Green Leaf Lab
12025 NE Marx St. Portland, OR 97220
503-253-3511 / www.greenleaflabs.com
License#: 10029074C70

Quality Control Testing Official Report

Critical Berries

Sample ID: G3K0196-02 **Matrix:** Industrial Hemp
Test ID: 5023471
Source ID:
Date Sampled: 11/13/23 **Date Accepted:** 11/13/23

Fern Valley Farms
fernvalleycbd@gmail.com

Results at a Glance

Total THC : 0.72 %

Total CBD : 19 %

Total CBG : 0.32 %

Percent Moisture : 8.93 % PASS

Total Terpenes : 2.328 % PASS

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LABORATORY

Eric Wendt
Chief Science Officer - 11/17/2023

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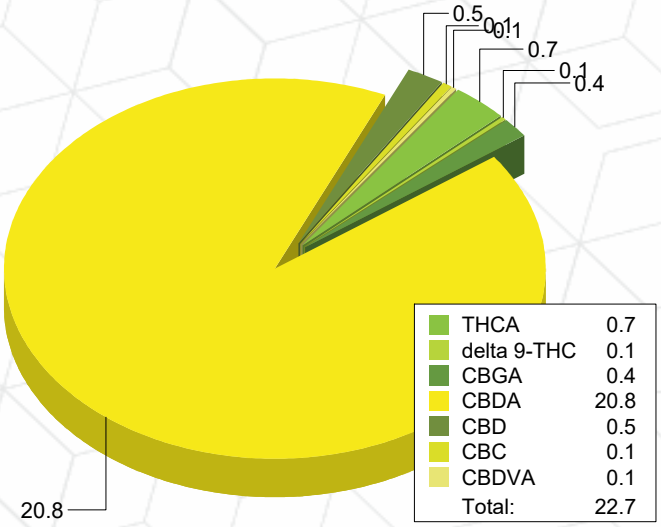
fernvalleycbd@gmail.com

Potency Analysis

Date/Time Extracted: 11/15/23 15:45 **Analysis Method/SOP: 215** **Batch Identification: 2346045**

	LOQ (%)	% by Wt.	mg/g
Total THC	0.010	0.72	7.2
Total CBD	0.009	19	190
Total CBG	0.0009	0.32	3.2
THCA	0.0005	0.74	7.4
delta 9-THC	0.0005	0.067	0.67
delta 8-THC	0.005	< LOQ	< LOQ
THCV	0.006	< LOQ	< LOQ
THCVA	0.002	< LOQ	< LOQ
CBD	0.002	0.51	5.1
CBDA	0.002	21	210
CBDV	0.005	< LOQ	< LOQ
CBDVA	0.002	0.079	0.79
CBN	0.003	< LOQ	< LOQ
CBG	0.0009	< LOQ	< LOQ
CBGA	0.0009	0.37	3.7
CBC	0.010	0.14	1.4

Cannabinoids Profile



Moisture

Date/Time Extracted: 11/16/23 14:55 **Analysis Method/SOP: 103**

Moisture: 8.93 % Action Level: 90%

Potency results are reported on a dry weight basis.
Total THC = delta 9-THC + (THCA * 0.877)
Total CBD = CBD + (CBDA * 0.877)
Total CBG = CBG + (CBGA * 0.878)
LOQ=Limit of Quantification, the lowest measurable concentration of an analyte.
THCA, delta 9-THC, delta 8-THC, CBDA and CBD are accredited by TNI 2016 and ISO 17025

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Date Sampled: 11/13/23 **Date Accepted:** 11/13/23

Fern Valley Farms
fernvalleycbd@gmail.com

Terpene Analysis by GCMS

Date/Time Extracted: 11/15/23 15:45 **Analysis Method/SOP: 204**
Date/Time Analyzed: 11/16/23 04:23

Analyte	Result	LOD	LOQ	Units	Analyte	Result	LOD	LOQ	Units
(-)-Bomeol	< LOQ	0.001	0.003	mg/g	(+)-Bomeol	< LOQ	0.001	0.003	mg/g
3-Carene	< LOQ	0.001	0.003	mg/g	alpha-Bisabolol	0.22	0.001	0.003	mg/g
alpha-Cedrene	< LOQ	0.001	0.003	mg/g	alpha-Humulene	1.14	0.001	0.003	mg/g
Alpha-Phellandrene	< LOQ	0.001	0.003	mg/g	alpha-Pinene	5.94	0.001	0.003	mg/g
alpha-Terpinene	< LOQ	0.001	0.003	mg/g	alpha-Thujone	< LOQ	0.001	0.003	mg/g
A-Terpineol	0.18	0.001	0.003	mg/g	beta-Caryophyllene	2.43	0.001	0.003	mg/g
beta-Myrcene	5.14	0.001	0.003	mg/g	beta-Pinene	2.72	0.001	0.003	mg/g
Camphene	0.11	0.001	0.003	mg/g	Camphor	< LOQ	0.001	0.003	mg/g
Carvacrol	< LOQ	0.001	0.003	mg/g	Carvone	< LOQ	0.001	0.003	mg/g
Caryophyllene Oxide	0.23	0.001	0.003	mg/g	Cedrol	< LOQ	0.001	0.003	mg/g
Cis-beta-Farnesene	0.68	0.001	0.003	mg/g	Cis-beta-Ocimene	< LOQ	0.001	0.003	mg/g
cis-Nerolidol	< LOQ	0.001	0.003	mg/g	Citral	< LOQ	0.001	0.003	mg/g
Citronellol	< LOQ	0.001	0.003	mg/g	Endo-fenchyl alcohol	< LOQ	0.001	0.003	mg/g
Eucalyptol	< LOQ	0.001	0.003	mg/g	Farnesol 1	< LOQ	0.001	0.003	mg/g
Farnesol 2	0.13	0.001	0.003	mg/g	gamma-Terpinene	< LOQ	0.001	0.003	mg/g
Geraniol	< LOQ	0.001	0.003	mg/g	Geranyl acetate	< LOQ	0.001	0.003	mg/g
Guaiol	< LOQ	0.001	0.003	mg/g	Isoborneol	< LOQ	0.001	0.003	mg/g
Isobornyl Acetate	< LOQ	0.001	0.003	mg/g	Isopulegol	< LOQ	0.001	0.003	mg/g
Limonene	1.05	0.001	0.003	mg/g	Linalool	< LOQ	0.001	0.003	mg/g
Menthol	< LOQ	0.001	0.003	mg/g	Menthone	< LOQ	0.001	0.003	mg/g
Nootkatone	< LOQ	0.001	0.003	mg/g	Octyl Acetate	< LOQ	0.001	0.003	mg/g
p-Cymene	< LOQ	0.001	0.003	mg/g	Phytane	< LOQ	0.001	0.003	mg/g
Piperitone	< LOQ	0.001	0.003	mg/g	Pulegone	< LOQ	0.001	0.003	mg/g
Sabinene	2.61	0.001	0.003	mg/g	Sabinene hydrate	< LOQ	0.001	0.003	mg/g
Safranal	< LOQ	0.001	0.003	mg/g	Squalene	< LOQ	0.001	0.003	mg/g
Terpinen-4-ol	< LOQ	0.001	0.003	mg/g	Terpinolene	< LOQ	0.001	0.003	mg/g
Thymol	< LOQ	0.001	0.003	mg/g	trans-beta-Farnesene	0.71	0.001	0.003	mg/g
trans-beta-Ocimene	< LOQ	0.001	0.003	mg/g	trans-Nerolidol	< LOQ	0.001	0.003	mg/g
Valencene	< LOQ	0.001	0.003	mg/g	Verbenone	< LOQ	0.001	0.003	mg/g
Total Terpenes	**23.28**	**0.001**	**0.003**	mg/g					

ND - Compound not detected, <LOQ - Results below the Limit of Quantitation
Terpenes are not Accredited by ORELAP to TNI 2016 and ISO 17025

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Chief Science Officer - 11/17/2023

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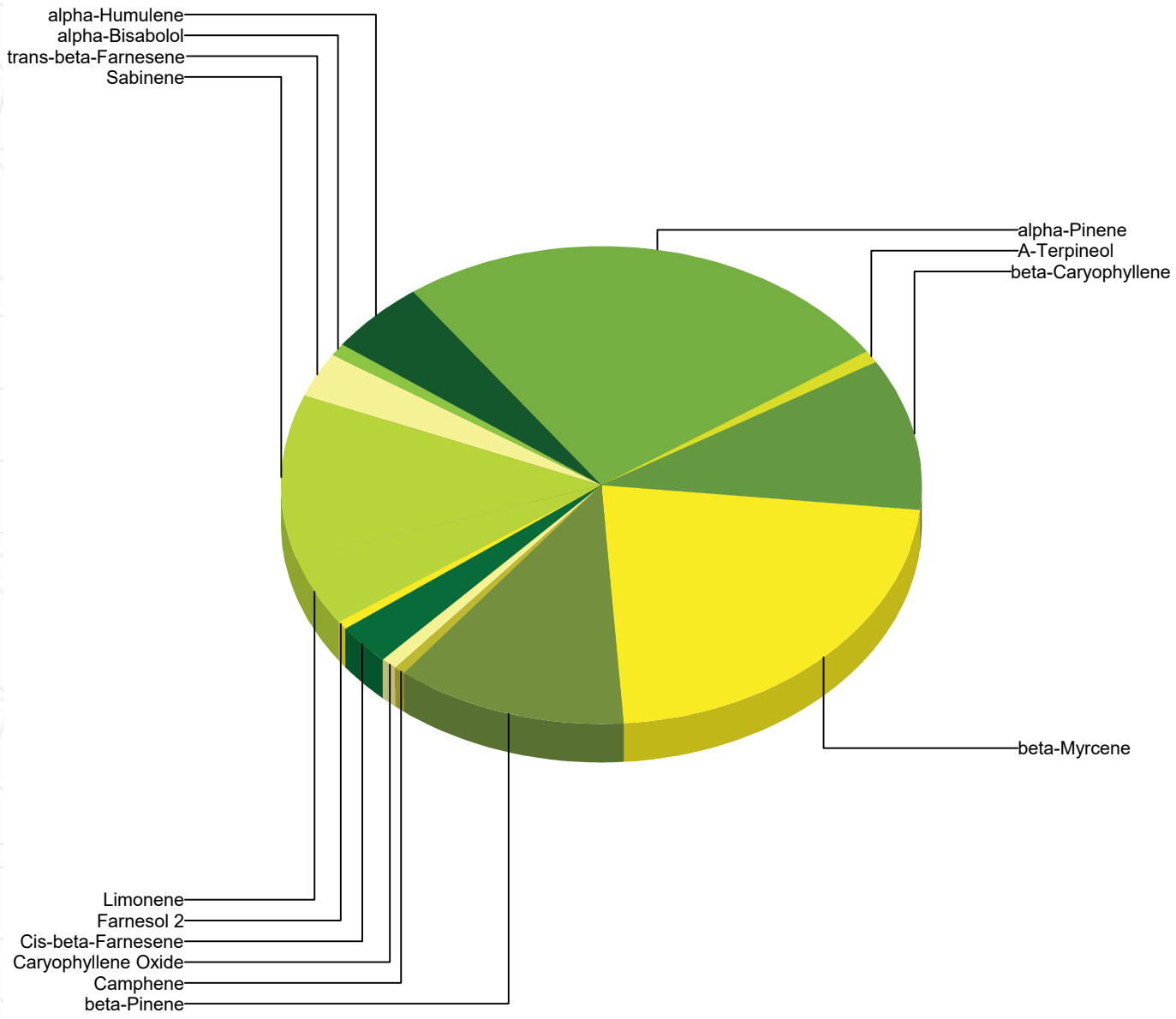
fernvalleycbd@gmail.com

Terpene Profile



Percentage of Total Terpenes Identified

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Quality Control

Potency

Batch: 2346045 - 215-Hemp

Blank(2346045-BLK1)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
THCA	< LOQ	0.0005	%		11/15/23 15:45	11/16/23 05:19	
delta 9-THC	< LOQ	0.0005	%		11/15/23 15:45	11/16/23 05:19	
delta 8-THC	< LOQ	0.004	%		11/15/23 15:45	11/16/23 05:19	
THCV	< LOQ	0.005	%		11/15/23 15:45	11/16/23 05:19	
THCVA	< LOQ	0.002	%		11/15/23 15:45	11/16/23 05:19	
CBD	< LOQ	0.0005	%		11/15/23 15:45	11/16/23 05:19	
CBDA	< LOQ	0.0005	%		11/15/23 15:45	11/16/23 05:19	
CBDV	< LOQ	0.005	%		11/15/23 15:45	11/16/23 05:19	
CBDVA	< LOQ	0.002	%		11/15/23 15:45	11/16/23 05:19	
CBN	< LOQ	0.003	%		11/15/23 15:45	11/16/23 05:19	
CBG	< LOQ	0.0008	%		11/15/23 15:45	11/16/23 05:19	
CBGA	< LOQ	0.0008	%		11/15/23 15:45	11/16/23 05:19	
CBC	< LOQ	0.009	%		11/15/23 15:45	11/16/23 05:19	

Reference(2346045-SRM1)

Analyte	% Recovery	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
THCA	95.2	0.0005	%	90-110	11/15/23 15:45	11/16/23 05:42	
delta 9-THC	98.2	0.0005	%	90-110	11/15/23 15:45	11/16/23 05:42	
delta 8-THC	106	0.004	%	90-110	11/15/23 15:45	11/16/23 05:42	
CBD	106	0.0005	%	90-110	11/15/23 15:45	11/16/23 05:42	
CBDA	98.4	0.0005	%	90-110	11/15/23 15:45	11/16/23 05:42	

Terpene Analysis

Batch: 2346045 - 215-Hemp

Blank(2346045-BLK2)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
alpha-Bisabolol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Camphene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Camphor	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
3-Carene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
beta-Caryophyllene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Caryophyllene Oxide	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
alpha-Cedrene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Cedrol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Endo-fenchyl alcohol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Eucalyptol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Geraniol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Geranyl acetate	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Guaiol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	

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Quality Control

Terpene Analysis (Continued)

Batch: 2346045 - 215-Hemp (Continued)

Blank(2346045-BLK2)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
alpha-Humulene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Isoborneol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Isopulegol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Limonene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Linalool	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
beta-Myrcene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
trans-Nerolidol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
alpha-Pinene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
beta-Pinene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Pulegone	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Sabinene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Sabinene hydrate	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
gamma-Terpinene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
alpha-Terpinene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Terpinolene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Valencene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Verbenone	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
trans-beta-Farnesene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
A-Terpineol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
cis-Nerolidol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Thymol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Terpinen-4-ol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Squalene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Safranal	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Piperitone	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Phytane	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
p-Cymene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Octyl Acetate	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Nootkatone	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Menthone	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Menthol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Isobornyl Acetate	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Farnesol 1	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Carvone	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
alpha-Thujone	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Alpha-Phellandrene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
(+)-Bomeol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
(-)-Bomeol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	

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Quality Control

Terpene Analysis (Continued)

Batch: 2346045 - 215-Hemp (Continued)

Blank(2346045-BLK2)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Carvacrol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
trans-beta-Ocimene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Cis-beta-Ocimene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Citral	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Citronellol	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Farnesol 2	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	
Cis-beta-Farnesene	< LOQ	0.00025	%		11/15/23 15:45	11/16/23 03:28	

Reference(2346045-SRM2)

Analyte	% Recovery	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
alpha-Bisabolol	129	0.00025	%	70-130	11/15/23 15:45	11/16/23 03:46	
beta-Caryophyllene	99.7	0.00025	%	70-130	11/15/23 15:45	11/16/23 03:46	
alpha-Humulene	99.3	0.00025	%	70-130	11/15/23 15:45	11/16/23 03:46	
Limonene	103	0.00025	%	70-130	11/15/23 15:45	11/16/23 03:46	

Batch: 2346056 - 103

Blank(2346056-BLK1)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Percent Moisture	0.440		%		11/16/23 14:55	11/16/23 14:55	

Blank(2346056-BLK2)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Percent Moisture	0.320		%		11/16/23 14:55	11/16/23 14:55	

Reference(2346056-SRM1)

Analyte	% Recovery	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Percent Moisture	105		%	80-120	11/16/23 14:55	11/16/23 14:55	

Reference(2346056-SRM2)

Analyte	% Recovery	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Percent Moisture	102		%	80-120	11/16/23 14:55	11/16/23 14:55	

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Notes and Definitions

Regulatory Compliance samples were collected onsite at facility according to SOP-402 and SOP-403 and following Sampling Plan FN117. Quality Control samples were tested as received.
Results do not include uncertainty of measurements. Available upon request.

ATM	Non-cannabis matrix related interference or suppression of Internal standard
BLI	Baseline Interference - Cannabinoid peak interference in chromatographic baseline affecting QC recovery .
BLK	Analyte detected in method blank, but not associated samples.
BSH	Blank Spike High - Blank Spike recovery above method limit. no detections in samples.
BSL	Blank Spike Low - Blank Spike recovery below lower method limit, analyte chromatography reviewed
C	manually for all samples.
CBD	Interference due to co-elution
CV1	CBD matrix interference on GC Pest chromatography
CV2	CCV was above acceptance criteria, Non-detect samples are considered acceptable.
INF	CCV was below acceptance criteria, sample still exceeds regulatory limit.
ISH	One or more QC falls outside acceptance criteria. Data entered into LIMS for informational purposes only.
ISL	Internal Standard concentration is above acceptance criteria.
MSH	Internal Standard concentration is below acceptance criteria.
MSI	Matrix Spike High - Matrix Spike recovery above method limits.
MSL	Matrix Spike Interference - Matrix spike source sample contains analyte hit above calibration affecting
TPP	recovery accuracy in Matrix Spike.
U	Matrix Spike Low - Matrix Spike recovery below lower method limit, analyte chromatography reviewed manually for all samples.
	Internal Standard concentration outside control limit due to matrix interference

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