29 2003
4	Magnesium Hardness	mg/l CaCO ₃	APAT CNR IRSA 3180 A Man 29 2003
5	Total Hardness	mg/l CaCO ₃	APAT CNR IRSA 2040 B Man 29 2003
6	Chlorides	mg/l Cl ⁻	EPA 300.1 1999
7	Chlorite	mg/l	EPA 300.1 1999
8	Cyanide	mg/l	APAT CNR IRSA 4070 Man 29 2003
9	Colour		APAT CNR IRSA 2020 A/C Man 29 2003
10	Fluoride	mg/l F	EPA 300.1 1999
11	Nitrates	mg/l NO ₃ ⁻	EPA 300.1 1999
12	Nitrites	mg/l NO ₂ ⁻	EPA 300.1 1999
13	Phosphates	mg/l PO ₄ ³⁻	EPA 300.1 1999
14	Silica	mg/l SiO ₂	APAT CNR IRSA 4130 Man 29 2003
15	Sulphates	mg/l SO ₄ ²⁻	APAT CNR IRSA 4130 Man 29 2003
16	Surfactants	mg/l	APAT CNR IRSA 5170 Man 29 2003
17	Total Dissolved Solids	mg/l	APAT CNR IRSA 2090 A Man 29 2003

METALS			
Parameter		Units	Analytical Methodology
1	Aluminium	mg/l	APAT CNR IRSA 3050 B Man 29 2003
2	Antimony	mg/l	APHA Standard Methods for the Examination of Water and Wastewater, ed 21 th 2005, 3113 B
3	Arsenic	mg/l	APHA Standard Methods for the Examination of Water and Wastewater, ed 21 th 2005, 3113

			B
4	Barium	mg/l	APAT CNR IRSA 3090 B Man 29 2003
5	Boron	mg/l	APAT CNR IRSA 3110 A1 Man 29 2003
6	Cadmium	mg/l	APAT CNR IRSA 3120 Man 29 2003
7	Calcium	mg/l	APAT CNR IRSA 3130 A Man 29 2003
8	Chromium	mg/l	APAT CNR IRSA 3150 B1 Man 29 2003
9	Copper	mg/l	APAT CNR IRSA 3250 B Man 29 2003
10	Iron	mg/l	APAT CNR IRSA 3160 B Man 29 2003
11	Lead	mg/l	APAT CNR IRSA 3230 B Man 29 2003
12	Manganese	mg/l	APAT CNR IRSA 3190 B Man 29 2003
13	Magnesium	mg/l	APAT CNR IRSA 3180 A Man 29 2003
14	Mercury	mg/l	APAT CNR IRSA 3200 A1 Man 29 2003
15	Nickel	mg/l	APAT CNR IRSA 3220 B Man 29 2003
16	Potassium	mg/l	APAT CNR IRSA 3240 Man 29 2003
17	Selenium	mg/l	APAT CNR IRSA 3260 A Man 29 2003
18	Sodium	mg/l	APAT CNR IRSA 3270 Man 29 2003
19	Strontium	mg/l	APAT CNR IRSA 3020 Man 29 2003
20	Zinc	mg/l	APAT CNR IRSA 3320 A Man 29 2003

ORGANIC COMPOUNDS			
Parameter		Units	Analytical Methodology
	Total Organic Carbon (TOC)	mg/l C	UNI EN 1484:1999
Amides			
	Metalaxyl	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Benalaxyl	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Oxadixyl	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Propachlor	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Triforine	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Alachlor	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Aliphatic Nitrogen Fungicides			
	Cymoxanil	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Aromatic Fungicides			
	Chlorothalonil	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Benzimidazoles			
	Benomyl	µg/l	APAT CNR IRSA 5060 Man 29 2003
	Carbendazim	µg/l	APAT CNR IRSA 5060 Man 29 2003
Benzoylurea			

	Lufenuron	µg/l	APAT CNR IRSA 5060 Man 29 2003
Carbamates Dithiocarbamates			
	Propamocarb	µg/l	DLgs 18/04/1981 GU n°155 08/06/1981
	Mancozeb	µg/l	DLgs 18/04/1981 GU n°155 08/06/1981
	Zineb	µg/l	DLgs 18/04/1981 GU n°155 08/06/1981
	Ethiofencarb	µg/l	DLgs 18/04/1981 GU n°155 08/06/1981
	Carbaryl	µg/l	DLgs 18/04/1981 GU n°155 08/06/1981
	Ziram	µg/l	DLgs 18/04/1981 GU n°155 08/06/1981
Chlorinated Alkanes			
	C ₁₀₋₁₃ - chloroalkanes	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	1,2-dichloroethane	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	1,1,1, Trichloroethane	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	1,1,2,2 Tetrachloroethane	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	1,2 Dichloropropane	µg/l	EPA 5030C 2003 + EPA 8260C 2006
Chlorinated Benzenes			
	Trichlorobenenes	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Pentacholobenzene	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Hexachlorobenzene	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Chlorophenoxy Acids			
	MCPA	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Dicarboximides			
	Captan	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Folpet	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Procymidone	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Iprodione	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Dinitroanilines			
	Trifluralin	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Dinitrophenols			
	Dinocap	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Nicotinoids			
	Thiacloprid	µg/l	APAT CNR IRSA 5060 Man 29 2003
	Imidacloprid	µg/l	APAT CNR IRSA 5060 Man 29 2003
	Acetamiprid	µg/l	APAT CNR IRSA 5060 Man 29 2003
Organochlorines			
	Cloropicrin	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Dalapon	µg/l	EPA 3510C 1996 + EPA 8270D 2007

	Tetradifon	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Endosulfan	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Lindane	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Hexachlorobutadiene	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	Pentachlorophenol	µg/l	APHA Standard Methods for the Examination of Water and Wastewater, ed 21 st 2005, 6410 B
Organophosphates			
	Dimethoate	µg/l	APAT CNR IRSA 5100 Man 29 2003
	Malathion	µg/l	APAT CNR IRSA 5100 Man 29 2003
	Phentoate	µg/l	APAT CNR IRSA 5100 Man 29 2003
	Fosetyl - Al	µg/l	APAT CNR IRSA 5100 Man 29 2003
	Glyphosate	µg/l	APAT CNR IRSA 5100 Man 29 2003
	Glufosinate	µg/l	APAT CNR IRSA 5100 Man 29 2003
	Chlorpyrifos-methyl	µg/l	APAT CNR IRSA 5100 Man 29 2003
	Chlorpyrifos	µg/l	APAT CNR IRSA 5100 Man 29 2003
	Pirimiphos-methyl	µg/l	APAT CNR IRSA 5100 Man 29 2003
	Fenitrothin	µg/l	APAT CNR IRSA 5100 Man 29 2003
	Chlorfenvinphos	µg/l	APAT CNR IRSA 5100 Man 29 2003
Polycyclic Aromatic Hydrocarbons			
	Anthracene	µg/l	APAT CNR IRSA 5080 Man 29 2003
	Fluoranthene	µg/l	APAT CNR IRSA 5080 Man 29 2003
	Benzo(a)pyrene	µg/l	APAT CNR IRSA 5080 Man 29 2003
	Benzo(b)fluoranthene	µg/l	APAT CNR IRSA 5080 Man 29 2003
	Benzo (g,h,i) perylene	µg/l	APAT CNR IRSA 5080 Man 29 2003
	Benzo (k)fluoranthene	µg/l	APAT CNR IRSA 5080 Man 29 2003
	Indeno(1,2,3-cd)pyrene)	µg/l	APAT CNR IRSA 5080 Man 29 2003
Pyrethroids			
	Deltamethrin	µg/l	APAT CNR IRSA 5060 Man 29 2003
	Permethrin	µg/l	APAT CNR IRSA 5060 Man 29 2003
	Allethrin	µg/l	APAT CNR IRSA 5060 Man 29 2003
	Cypermethrin	µg/l	APAT CNR IRSA 5060 Man 29 2003
Pyrimidines			
	Bupirimate	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Phenylurea Herbicides			
	Linuron	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Quaternary Ammonium Herbicides			

	Diquat dibromide	µg/l	APAT CNR IRSA 5060 Man 29 2003
Triazines			
	Simazine	µg/l	APAT CNR IRSA 5060 Man 29 2003
	Atrazine	µg/l	APAT CNR IRSA 5060 Man 29 2003
	Prometryn	µg/l	APAT CNR IRSA 5060 Man 29 2003
	Anilazine	µg/l	APAT CNR IRSA 5060 Man 29 2003
	Tetrabutryn	µg/l	APAT CNR IRSA 5060 Man 29 2003
Triazoles			
	Myclobutanil	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Penconazole	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Triadimenol	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Bromoconazole	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Trihalomethanes			
	Carbon tetrachloride	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	Dichloromethane	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	Trichloromethane	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	Bromodichloromethane	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	Chlorodibromomethane	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	Bromoform	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	Chloroform	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	Total Trihalomethanes	µg/l	EPA 5030C 2003 + EPA 8260C 2006
Urea Herbicides			
	Diuron	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Isoproturon	µg/l	EPA 3510C 1996 + EPA 8270D 2007
Other Organic Compounds			
	Acrylamide	µg/l	EPA 8032A 1996
	Benzene	µg/l	EPA 5030C 2003 + EPA 8260C 2006
	Brominated diphenylethers	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Chlorinated Acetic Acids	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Di(2-ethylhexyl)phthalate (DEHP)	µg/l	EPA 3535A 2007 + EPA 8061A 1996
	EPA 524 screen	µg/l	EPA 524.2 1995
	Epichlorhydrin	µg/l	UNI EN 14207:2003
	Formaldehyde	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Naphthalene	µg/l	APAT CNR IRSA 5080 Man 29 2003
	Nonylphenols	µg/l	APHA Standad Methods
	Polyvinyl Methyl Ether	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	Tetrachloroethene	µg/l	EPA 3530C 2003 + EPA 8260C 2006
	Trichloroethene	µg/l	EPA 3530C 2003 + EPA 8260C 2006
	Tributyltin Cpds.	µg/l	UNI EN ISO 17353:2006

	Trichloroacetaldehyde	µg/l	EPA 3510C 1996 + EPA 8270D 2007
	2,4,6-trichlorophenol	µg/l	APHA Standard Methods for the Examination of Water and Wastewater, ed 21 st 2005, 6410 B
	Vinyl chloride	µg/l	EPA 5030C 2003 + EPA 8260C 2006

APPENDIX II

**Photographs taken at groundwater sampling stations during Sesion 1
(April 2009) and Session 2 (July 2009)**

[Presented on CD]