

Drops

Love and Science Labs

1(503)734-8515

Harvest/Process Date:
 Sample Date: 11/28/2022
 Analysis Date: 11/28/2020
 Report Date: 11/30/2022
 Report ID: LS-221130-3

Client Batch ID:
 Metrc Batch ID:

Metrc Sample ID:

Sample Type: Hemp Cannabinoid Product
 Sample Plan:

Sample Procedure:
 160721_LAB-SOP_SampleCollection-v010

Potency

Potency Analysis Date: 11/28/2020
 Potency Batch ID: CAN_112822A
 Potency Method: JAOAC 2015.1

Unit Potency:
 1 g retail unit
 9.72 mg THC/351.7 mg CBD per retail unit
 9.72 mg THC per 30.0 g serving
 351.7 mg CBD per 30.0 g serving

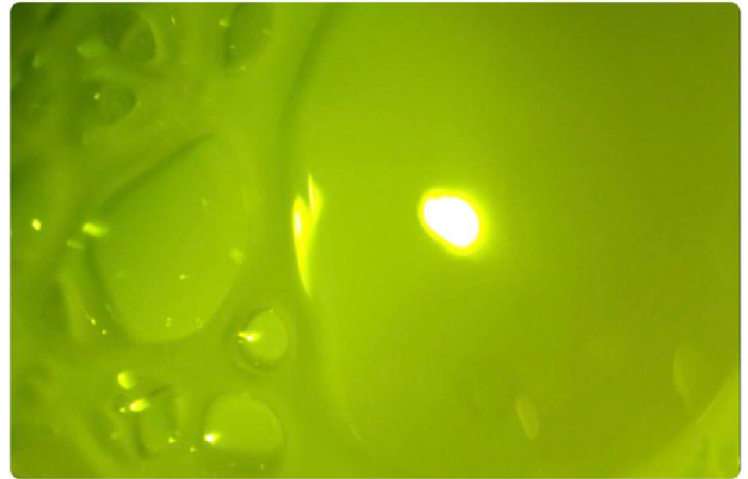
9.2 mg/g

**Total CBD
0.92%**

0.324 mg/g

**Total THC
0.0324%**

Samples: PBM-XNC-BWN



Analyte	Description	LOQ	RPD (%)	Min.	Max.	Conc.	Unit: mg/g
Δ9THC	Delta-9 Tetrahydrocannabinol	0.0050	-	-	-	0.324	
THCA	Tetrahydrocannabinolic acid	0.0050	-	-	-	ND	
CBD	Cannabidiol	0.0050	-	-	-	9.2	
CBDA	Cannabidiolic acid	0.0050	-	-	-	0.498	
Δ8THC	Delta-8 Tetrahydrocannabinol*	0.0050	-	-	-	ND	
THCV	Tetrahydrocannabivarin*	0.0050	-	-	-	ND	
CBG	Cannabigerol*	0.0050	-	-	-	0.208	
CBGA	Cannabigerolic acid*	0.0050	-	-	-	0.0500	
CBC	Cannabichromene*	0.0050	-	-	-	0.334	
CBCA	Cannabichromenic acid*	0.0050	-	-	-	ND	
CBN	Cannabinol*	0.0050	-	-	-	0.0660	
Total THC	Δ9THC + (THCA × 0.877)		-	-	-	0.498	
Total CBD	CBD + (CBDA × 0.877)		-	-	-	9.7	
Total			-	-	-	10.2	



Aaron Troyer
 Chief Science Officer

This data cannot be used for OLCC or OHA compliance for usable marijuana or marijuana products and is provided for Research and Development purposes only.



LS-221130-3

Drops

Love and Science Labs

1(503)734-8515

Harvest/Process Date:
Sample Date: 11/28/2022
Analysis Date: 11/28/2020
Report Date: 11/30/2022
Report ID: LS-221130-3

Client Batch ID:
Metric Batch ID:
Metric Sample ID:

Sample Type: Hemp Cannabinoid Product
Sample Plan:
Sample Procedure:
 160721_LAB-SOP_SampleCollection-v010



Potency Quality Control Data

Potency QC Analysis Date: 11/28/2020
 Potency QC Batch ID: CAN_112822A

Method: JAOAC 2015.1
 Unit: µg/g (ppm)

Analyte	Blank	LOQ	LCS	LCS Spike	LCS Rec (%)	Limits (%)	Notes
Δ9THC	ND	0.0050	62.407	60.0	104	90 - 110	
THCA	ND	0.0050	57.384	60.0	95.6	90 - 110	
CBD	ND	0.0050	63.350	60.0	106	90 - 110	
CBDA	ND	0.0050	57.314	60.0	95.5	90 - 110	
Δ8THC	ND	0.0050	61.338	60.0	102	90 - 110	

POTENCY - LIMIT OF DETECTION

Verified: 060221

Method: 160819_LAB-SOP_MethodValidation-CannabinoidPotency-v002.docx

Matrix	Analyte	LOD (ppm)	LOD (mg/g)
EXTRACT	Δ9THC	2.8	0.0028
	THCA	0.56	0.00056
	CBD	2.22	0.00222
	CBDA	0.52	0.00052
FLOWER	Δ9THC	1.88	0.00188
	THCA	5.32	0.00532
	CBD	1.31	0.00131
	CBDA	0.78	0.00078

Drops

Love and Science Labs

1(503)734-8515

Harvest/Process Date:
Sample Date: 11/28/2022
Analysis Date: 11/28/2020
Report Date: 11/30/2022
Report ID: LS-221130-3**Client Batch ID:**
Metric Batch ID:**Metric Sample ID:****Sample Type:** Hemp Cannabinoid Product
Sample Plan:**Sample Procedure:**
160721_LAB-SOP_SampleCollection-v010

Qualifier Flag Descriptions

J	Reported result is an estimate - the value is less than the minimum calibration level but greater than the estimated detection limit (EDL)
U	The analyte was not detected in the sample at the estimated detection limit (EDL)
E	Exceeds calibration range
D	Dilution data - result was obtained from the analysis of a dilution
B	Analyte found in sample and associated blank
C	Co-eluting compound
R	Relative Percent Difference (RPD) outside control limits
NR	Analyte not reported because of problems in sample preparation or analysis
ND	Non-Detect
X	Results from reinjection/repeat/re-column data
EMC	Estimated maximum possible concentration - indicates that a peak is detected but did not meet the method required criteria
M	Manual integration
PS	Peaks split
HB	Control acceptance criteria are exceeded high and the associated sample is below the detection limit
LB	Control acceptance criteria are exceeded low and the associated sample exceeds the regulatory limit
ME	Marginal Exceedance
LR	Low Recovery Analyte
LOQ	Limit of Quantitation



Customer: Love & Science Labs
Product identity: LS-221206-1
Client/Metric ID:
Laboratory ID: 22-011450-0003

Report Number: 22-011450/D002.R001
Report Date: 12/22/2022
ORELAP#: OR100028
Purchase Order:
Received: 12/20/2022 00:00

Microbiology

Analyte	Result	Limits	Units	LOQ	Batch	Method	Status	Notes
E.coli	< LOQ		cfu/g	10	2208072	AOAC 991.14 (Petrifilm) ^P		
Total Coliforms	< LOQ		cfu/g	10	2208072	AOAC 991.14 (Petrifilm) ^P		
Mold (RAPID Petrifilm)	< LOQ		cfu/g	10	2208073	AOAC 2014.05 (RAPID) ^P		
Yeast (RAPID Petrifilm)	< LOQ		cfu/g	10	2208073	AOAC 2014.05 (RAPID) ^P		
Salmonella spp. by PCR	Negative		/10g		2208075	AOAC 2020.02 ^P		I

Solvents Method: Residual Solvents by GC/MS^P Units µg/g Batch 2208221

Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
1,4-Dioxane	< LOQ	380	100	pass		2-Butanol	< LOQ	5000	200	pass	
2-Ethoxyethanol	< LOQ	160	30.0	pass		2-Methylbutane (Isopentane)	< LOQ		200		
2-Methylpentane	< LOQ		30.0			2-Propanol (IPA)	< LOQ	5000	200	pass	
2,2-Dimethylbutane	< LOQ		30.0			2,2-Dimethylpropane (neo-pentane)	< LOQ		200		
2,3-Dimethylbutane	< LOQ		30.0			3-Methylpentane	< LOQ		30.0		
Acetone	< LOQ	5000	200	pass		Acetonitrile	< LOQ	410	100	pass	
Benzene	< LOQ	2.00	1.00	pass		Butanes (sum)	< LOQ	5000	400	pass	
Cyclohexane	< LOQ	3880	200	pass		Ethyl acetate	< LOQ	5000	200	pass	
Ethyl benzene	< LOQ		200			Ethyl ether	< LOQ	5000	200	pass	
Ethylene glycol	< LOQ	620	200	pass		Ethylene oxide	< LOQ	50.0	20.0	pass	
Hexanes (sum)	< LOQ	290	150	pass		Isopropyl acetate	< LOQ	5000	200	pass	
Isopropylbenzene (Cumene)	< LOQ	70.0	30.0	pass		m,p-Xylene	< LOQ		200		
Methanol	< LOQ	3000	200	pass		Methylene chloride	< LOQ	600	60.0	pass	
Methylpropane (Isobutane)	< LOQ		200			n-Butane	< LOQ		200		
n-Heptane	< LOQ	5000	200	pass		n-Hexane	< LOQ		30.0		
n-Pentane	< LOQ		200			o-Xylene	< LOQ		200		
Pentanes (sum)	< LOQ	5000	600	pass		Propane	< LOQ	5000	200	pass	
Tetrahydrofuran	< LOQ	720	100	pass		Toluene	< LOQ	890	100	pass	
Total Xylenes	< LOQ		400			Total Xylenes and Ethyl benzene	< LOQ	2170	600	pass	



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794

Report Number: 22-011450/D002.R001
Report Date: 12/22/2022
ORELAP#: OR100028
Purchase Order:
Received: 12/20/2022 00:00

Pesticides											
Method: AOAC 2007.01 & EN 15662 (mod) ^b						Units mg/kg Batch 2208202					
Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
Abamectin ^y	< LOQ	0.50	0.250	pass		Acephate ^y	< LOQ	0.40	0.250	pass	
Acequinocyl ^y	< LOQ	2.0	1.00	pass		Acetamiprid ^y	< LOQ	0.20	0.100	pass	
Aldicarb ^y	< LOQ	0.40	0.200	pass		Azoxystrobin ^y	< LOQ	0.20	0.100	pass	
Bifenazate ^y	< LOQ	0.20	0.100	pass		Bifenthrin ^y	< LOQ	0.20	0.100	pass	
Boscalid ^y	< LOQ	0.40	0.200	pass		Carbaryl ^y	< LOQ	0.20	0.100	pass	
Carbofuran ^y	< LOQ	0.20	0.100	pass		Chlorantraniliprole ^y	< LOQ	0.20	0.100	pass	
Chlorfenapyr ^y	< LOQ	1.0	0.500	pass		Chlorpyrifos ^y	< LOQ	0.20	0.100	pass	
Clofentezine ^y	< LOQ	0.20	0.100	pass		Cyfluthrin ^y	< LOQ	1.0	0.500	pass	
Cypermethrin ^y	< LOQ	1.0	0.500	pass		Daminozide ^y	< LOQ	1.0	0.500	pass	
Diazinon ^y	< LOQ	0.20	0.100	pass		Dichlorvos ^y	< LOQ	1.0	0.500	pass	
Dimethoate ^y	< LOQ	0.20	0.100	pass		Ethoprophos ^y	< LOQ	0.20	0.100	pass	
Etofenprox ^y	< LOQ	0.40	0.200	pass		Etoxazole ^y	< LOQ	0.20	0.100	pass	
Fenoxycarb ^y	< LOQ	0.20	0.100	pass		Fenpyroximate ^y	< LOQ	0.40	0.200	pass	
Fipronil ^y	< LOQ	0.40	0.200	pass		Fonicamid ^y	< LOQ	1.0	0.400	pass	
Fludioxonil ^y	< LOQ	0.40	0.200	pass		Hexythiazox ^y	< LOQ	1.0	0.400	pass	
Imazalil ^y	< LOQ	0.20	0.100	pass		Imidacloprid ^y	< LOQ	0.40	0.200	pass	
Kresoxim-methyl ^y	< LOQ	0.40	0.200	pass		Malathion ^y	< LOQ	0.20	0.100	pass	
Metalaxyl ^y	< LOQ	0.20	0.100	pass		Methiocarb ^y	< LOQ	0.20	0.100	pass	
Methomyl ^y	< LOQ	0.40	0.200	pass		MGK-264 ^y	< LOQ	0.20	0.100	pass	
Myclobutanil ^y	< LOQ	0.20	0.100	pass		Naled ^y	< LOQ	0.50	0.250	pass	
Oxamyl ^y	< LOQ	1.0	0.500	pass		Paclobutrazole ^y	< LOQ	0.40	0.200	pass	
Parathion-Methyl ^y	< LOQ	0.20	0.200	pass		Permethrin ^y	< LOQ	0.20	0.100	pass	
Phosmet ^y	< LOQ	0.20	0.100	pass		Piperonyl butoxide ^y	< LOQ	2.0	1.00	pass	
Prallethrin ^y	< LOQ	0.20	0.200	pass		Propiconazole ^y	< LOQ	0.40	0.200	pass	
Propoxur ^y	< LOQ	0.20	0.100	pass		Pyrethrin I (total) ^y	< LOQ	1.0	0.500	pass	
Pyridaben ^y	< LOQ	0.20	0.100	pass		Spinosad ^y	< LOQ	0.20	0.100	pass	
Spiromesifen ^y	< LOQ	0.20	0.100	pass		Spirotetramat ^y	< LOQ	0.20	0.100	pass	
Spiroxamine ^y	< LOQ	0.40	0.200	pass		Tebuconazole ^y	< LOQ	0.40	0.200	pass	
Thiacloprid ^y	< LOQ	0.20	0.100	pass		Thiamethoxam ^y	< LOQ	0.20	0.100	pass	
Trifloxystrobin ^y	< LOQ	0.20	0.100	pass							

Metals									
Analyte	Result	Limits	Units	LOQ	Batch	Method	Status	Notes	
Arsenic	< LOQ	0.200	mg/kg	0.0890	2208137	AOAC 2013.06 (mod.) ^b	pass		
Cadmium	< LOQ	0.200	mg/kg	0.0890	2208137	AOAC 2013.06 (mod.) ^b	pass		
Lead	< LOQ	0.500	mg/kg	0.0890	2208137	AOAC 2013.06 (mod.) ^b	pass		
Mercury	< LOQ	0.100	mg/kg	0.0445	2208137	AOAC 2013.06 (mod.) ^b	pass		

Test results relate only to the parameters tested and to the samples as received by the laboratory. Test results meet all requirements of NELAP and the Columbia Laboratories quality assurance plan unless otherwise noted. This report shall not be reproduced, except in full, without the written consent of this laboratory. Samples will be retained for a maximum of 30 days from the receipt date unless prior arrangements have been made.

Testing in accordance with: OAR 333-007-0390 OAR 333-007-0400 OAR 333-007-0410 OAR 333-007-0430



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794

Report Number: 22-011450/D002.R001
Report Date: 12/22/2022
ORELAP#: OR100028
Purchase Order:
Received: 12/20/2022 00:00

These test results are representative of the individual sample selected and submitted by the client.

Abbreviations

Limits: Action Levels per OAR-333-007-0400, OAR-333-007-0210, OAR-333-007-0220, CCR title 16-division 42. BCC-section 5723

Limit(s) of Quantitation (LOQ): The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

Ⓟ = ISO/IEC 17025:2017 accredited method.

Ⓢ = TNI accredited analyte.

Units of Measure

cfu/g = Colony forming units per gram

g = g

µg/g = Microgram per gram

mg/kg = Milligram per kilogram = parts per million (ppm)

mg/0.5g = Milligram per 0.5g

/10g = Per 10 grams

% = Percentage of sample

% wt = µg/g divided by 10,000

Glossary of Qualifiers

I: Insufficient sample received to meet method requirements.

Approved Signatory

Derrick Tanner
General Manager



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794

Report Number: 22-011450/D002.R001
Report Date: 12/22/2022
ORELAP#: OR100028
Purchase Order:
Received: 12/20/2022 00:00

Revision: 1 Document ID: 7148
 Legacy ID: Worksheet Validated 04/20/2021

Laboratory Quality Control Results

J AOAC 2015 V98-6 Batch ID: 2208193

Laboratory Control Sample									
Analyte	LCS	Result	Spike	Units	% Rec	Limits	Evaluation	Notes	
CBDVA	2	0.0330	0.034	%	95.9	80.0 - 120	Acceptable		
CBDV	2	0.0369	0.037	%	101	80.0 - 120	Acceptable		
CBE	2	0.0326	0.035	%	93.4	80.0 - 120	Acceptable		
CBD A	1	0.0314	0.033	%	93.7	90.0 - 110	Acceptable		
CBGA	1	0.0314	0.034	%	93.5	80.0 - 120	Acceptable		
CBG	1	0.0324	0.034	%	94.5	80.0 - 120	Acceptable		
CBD	1	0.0324	0.034	%	94.6	90.0 - 110	Acceptable		
THCV	2	0.0361	0.038	%	96.0	80.0 - 120	Acceptable		
d8THCV	2	0.0358	0.037	%	97.6	80.0 - 120	Acceptable		
THCVA	2	0.0327	0.034	%	97.6	80.0 - 120	Acceptable		
CBN	1	0.0318	0.034	%	94.3	90.0 - 110	Acceptable		
exo-THC	2	0.0332	0.034	%	97.1	80.0 - 120	Acceptable		
d9THC	1	0.0328	0.035	%	94.9	90.0 - 110	Acceptable		
d8THC	1	0.0313	0.033	%	93.4	80.0 - 120	Acceptable		
CBL	2	0.0307	0.033	%	93.5	80.0 - 120	Acceptable		
d10THC	1	0.0299	0.032	%	93.8	80.0 - 120	Acceptable		
CBC	2	0.0354	0.036	%	98.0	80.0 - 120	Acceptable		
THCA	1	0.0311	0.033	%	93.7	90.0 - 110	Acceptable		
CBCA	2	0.0335	0.035	%	95.4	80.0 - 120	Acceptable		
CBLA	2	0.0175	0.019	%	93.7	80.0 - 120	Acceptable		
CBT	2	0.0332	0.037	%	89.1	80.0 - 120	Acceptable		

Method Blank									
Analyte	Result	LOQ	Units	Limits	Evaluation	Notes			
CBDVA	<LOQ	0.003	%	< 0.003	Acceptable				
CBDV	<LOQ	0.003	%	< 0.003	Acceptable				
CBE	<LOQ	0.003	%	< 0.003	Acceptable				
CBD A	<LOQ	0.003	%	< 0.003	Acceptable				
CBGA	<LOQ	0.003	%	< 0.003	Acceptable				
CBG	<LOQ	0.003	%	< 0.003	Acceptable				
CBD	<LOQ	0.003	%	< 0.003	Acceptable				
THCV	<LOQ	0.003	%	< 0.003	Acceptable				
d8THCV	<LOQ	0.003	%	< 0.003	Acceptable				
THCVA	<LOQ	0.003	%	< 0.003	Acceptable				
CBN	<LOQ	0.003	%	< 0.003	Acceptable				
exo-THC	<LOQ	0.003	%	< 0.003	Acceptable				
d9THC	<LOQ	0.003	%	< 0.003	Acceptable				
d8THC	<LOQ	0.003	%	< 0.003	Acceptable				
CBL	<LOQ	0.003	%	< 0.003	Acceptable				
d10THC	<LOQ	0.003	%	< 0.003	Acceptable				
CBC	<LOQ	0.003	%	< 0.003	Acceptable				
THCA	<LOQ	0.003	%	< 0.003	Acceptable				
CBCA	<LOQ	0.003	%	< 0.003	Acceptable				
CBLA	<LOQ	0.003	%	< 0.003	Acceptable				
CBT	<LOQ	0.003	%	< 0.003	Acceptable				

Abbreviations
 ND - None Detected at or above MRL
 RPD - Relative Percent Difference
 LOQ - Limit of Quantitation

Units of Measure:
 % - Percent



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794

Report Number: 22-011450/D002.R001
Report Date: 12/22/2022
ORELAP#: OR100028
Purchase Order:
Received: 12/20/2022 00:00

Revision: 1 Document ID: 7148
 Legacy ID: Worksheet Validated 04/20/2021

Laboratory Quality Control Results

J AOAC 2015 V98-6		Batch ID: 2208193						
Sample Duplicate		Sample ID: 22-010445-0001						
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBDV	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBE	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBDA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBGA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBG	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBD	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
THCV	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d8THCV	0.00460	0.00536	0.003	%	15.1	< 20	Acceptable	
THCVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBN	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
exo-THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d9THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d8THC	2.92	2.90	0.003	%	0.540	< 20	Acceptable	
CBL	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d10THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
THCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBLA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBT	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	

Abbreviations

- ND - None Detected at or above MRL
- RPD - Relative Percent Difference
- LOQ - Limit of Quantitation

Units of Measure:



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794

Report Number: 22-011450/D002.R001
Report Date: 12/22/2022
ORELAP#: OR100028
Purchase Order:
Received: 12/20/2022 00:00

Revision: 3 Document ID: 3120
 Legacy ID: CFL-C21 Worksheet Validated 10/30/2020

Laboratory Pesticide Quality Control Results

AOAC2007.1 & EN 15662		Units: mg/Kg		Laboratory Control Sample			Batch ID 2208202	
Method Bank	Blank Result	Blank Limits	Notes	LCS Result	LCS Spke	LCS% Re	Limits	Notes
Abamectin	0.000	< 0.250		0.868	1.000	86.8	50.0	150
Acephate	0.000	< 0.250		0.855	1.000	85.5	60.0	120
Acequinocyl	0.000	< 1.000		2.711	4.000	67.8	40.0	160
Acetamiprid	0.000	< 0.100		0.346	0.400	86.4	60.0	120
Aldicarb	0.000	< 0.200		0.683	0.800	85.4	60.0	120
Azoxystrobin	0.000	< 0.100		0.341	0.400	85.2	60.0	120
Bifenazate	0.000	< 0.100		0.342	0.400	85.5	60.0	120
Bifenthrin	0.000	< 0.100		0.303	0.400	75.6	50.0	150
Boscalid	0.000	< 0.200		0.710	0.800	88.8	60.0	120
Carbaryl	0.000	< 0.100		0.345	0.400	86.3	60.0	120
Carbofuran	0.000	< 0.100		0.344	0.400	86.0	60.0	120
Chlorantraniliprole	0.000	< 0.100		0.343	0.400	85.7	60.0	120
Chlorfenapyr	0.000	< 0.500		1.751	2.000	87.6	60.0	120
Chlorpyrifos	0.000	< 0.100		0.342	0.400	85.5	60.0	120
Clofentezine	0.000	< 0.100		0.342	0.400	85.6	60.0	120
Cyfluthrin	0.000	< 0.500		1.660	2.000	83.0	50.0	150
Cypermethrin	0.000	< 0.500		1.585	2.000	79.3	50.0	150
Daminozide	0.000	< 0.500		1.685	2.000	84.3	60.0	120
Diazinon	0.000	< 0.100		0.358	0.400	89.5	60.0	120
Dichlorvos	0.000	< 0.500		1.743	2.000	87.2	60.0	120
Dimethoate	0.000	< 0.100		0.346	0.400	86.4	60.0	120
Ethoprophos	0.000	< 0.100		0.355	0.400	88.8	60.0	120
Etofenprox	0.000	< 0.200		0.616	0.800	76.9	50.0	150
Etoxazole	0.000	< 0.100		0.339	0.400	84.8	60.0	120
Fenoxycarb	0.000	< 0.100		0.346	0.400	86.6	60.0	120
Fenpyroximate	0.000	< 0.200		0.649	0.800	81.2	60.0	120
Fipronil	0.000	< 0.200		0.688	0.800	86.0	60.0	120
Flonicamid	0.000	< 0.250		0.854	1.000	85.4	60.0	120
Fludioxonil	0.000	< 0.200		0.684	0.800	85.5	50.0	150
Hexythiazox	0.000	< 0.250		0.826	1.000	82.6	60.0	120
Imazalil	0.000	< 0.100		0.342	0.400	85.4	60.0	120
Imidacloprid	0.000	< 0.200		0.692	0.800	86.5	60.0	120
Kresoxim-methyl	0.000	< 0.200		0.684	0.800	85.5	60.0	120
Malathion	0.000	< 0.100		0.346	0.400	86.5	60.0	120
Metaxalyl	0.000	< 0.100		0.348	0.400	86.9	60.0	120
Methiocarb	0.000	< 0.100		0.340	0.400	85.0	60.0	120
Methomyl	0.000	< 0.200		0.738	0.800	92.3	60.0	120
MGK-264	0.000	< 0.100		0.335	0.400	83.8	50.0	150
Myclobutanil	0.000	< 0.100		0.350	0.400	87.6	60.0	120
Naled	0.000	< 0.250		0.855	1.000	85.5	50.0	150
Oxamyl	0.000	< 0.500		1.755	2.000	87.8	60.0	120
Paclobutrazole	0.000	< 0.200		0.682	0.800	85.2	60.0	120
Parathion-Methyl	0.000	< 0.200		0.757	0.800	94.6	50.0	150
Permethrin	0.000	< 0.100		0.320	0.400	80.0	50.0	150
Phosmet	0.000	< 0.100		0.347	0.400	86.6	50.0	150
Piperonyl butoxide	0.000	< 0.500		1.663	2.000	83.2	60.0	120
Prallethrin	0.000	< 0.100		0.340	0.400	85.1	60.0	120
Propiconazole	0.000	< 0.200		0.687	0.800	85.8	60.0	120
Propoxur	0.000	< 0.100		0.354	0.400	88.5	60.0	120
Pyrethrin (Summe)	0.000	< 0.100		0.354	0.413	85.7	60.0	120
Pyridaben	0.000	< 0.100		0.325	0.400	81.2	50.0	150
Spinosad	0.000	< 0.100		0.319	0.388	82.1	50.0	150
Spiromesifen	0.000	< 0.100		0.342	0.400	85.5	60.0	120
Spirotetramat	0.000	< 0.100		0.341	0.400	85.3	60.0	120
Spiroxamine	0.000	< 0.200		0.649	0.800	81.2	60.0	120
Tebuconazole	0.000	< 0.200		0.665	0.800	83.1	60.0	120
Thiacloprid	0.000	< 0.100		0.345	0.400	86.3	60.0	120
Thiamethoxam	0.000	< 0.100		0.352	0.400	88.0	60.0	120
Trifloxystrobin	0.000	< 0.100		0.339	0.400	84.8	60.0	120

Test results relate only to the parameters tested and to the samples as received by the laboratory. Test results meet all requirements of NELAP and the Columbia Laboratories quality assurance plan unless otherwise noted. This report shall not be reproduced, except in full, without the written consent of this laboratory. Samples will be retained for a maximum of 30 days from the receipt date unless prior arrangements have been made.

Testing in accordance with: OAR 333-007-0390 OAR 333-007-0400 OAR 333-007-0410 OAR 333-007-0430



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794

Report Number: 22-011450/D002.R001
Report Date: 12/22/2022
ORELAP#: OR100028
Purchase Order:
Received: 12/20/2022 00:00

Revision: 3 Document ID: 3120
Legacy ID: CFL-C21 Worksheet Validated 10/30/2020

Laboratory Pesticide Quality Control Results

AOAC2007.1 & EN 15662		Units: mg/Kg					Batch ID 2208202			
Matrix Spke/Matrix Spke Duplicate Recoveries	Result	MS Res	MSD Res	Spike	FPD%	Limit	MS% Re	MSD% Re	Limits	Notes
Abamectin	0.000	0.667	0.723	1.000	7.9%	< 30	66.7%	72.3%	50 - 150	
Acephate	0.386	1.192	1.289	1.000	11.4%	< 30	80.5%	90.3%	50 - 150	
Acequinocyl	0.000	2.216	3.004	4.000	30.2%	< 30	55.4%	75.1%	50 - 150	R
Acetamiprid	0.000	0.329	0.345	0.400	4.7%	< 30	82.4%	86.3%	50 - 150	
Aldicarb	0.000	0.674	0.721	0.800	6.6%	< 30	84.3%	90.1%	50 - 150	
Azoxystrobin	0.000	0.290	0.294	0.400	1.5%	< 30	72.5%	73.6%	50 - 150	
Bifenazate	0.000	0.358	0.385	0.400	7.4%	< 30	89.4%	96.2%	50 - 150	
Bifenthrin	0.000	0.232	0.255	0.400	9.3%	< 30	58.1%	63.8%	50 - 150	
Boscalid	0.000	0.580	0.601	0.800	3.6%	< 30	72.5%	75.2%	50 - 150	
Carbaryl	0.000	0.305	0.324	0.400	5.8%	< 30	76.3%	80.9%	50 - 150	
Carbofuran	0.000	0.316	0.333	0.400	5.2%	< 30	79.1%	83.3%	50 - 150	
Chlorantraniliprole	0.000	0.314	0.327	0.400	4.0%	< 30	78.6%	81.7%	50 - 150	
Chlorfenapyr	0.000	1.309	1.569	2.000	18.1%	< 30	65.5%	78.4%	50 - 150	
Chlorpyrifos	0.000	0.354	0.355	0.400	0.4%	< 30	88.4%	88.8%	50 - 150	
Clofentezine	0.015	0.267	0.284	0.400	6.3%	< 30	63.0%	67.1%	50 - 150	
Cyfluthrin	0.000	0.753	0.851	2.000	12.2%	< 30	37.7%	42.5%	30 - 150	
Cypermethrin	0.000	0.672	0.814	2.000	19.1%	< 30	33.6%	40.7%	50 - 150	Q
Daminozide	0.017	1.265	1.335	2.000	5.5%	< 30	62.4%	65.9%	30 - 150	
Diazinon	0.000	0.186	0.185	0.400	0.6%	< 30	46.6%	46.3%	50 - 150	Q
Dichlorvos	0.000	1.592	1.751	2.000	9.5%	< 30	79.6%	87.5%	50 - 150	
Dimethoate	0.000	0.339	0.354	0.400	4.2%	< 30	84.8%	88.4%	50 - 150	
Ethoprophos	0.000	0.281	0.319	0.400	12.7%	< 30	70.3%	79.9%	50 - 150	
Etofenprox	0.000	0.511	0.571	0.800	11.1%	< 30	63.8%	71.3%	50 - 150	
Etoxazole	0.000	0.297	0.313	0.400	5.1%	< 30	74.3%	78.2%	50 - 150	
Fenoxycarb	0.000	0.303	0.319	0.400	5.1%	< 30	75.8%	79.7%	50 - 150	
Fenpyroximate	0.000	0.423	0.449	0.800	6.0%	< 30	52.9%	56.1%	50 - 150	
Fipronil	0.000	0.560	0.599	0.800	6.7%	< 30	70.0%	74.8%	50 - 150	
Flonicamid	0.000	0.835	0.859	1.000	2.9%	< 30	83.5%	85.9%	50 - 150	
Fludioxonil	0.000	0.933	0.972	0.800	4.1%	< 30	116.7%	121.5%	50 - 150	
Hexythiazox	0.000	0.775	0.812	1.000	4.6%	< 30	77.5%	81.2%	50 - 150	
Imazalil	0.000	0.318	0.331	0.400	3.9%	< 30	79.5%	82.7%	50 - 150	
Imidacloprid	0.000	0.679	0.714	0.800	5.1%	< 30	84.9%	89.3%	50 - 150	
Kresoxim-methyl	0.000	0.574	0.647	0.800	11.9%	< 30	71.8%	80.9%	50 - 150	
Malathion	0.000	0.294	0.314	0.400	6.7%	< 30	73.5%	78.6%	50 - 150	
Metaxalyl	0.000	0.305	0.317	0.400	3.8%	< 30	76.4%	79.3%	50 - 150	
Methiocarb	0.000	0.295	0.318	0.400	7.3%	< 30	73.9%	79.5%	50 - 150	
Methomyl	0.000	0.770	0.682	0.800	12.1%	< 30	96.3%	85.3%	50 - 150	
MGK-264	0.000	0.179	0.210	0.400	15.7%	< 30	44.8%	52.4%	50 - 150	Q
Myclobutanil	0.000	0.232	0.267	0.400	14.1%	< 30	58.0%	66.8%	50 - 150	
Naled	0.000	0.671	0.709	1.000	5.5%	< 30	67.1%	70.9%	50 - 150	
Oxamyl	0.000	1.748	1.735	2.000	0.7%	< 30	87.4%	86.8%	50 - 150	
Paclbutrazole	0.000	0.585	0.598	0.800	2.2%	< 30	73.1%	74.8%	50 - 150	
Parathion-Methyl	0.000	0.360	0.376	0.800	4.4%	< 30	45.0%	47.0%	30 - 150	
Permethrin	0.000	0.275	0.270	0.400	2.0%	< 30	68.7%	67.4%	50 - 150	
Phosmet	0.000	0.294	0.306	0.400	4.3%	< 30	73.4%	76.6%	50 - 150	
Piperonyl butoxide	0.000	1.534	1.653	2.000	7.5%	< 30	76.7%	82.6%	50 - 150	
Prallethrin	0.000	0.195	0.241	0.400	21.3%	< 30	48.7%	60.3%	50 - 150	Q
Propiconazole	0.003	0.851	0.895	0.800	5.0%	< 30	106.0%	111.5%	50 - 150	
Propoxur	0.000	0.321	0.341	0.400	6.0%	< 30	80.3%	85.2%	50 - 150	
Pyrethrin (Summe)	0.024	0.378	0.386	0.413	2.0%	< 30	85.8%	87.5%	50 - 150	
Pyridaben	0.000	0.310	0.342	0.400	9.8%	< 30	77.5%	85.5%	50 - 150	
Spinosad	0.000	0.267	0.265	0.388	1.0%	< 30	68.9%	68.2%	50 - 150	
Spiromesifen	0.000	0.314	0.322	0.400	2.7%	< 30	78.5%	80.6%	50 - 150	
Spirotetramat	0.000	0.430	0.437	0.400	1.5%	< 30	107.6%	109.2%	50 - 150	
Spiroxamine	0.000	0.653	0.688	0.800	5.3%	< 30	81.6%	86.1%	50 - 150	
Tebuconazole	0.000	0.616	0.647	0.800	4.9%	< 30	77.0%	80.8%	50 - 150	
Thiacloprid	0.000	0.334	0.350	0.400	4.9%	< 30	83.4%	87.6%	50 - 150	
Thiamethoxam	0.000	0.374	0.327	0.400	13.2%	< 30	93.4%	81.9%	50 - 150	
Trifloxystrobin	0.124	0.420	0.435	0.400	4.9%	< 30	74.1%	77.9%	50 - 150	

Test results relate only to the parameters tested and to the samples as received by the laboratory. Test results meet all requirements of NELAP and the Columbia Laboratories quality assurance plan unless otherwise noted. This report shall not be reproduced, except in full, without the written consent of this laboratory. Samples will be retained for a maximum of 30 days from the receipt date unless prior arrangements have been made.

Testing in accordance with: OAR 333-007-0390 OAR 333-007-0400 OAR 333-007-0410 OAR 333-007-0430



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794

Report Number: 22-011450/D002.R001
 Report Date: 12/22/2022
 ORELAP#: OR100028
 Purchase Order:
 Received: 12/20/2022 00:00

Revision: Document ID:
 Legacy ID: Effective:

Laboratory Quality Control Results

Residual Solvents					Batch ID: 2208221				
Method Blank					Laboratory Control Sample				
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes
Propane	ND	< 200		432	572	µg/g	75.5	60 - 120	
Isobutane	ND	< 200		530	731	µg/g	72.5	60 - 120	
Butane	ND	< 200		512	731	µg/g	70.0	60 - 120	
2,2-Dimethylpropane	ND	< 200		717	936	µg/g	76.6	60 - 120	
Methanol	ND	< 200		1690	1650	µg/g	102.4	60 - 120	
Ethylene Oxide	ND	< 30		42.7	56.2	µg/g	76.0	60 - 120	
2-Methylbutane	ND	< 200		1540	1650	µg/g	93.3	60 - 120	
Pentane	ND	< 200		1640	1650	µg/g	99.4	60 - 120	
Ethanol	ND	< 200		1650	1660	µg/g	99.4	70 - 130	
Ethyl Ether	ND	< 200		1600	1630	µg/g	98.2	60 - 120	
2,2-Dimethylbutane	ND	< 30		182	189	µg/g	96.3	60 - 120	
Acetone	ND	< 200		1650	1650	µg/g	100.0	60 - 120	
2-Propanol	ND	< 200		1660	1650	µg/g	100.6	60 - 120	
Ethyl Formate	ND	< 500		1460	1610	µg/g	90.7	70 - 130	
Acetonitrile	ND	< 100		505	504	µg/g	100.2	60 - 120	
Methyl Acetate	ND	< 500		1770	1630	µg/g	108.6	70 - 130	
2,3-Dimethylbutane	ND	< 30		174	174	µg/g	100.0	60 - 120	
Dichloromethane	ND	< 60		502	521	µg/g	96.4	60 - 120	
2-Methylpentane	ND	< 30		193	187	µg/g	103.2	60 - 120	
MTBE	ND	< 500		1620	1600	µg/g	101.3	70 - 130	
3-Methylpentane	ND	< 30		186	188	µg/g	98.9	60 - 120	
Hexane	ND	< 30		184	182	µg/g	101.1	60 - 120	
1-Propanol	ND	< 500		1860	1610	µg/g	115.5	70 - 130	
Methylethylketone	ND	< 500		1780	1600	µg/g	111.3	70 - 130	
Ethyl acetate	ND	< 200		1640	1630	µg/g	100.6	60 - 120	
2-Butanol	ND	< 200		1650	1630	µg/g	101.2	60 - 120	
Tetrahydrofuran	ND	< 100		504	506	µg/g	99.6	60 - 120	
Cyclohexane	ND	< 200		1620	1640	µg/g	98.8	60 - 120	
2-methyl-1-propanol	ND	< 500		1790	1620	µg/g	110.5	70 - 130	
Benzene	ND	< 1		4.76	4.93	µg/g	96.6	60 - 120	
Isopropyl Acetate	ND	< 200		1640	1640	µg/g	100.0	60 - 120	
Heptane	ND	< 200		1630	1630	µg/g	100.0	60 - 120	
1-Butanol	ND	< 500		1880	1600	µg/g	117.5	70 - 130	
Propyl Acetate	ND	< 500		1840	1620	µg/g	113.6	70 - 130	
1,4-Dioxane	ND	< 100		487	493	µg/g	98.8	60 - 120	
2-Ethoxyethanol	ND	< 30		172	171	µg/g	100.6	60 - 120	
Methylisobutylketone	ND	< 500		1900	1620	µg/g	117.3	70 - 130	
3-Methyl-1-butanol	ND	< 500		1930	1610	µg/g	119.9	70 - 130	
Ethylene Glycol	ND	< 200		580	494	µg/g	117.4	60 - 120	
Toluene	ND	< 100		498	506	µg/g	98.4	60 - 120	
Isobutyl Acetate	ND	< 500		1950	1620	µg/g	120.4	70 - 130	
1-Pentanol	ND	< 500		1970	1610	µg/g	122.4	70 - 130	
Butyl Acetate	ND	< 500		1880	1610	µg/g	116.8	70 - 130	
Ethylbenzene	ND	< 200		1020	996	µg/g	102.4	60 - 120	
m,p-Xylene	ND	< 200		1040	1010	µg/g	103.0	60 - 120	
o-Xylene	ND	< 200		1010	979	µg/g	103.2	60 - 120	
Cumene	ND	< 30		194	188	µg/g	103.2	60 - 120	
Anisole	ND	< 500		1760	1610	µg/g	109.3	70 - 130	
DMSO	ND	< 500		1670	1600	µg/g	104.4	70 - 130	
1,2-dimethoxyethane	ND	< 50		216	190	µg/g	113.7	70 - 130	
Triethylamine	ND	< 500		1650	1610	µg/g	102.5	70 - 130	
N,N-dimethylformamide	ND	< 150		554	496	µg/g	111.7	70 - 130	
N,N-dimethylacetamide	ND	< 150		577	483	µg/g	119.5	70 - 130	
Pyridine	ND	< 50		184	167	µg/g	110.2	70 - 130	
1,2-Dichloroethane	ND	< 1		1.08	1	µg/g	108.0	70 - 130	
Chloroform	ND	< 1		1.07	1	µg/g	107.0	70 - 130	
Trichloroethylene	ND	< 1		1.03	1	µg/g	103.0	70 - 130	

Test results relate only to the parameters tested and to the samples as received by the laboratory. Test results meet all requirements of NELAP and the Columbia Laboratories quality assurance plan unless otherwise noted. This report shall not be reproduced, except in full, without the written consent of this laboratory. Samples will be retained for a maximum of 30 days from the receipt date unless prior arrangements have been made.

Testing in accordance with: OAR 333-007-0390 OAR 333-007-0400 OAR 333-007-0410 OAR 333-007-0430



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794

Report Number: 22-011450/D002.R001
Report Date: 12/22/2022
ORELAP#: OR100028
Purchase Order:
Received: 12/20/2022 00:00

Revision: Document ID:
 Legacy ID: Effective:

QC- Sample Duplicate Sample ID: 22-011413-0003

Analyte	Result	Org. Result	LOQ	Units	RFD	Limits	Accept/ Fail	Notes
Propane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Isobutane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Butane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2,2-Dimethylpropane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Methanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethylene Oxide	ND	ND	30	µg/g	0.0	< 20	Acceptable	
2-Methylbutane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Pentane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethanol	280	274	200	µg/g	2.2	< 20	Acceptable	
Ethyl Ether	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2,2-Dimethylbutane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Acetone	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-Propanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethyl Formate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Acetonitrile	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Methyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
2,3-Dimethylbutane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Dichloromethane	ND	ND	50	µg/g	0.0	< 20	Acceptable	
2-Methylpentane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
MTBE	ND	ND	500	µg/g	0.0	< 20	Acceptable	
3-Methylpentane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Hexane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
1-Propanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Methyl ethyl ketone	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethyl acetate	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-Butanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Tetrahydrofuran	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Cyclohexane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-methyl-1-propanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Benzene	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Isopropyl Acetate	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Heptane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
1-Butanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Propyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1,4-Dioxane	ND	ND	100	µg/g	0.0	< 20	Acceptable	
2-Ethoxyethanol	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Methylisobutylketone	ND	ND	500	µg/g	0.0	< 20	Acceptable	
3-Methyl-1-butanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethylene Glycol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Toluene	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Isobutyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1-Pentanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Butyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethylbenzene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
m,p-Xylene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
o-Xylene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Cumene	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Anisole	ND	ND	500	µg/g	0.0	< 20	Acceptable	
DMSO	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1,2-dimethoxyethane	ND	ND	50	µg/g	0.0	< 20	Acceptable	
Triethylamine	ND	ND	500	µg/g	0.0	< 20	Acceptable	
N,N-dimethylformamide	ND	ND	150	µg/g	0.0	< 20	Acceptable	
N,N-dimethylacetamide	ND	ND	150	µg/g	0.0	< 20	Acceptable	
Pyridine	ND	ND	50	µg/g	0.0	< 20	Acceptable	
1,2-Dichloroethane	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Chloroform	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Trichloroethylene	ND	ND	1	µg/g	0.0	< 20	Acceptable	

Abbreviations

ND - None Detected at or above MRL
 RPD - Relative Percent Difference
 LOQ - Limit of Quantitation

Units of Measure:

µg/g - Microgram per gram or ppm



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794

Report Number: 22-011450/D002.R001
Report Date: 12/22/2022
ORELAP#: OR100028
Purchase Order:
Received: 12/20/2022 00:00

Explanation of QC Flag Comments:

Code	Explanation
Q	Matrix interferences affecting spike or surrogate recoveries.
Q1	Quality control result biased high. Only non-detect samples reported.
Q2	Quality control outside QC limits. Data considered estimate.
Q3	Sample concentration greater than four times the amount spiked.
Q4	Non-homogenous sample matrix, affecting RPD result and/or % recoveries.
Q5	Spike results above calibration curve.
Q6	Quality control outside QC limits. Data acceptable based on remaining QC.
R	Relative percent difference (RPD) outside control limit.
R1	RPD non-calculable, as sample or duplicate results are less than five times the LOQ.
R2	Sample replicates RPD non-calculable, as only one replicate is within the analytical range.
LOQ1	Quantitation level raised due to low sample volume and/or dilution.
LOQ2	Quantitaion level raised due to matrix interference.
B	Analyte detected in method blank, but not in associated samples.
B1	The sample concentration is greater than 5 times the blank concentration.
B2	The sample concentration is less than 5 times the blank concentration.