

TEST REPORT

Report No: QMTL/R-96569/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-96569
		Date Received	07 Mar 2020
		Date(s) Tested	07 Mar 2020 - 09 Mar 2020
		Date Reported	24 Mar 2020
ATTN : MR. JASMAN PINTO			
Sample Description	North Side, Main Water Tank		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	07.03.2020/02:20 PM
Sample Container	1x500ml PB	Sampling Point	Tank
Sample Receipt Temp	4.5°C	Sample Onsite Temp	29°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
MICROBIOLOGICAL ANALYSIS				
E.coli	APHA 9222 H & I (23rd Edition)	CFU/100 ml	Zero	Zero
Fecal Coliforms	APHA 9222 D (23rd Edition)	CFU/100 ml	Zero	Zero
Pseudomonas aeruginosa	APHA 9213 E (23rd Edition)	CFU/100 ml	Zero	Zero
Total Bacterial Count	APHA 9215 B (23rd Edition)	CFU/ml	10@37°C	<1
Total Coliforms	APHA 9222 B (23rd Edition)	CFU/100 ml	Zero	Zero

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, RSB: Regulation & Supervision Bureau, WI: Work Instruction, NA: Not Applicable, NP: Not Provided
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Test method deviation	None
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Test performed by Emp#	14
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Report prepared by Emp#	72
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The above test results are only applicable to the sample(s) referred above.

Reported By




ANILA GEORGE
LABORATORY MANAGER

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END OF REPORT

TEST REPORT

Report No: QMTL/R-96572/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-96572
		Date Received	07 Mar 2020
		Date(s) Tested	07 Mar 2020 - 09 Mar 2020
		Date Reported	24 Mar 2020
ATTN : MR. JASMAN PINTO			
Sample Description	North Side, Janitor Closet		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	07.03.2020/03:00 PM
Sample Container	1x500ml PB	Sampling Point	Tap
Sample Receipt Temp	4.5°C	Sample Onsite Temp	19°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
MICROBIOLOGICAL ANALYSIS				
E.coli	APHA 9222 H & I (23rd Edition)	CFU/100 ml	Zero	Zero
Fecal Coliforms	APHA 9222 D (23rd Edition)	CFU/100 ml	Zero	Zero
Pseudomonas aeruginosa	APHA 9213 E (23rd Edition)	CFU/100 ml	Zero	Zero
Total Bacterial Count	APHA 9215 B (23rd Edition)	CFU/ml	10@37°C	<1
Total Coliforms	APHA 9222 B (23rd Edition)	CFU/100 ml	Zero	Zero

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, RSB: Regulation & Supervision Bureau, WI: Work Instruction, NA: Not Applicable, NP: Not Provided
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Test method deviation	None
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Test performed by Emp#	14
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Report prepared by Emp#	72
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END OF REPORT

TEST REPORT

Report No: QMTL/R-96571/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates ATTN : MR. JASMAN PINTO		Sample ID	QMTL/S-96571
		Date Received	07 Mar 2020
		Date(s) Tested	07 Mar 2020 - 09 Mar 2020
		Date Reported	24 Mar 2020
Sample Description	North Side, Drinking Water Fountain (NYUAD: 00202988)		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	07.03.2020/02:51 PM
Sample Container	1x500ml PB	Sampling Point	Drinking Water Fountain
Sample Receipt Temp	4.5°C	Sample Onsite Temp	16°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
MICROBIOLOGICAL ANALYSIS				
E.coli	APHA 9222 H & I (23rd Edition)	CFU/100 ml	Zero	Zero
Fecal Coliforms	APHA 9222 D (23rd Edition)	CFU/100 ml	Zero	Zero
Pseudomonas aeruginosa	APHA 9213 E (23rd Edition)	CFU/100 ml	Zero	Zero
Total Bacterial Count	APHA 9215 B (23rd Edition)	CFU/ml	10@37°C	<1
Total Coliforms	APHA 9222 B (23rd Edition)	CFU/100 ml	Zero	Zero

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, RSB: Regulation & Supervision Bureau, WI: Work Instruction, NA: Not Applicable, NP: Not Provided
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Test method deviation	None
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Test performed by Emp#	14
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Report prepared by Emp#	72
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END OF REPORT

TEST REPORT

Report No: QMTL/R-96570/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates ATTN : MR. JASMAN PINTO		Sample ID	QMTL/S-96570
		Date Received	07 Mar 2020
		Date(s) Tested	07 Mar 2020 - 09 Mar 2020
		Date Reported	24 Mar 2020
Sample Description	North Side, Irrigation Tank		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	07.03.2020/02:40 PM
Sample Container	1x500ml PB	Sampling Point	Tank
Sample Receipt Temp	4.5°C	Sample Onsite Temp	31°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
MICROBIOLOGICAL ANALYSIS				
E.coli	APHA 9222 H & I (23rd Edition)	CFU/100 ml	23	Zero
Fecal Coliforms	APHA 9222 D (23rd Edition)	CFU/100 ml	23	Zero
Pseudomonas aeruginosa	APHA 9213 E (23rd Edition)	CFU/100 ml	-	Zero
Total Bacterial Count	APHA 9215 B (23rd Edition)	CFU/ml	-	8
Total Coliforms	APHA 9222 B (23rd Edition)	CFU/100 ml	-	Zero

Remarks	The sample meets RSB Recycled Water and Biosolids Regulations 2018(Second Edition) requirements for irrigation water with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, RSB: Regulation & Supervision Bureau, WI: Work Instruction, NA: Not Applicable, NP: Not Provided
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Test method deviation	None
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Test performed by Emp#	14
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Report prepared by Emp#	72
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TEST REPORT

Report No: QMTL/R-96601/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates ATTN : MR. JASMAN PINTO	Sample ID	QMTL/S-96601	
	Date Received	07 Mar 2020	
	Date(s) Tested	07 Mar 2020 - 17 Mar 2020	
	Date Reported	21 Mar 2020	
Sample Description	North Side, Main Tank		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	07.03.2020/2:20 PM
Sample Container	1x1L PB	Sampling Point	Tank
Sample Receipt Temp	20°C	Sample Onsite Temp	29°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
LEGIONELLA ANALYSIS				
Legionella	CCFRA 3.9.1 (5th Edition)	CFU/litre	<1	Not Detected
Legionella pneumophila sero group 1	CCFRA 3.9.1 (5th Edition)	-	-	Absent
Legionella pneumophila sero group 2-15	CCFRA 3.9.1 (5th Edition)	-	-	Absent
Legionella Species	CCFRA 3.9.1 (5th Edition)	-	-	Absent

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, CCFRA: Campden & Chorleywood Food Research Association, RSB: Regulation & Supervision Bureau, NA: Not Applicable, NP: Not Provided, WI: Work Instruction.
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Test method deviation	None
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Test performed by Emp#	74 & 78 & 55
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Report prepared by Emp#	72
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TEST REPORT

Report No: QMTL/R-96604/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates ATTN : MR. JASMAN PINTO	Sample ID	QMTL/S-96604	
	Date Received	07 Mar 2020	
	Date(s) Tested	07 Mar 2020 - 17 Mar 2020	
	Date Reported	21 Mar 2020	
Sample Description	North Side, Janitor Closed		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	07.03.2020/3:00 PM
Sample Container	1x1L PB	Sampling Point	Tap
Sample Receipt Temp	19°C	Sample Onsite Temp	26.4°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
LEGIONELLA ANALYSIS				
Legionella	CCFRA 3.9.1 (5th Edition)	CFU/litre	<1	Not Detected
Legionella pneumophila sero group 1	CCFRA 3.9.1 (5th Edition)	-	-	Absent
Legionella pneumophila sero group 2-15	CCFRA 3.9.1 (5th Edition)	-	-	Absent
Legionella Species	CCFRA 3.9.1 (5th Edition)	-	-	Absent

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, CCFRA: Campden & Chorleywood Food Research Association, RSB: Regulation & Supervision Bureau, NA: Not Applicable, NP: Not Provided, WI: Work Instruction.
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Test method deviation	None
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Test performed by Emp#	74 & 78 & 55
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Report prepared by Emp#	72
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TEST REPORT

Report No: QMTL/R-96603/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates ATTN : MR. JASMAN PINTO	Sample ID	QMTL/S-96603	
	Date Received	07 Mar 2020	
	Date(s) Tested	07 Mar 2020 - 17 Mar 2020	
	Date Reported	21 Mar 2020	
Sample Description	North Side, Drinking Fountain (NYUAD: 00202988)		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	07.03.2020/2:51 PM
Sample Container	1x1L PB	Sampling Point	Drinking Fountain
Sample Receipt Temp	20°C	Sample Onsite Temp	16°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
LEGIONELLA ANALYSIS				
Legionella	CCFRA 3.9.1 (5th Edition)	CFU/litre	<1	Not Detected
Legionella pneumophila sero group 1	CCFRA 3.9.1 (5th Edition)	-	-	Absent
Legionella pneumophila sero group 2-15	CCFRA 3.9.1 (5th Edition)	-	-	Absent
Legionella Species	CCFRA 3.9.1 (5th Edition)	-	-	Absent

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, CCFRA: Campden & Chorleywood Food Research Association, RSB: Regulation & Supervision Bureau, NA: Not Applicable, NP: Not Provided, WI: Work Instruction.
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Test method deviation	None
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Test performed by Emp#	74 & 78 & 55
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Report prepared by Emp#	72
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TEST REPORT

Report No: QMTL/R-96602/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-96602
		Date Received	07 Mar 2020
		Date(s) Tested	07 Mar 2020 - 17 Mar 2020
ATTN : MR. JASMAN PINTO		Date Reported	21 Mar 2020
Sample Description	North Side, Irrigation Tank		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	07.03.2020/2:40 PM
Sample Container	1x1L PB	Sampling Point	Tank
Sample Receipt Temp	20°C	Sample Onsite Temp	31°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
LEGIONELLA ANALYSIS				
Legionella	CCFRA 3.9.1 (5th Edition)	CFU/litre	<1	Not Detected
Legionella pneumophila sero group 1	CCFRA 3.9.1 (5th Edition)	-	-	Absent
Legionella pneumophila sero group 2-15	CCFRA 3.9.1 (5th Edition)	-	-	Absent
Legionella Species	CCFRA 3.9.1 (5th Edition)	-	-	Absent

Remarks	The sample meets RSB Recycled Water and Biosolids Regulations 2018 requirements for irrigation water with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, CCFRA: Campden & Chorleywood Food Research Association, RSB: Regulation & Supervision Bureau, NA: Not Applicable, NP: Not Provided, WI: Work Instruction.
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Test method deviation	None
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Test performed by Emp#	74 & 78 & 55
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Report prepared by Emp#	72
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The above test results are only applicable to the sample(s) referred above.	
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Reported By




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END OF REPORT

CONSULTING SERVICE REPORT

CUSTOMER: SERCO - NEW YORK UNIVERSITY, ABU DHABI	To: Mr. Ratheesh Muttath Operations Engineer	DATE: 07-03-2020
CUSTOMER ID: 3003	Copy: SERCO - NYUAD	LAST VISIT: 08-02-2020

AMBIENT WATER ANALYSIS

PARAMETER	CONTROL LIMITS	North Side Water Tank			
pH at 25°C	7.0 - 9.2	7.64			
Conductivity at 25°C, µs/cm	1600 Max.	291			
Total Dissolved Solids (TDS)	1000 Max.	189			
Total Hardness, ppm as CaCO ₃	300 Max.	54			
Calcium Hardness, ppm as CaCO ₃	200 Max.	51			
Total Alkalinity	--	43			
Chloride, ppm as Cl ⁻	250 Max.	50			
Iron, ppm as Fe	0.2 Max.	<0.05			
Sulphate (SO ₄), mg/l	250 Max.	<10			
Copper (Cu), mg/l	1 Max.	<0.05			
Aluminum (Al), mg/l	0.2 Max.	<0.05			
Zinc (Zn), mg/l	5 Max.	<0.05			
Nitrate (NO ₃ ⁻), mg/l	50 Max.	<1.0			
Nitrite (NO ₂ ⁻), mg/l	30 Max.	<0.05			
Fluorides (F), mg/l	15 Max.	<0.01			
Potassium (K), mg/l	12 Max.	<5.0			

Treatment Residuals

Odor	Unobjectionable	ND			
Free Residual Chlorine as Cl	0.2 - 0.5	0.41			
Turbidity in NTU	4.0 Max	<1.0			

All test results expressed in parts per million (ppm) as CaCO₃ except pH and conductivity (µmhos).

COMMENTS:

- The pH and Conductivity/TDS are found satisfactory. ⇨
- Dissolved iron levels are within control limits. ⇨
- Chlorine levels found satisfactory. ⇨

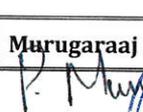
ACTION:

- No action recommended.
- No action recommended.
- No action recommended.

The dosing system is calibrated. Dosing pumps, low level sensor, dosing tubes are in good condition. There is no recirculation line/system for the water tank. Please check chlorine levels daily. Kindly inform Crystalline if levels fluctuate.

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal SHC			--	
Service Engineer:	Murugaraaj		Client:	Mr. Ratheesh Muttath
Signature:			Signature:	



CONSULTING SERVICE REPORT

CUSTOMER: SERCO - NEW YORK UNIVERSITY, ABU DHABI
**To: Mr. Ratheesh Muttath
Operations Engineer**
DATE: 07-03-2020
CUSTOMER ID: 3003
Copy: SERCO - NYUAD
LAST VISIT: 08-02-2020

AMBIENT WATER ANALYSIS

PARAMETER	CONTROL LIMITS	North Side Janitor Closed		
pH at 25°C	7.0 - 9.2	7.84		
Conductivity at 25°C, µs/cm	1600 Max.	279		
Total Dissolved Solids (TDS)	1000 Max.	181		
Total Hardness, ppm as CaCO ₃	300 Max.	63		
Calcium Hardness, ppm as CaCO ₃	200 Max.	54		
Total Alkalinity	--	44		
Chloride, ppm as Cl ⁻	250 Max.	51		
Iron, ppm as Fe	0.2 Max.	<0.05		
Sulphate (SO ₄), mg/l	250 Max.	<10		
Copper (Cu), mg/l	1 Max.	<0.05		
Aluminum (Al), mg/l	0.2 Max.	<0.05		
Zinc (Zn), mg/l	5 Max.	<0.05		
Nitrate (NO ₃ ⁻), mg/l	50 Max.	<1.0		
Nitrite (NO ₂ ⁻), mg/l	30 Max.	<0.05		
Fluorides (F), mg/l	15 Max.	<0.01		
Potassium (K), mg/l	12 Max.	<5.0		

Treatment Residuals

Odor	Unobjectionable	ND		
Free Residual Chlorine as Cl	0.2 - 0.5	0.36		
Turbidity in NTU	4.0 Max	<1.0		

All test results expressed in parts per million (ppm) as CaCO₃ except pH and conductivity (µmhos).

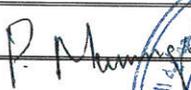
COMMENTS:

ACTION:

The pH and Conductivity/TDS are found satisfactory. ⇨	No action recommended.
Dissolved iron levels are within control limits. ⇨	No action recommended.
Chlorine levels found satisfactory. ⇨	No action recommended.

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal SHC			--	
Service Engineer:	Murugaraaj	Client:	Mr. Ratheesh Muttath	
Signature:		Signature:		

