

Prepared for:

Surly Brewing Co

4811 Dusharme Dr
Brooklyn Center, MN USA 55429

Lupulin Smazey White Peach

Batch ID or Lot Number: SMZ47 1/11/24	Test, Test ID and Methods: Various	Matrix: Unit	Page 1 of 6
Reported: 12Jan2024	Started: 12Jan2024	Received: 12Jan2024	

Cannabinoids

Test ID: T000267460

Methods: TM14 (HPLC-DAD)

	LOD (mg)	LOQ (mg)	Result (mg)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.244	0.683	ND	ND	# of Servings = 2, Sample Weight=473g
Cannabichromenic Acid (CBCA)	0.224	0.625	ND	ND	
Cannabidiol (CBD)	0.662	1.771	ND	ND	
Cannabidiolic Acid (CBDA)	0.679	1.817	ND	ND	
Cannabidivarin (CBDV)	0.157	0.419	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.283	0.758	ND	ND	
Cannabigerol (CBG)	0.139	0.388	<LOQ	<LOQ	
Cannabigerolic Acid (CBGA)	0.580	1.621	ND	ND	
Cannabinol (CBN)	0.181	0.506	ND	ND	
Cannabinolic Acid (CBNA)	0.396	1.106	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.691	1.931	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.628	1.754	10.800	0.00	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.556	1.554	ND	ND	
Tetrahydrocannabivarin (THCV)	0.126	0.353	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.491	1.371	ND	ND	
Total Cannabinoids			10.800	0.00	
Total Potential THC			10.800	0.00	
Total Potential CBD			ND	ND	

Final Approval



Karen Winternheimer
12Jan2024
04:24:00 PM MST

PREPARED BY / DATE



Sam Smith
12Jan2024
04:25:00 PM MST

APPROVED BY / DATE

Prepared for:

Surly Brewing Co

4811 Dusharme Dr
Brooklyn Center, MN USA 55429

Lupulin Smazey White Peach

Batch ID or Lot Number: SMZ47 1/11/24	Test, Test ID and Methods: Various	Matrix: Unit	Page 2 of 6
Reported: 12Jan2024	Started: 12Jan2024	Received: 12Jan2024	

**Microbial
Contaminants**

Test ID: T000267462

Methods: TM25 (PCR) TM24, TM26,
TM27 (Culture Plating)

	Method	LOD	Quantitation Range	Result	Notes
STEC	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	Free from visual mold, mildew, and foreign matter
<i>Salmonella</i>	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	
Total Yeast and Mold*	TM24: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	
Total Aerobic Count*	TM26: Culture Plating	10 ² CFU/g	1.0x10 ³ - 1.5x10 ⁵	None Detected	
Total Coliforms*	TM27: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	

Final Approval



Brett Hudson
16Jan2024
04:22:00 PM MST

PREPARED BY / DATE



Brianne Maillot
16Jan2024
04:33:00 PM MST

APPROVED BY / DATE

Prepared for:

Surly Brewing Co

4811 Dusharme Dr
Brooklyn Center, MN USA 55429

Lupulin Smazey White Peach

Batch ID or Lot Number: SMZ47 1/11/24	Test, Test ID and Methods: Various	Matrix: Unit	Page 3 of 6
Reported: 12Jan2024	Started: 12Jan2024	Received: 12Jan2024	

Residual Solvents

Test ID: T000267464

Methods: TM04 (GC-MS): Residual

Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	98 - 1966	ND	
Butanes (Isobutane, n-Butane)	184 - 3680	ND	
Methanol	61 - 1213	ND	
Pentane	85 - 1708	ND	
Ethanol	86 - 1715	671	
Acetone	98 - 1960	ND	
Isopropyl Alcohol	105 - 2091	ND	
Hexane	6 - 122	ND	
Ethyl Acetate	98 - 1968	ND	
Benzene	0.2 - 4.1	ND	
Heptanes	98 - 1958	ND	
Toluene	18 - 362	ND	
Xylenes (m,p,o-Xylenes)	136 - 2721	ND	

Final Approval



Karen Winternheimer
17Jan2024
08:59:00 AM MST

PREPARED BY / DATE



Sam Smith
17Jan2024
09:01:00 AM MST

APPROVED BY / DATE

Prepared for:
Surly Brewing Co
4811 Dusharme Dr
Brooklyn Center, MN USA 55429

Lupulin Smazey White Peach

Batch ID or Lot Number: SMZ47 1/11/24	Test, Test ID and Methods: Various	Matrix: Unit	Page 4 of 6
Reported: 12Jan2024	Started: 12Jan2024	Received: 12Jan2024	

Pesticides

Test ID: T000267461
Methods: TM17

(LC-QQ LC MS/MS)	Dynamic Range (ppb)	Result (ppb)
Abamectin	311 - 2831	ND
Acephate	40 - 2758	ND
Acetamiprid	43 - 2718	ND
Azoxystrobin	43 - 2716	ND
Bifenazate	44 - 2695	ND
Boscalid	42 - 2734	ND
Carbaryl	41 - 2697	ND
Carbofuran	44 - 2706	ND
Chlorantraniliprole	42 - 2772	ND
Chlorpyrifos	42 - 2771	ND
Clofentezine	282 - 2719	ND
Diazinon	271 - 2723	ND
Dichlorvos	271 - 2767	ND
Dimethoate	43 - 2709	ND
E-Fenpyroximate	264 - 2851	ND
Etofenprox	42 - 2778	ND
Etoxazole	281 - 2696	ND
Fenoxycarb	43 - 2739	ND
Fipronil	54 - 2790	ND
Flonicamid	50 - 2792	ND
Fludioxonil	283 - 2738	ND
Hexythiazox	40 - 2806	ND
Imazalil	264 - 2746	ND
Imidacloprid	38 - 2799	ND
Kresoxim-methyl	43 - 2739	ND

	Dynamic Range (ppb)	Result (ppb)
Malathion	276 - 2695	ND
Metaxaryl	44 - 2712	ND
Methiocarb	38 - 2787	ND
Methomyl	43 - 2772	ND
MGK 264 1	158 - 1629	ND
MGK 264 2	113 - 1090	ND
Myclobutanil	70 - 2723	ND
Naled	46 - 2668	ND
Oxamyl	42 - 2768	ND
Paclobutrazol	46 - 2692	ND
Permethrin	289 - 2802	ND
Phosmet	40 - 2590	ND
Prophos	275 - 2751	ND
Propoxur	43 - 2702	ND
Pyridaben	290 - 2755	ND
Spinosad A	34 - 2084	ND
Spinosad D	66 - 682	ND
Spiromesifen	263 - 2781	ND
Spirotetramat	282 - 2798	ND
Spiroxamine 1	15 - 1055	ND
Spiroxamine 2	23 - 1629	ND
Tebuconazole	274 - 2726	ND
Thiacloprid	45 - 2728	ND
Thiamethoxam	42 - 2767	ND
Trifloxystrobin	44 - 2718	ND

Final Approval



Karen Winterheimer
17Jan2024
08:38:00 AM MST

PREPARED BY / DATE



Sam Smith
17Jan2024
08:39:00 AM MST

APPROVED BY / DATE

Prepared for:

Surly Brewing Co

4811 Dusharme Dr
Brooklyn Center, MN USA 55429

Lupulin Smazey White Peach

Batch ID or Lot Number: SMZ47 1/11/24	Test, Test ID and Methods: Various	Matrix: Unit	Page 5 of 6
Reported: 12Jan2024	Started: 12Jan2024	Received: 12Jan2024	

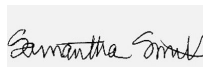
Heavy Metals

Test ID: T000267463


Methods: TM19 (ICP-MS): Heavy

Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.05 - 4.51	ND	
Cadmium	0.05 - 4.59	ND	
Mercury	0.05 - 4.59	ND	
Lead	0.05 - 4.65	ND	

Final Approval


Sam Smith
18Jan2024
02:49:00 PM MST

PREPARED BY / DATE


Karen Winternheimer
18Jan2024
03:01:00 PM MST

APPROVED BY / DATE

Mycotoxins


Test ID: T000267465

Methods: TM18 (UHPLC-QQQ


LCMS/MS): Mycotoxins

	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	1.98 - 130.80	ND	N/A
Aflatoxin B1	0.99 - 33.59	ND	
Aflatoxin B2	0.96 - 33.21	ND	
Aflatoxin G1	1.05 - 33.30	ND	
Aflatoxin G2	1.08 - 33.56	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval


Karen Winternheimer
19Jan2024
12:32:00 PM MST

PREPARED BY / DATE


Sam Smith
19Jan2024
12:33:00 PM MST

APPROVED BY / DATE

Prepared for:

Surly Brewing Co

4811 Dusharme Dr
Brooklyn Center, MN USA 55429

Lupulin Smazey White Peach

Batch ID or Lot Number: SMZ47 1/11/24	Test, Test ID and Methods: Various	Matrix: Unit	Page 6 of 6
Reported: 12Jan2024	Started: 12Jan2024	Received: 12Jan2024	



<https://results.botanacor.com/api/v1/coas/uuid/53430c70-8927-4625-b316-b7771ad84e07>

Definitions

LOD = Limit of Detection, ULOQ = Upper Limit of Quantitation, LLOQ = Lower Limit of Quantitation, PPB = Parts per Billion, % = % (w/w) = Percent (weight of analyte / weight of product). ND = None Detected (defined by dynamic range of the method). Total Potential Delta 9-THC or CBD is calculated to take into account the loss of a carboxyl group during decarboxylation step, using the following formulas: Total Potential Delta 9-THC = Delta 9-THC + (Delta 9-THCa \times (0.877)) and Total CBD = CBD + (CBDa \times (0.877)). Fail equates to a concentration level of Delta 9-THC, on a dry weight basis, higher than 0.3 percent + or - the measurement uncertainty. Total Potential THC is calculated using the following formulas to take into account the loss of a carboxyl group during decarboxylation step. Total THC = THC + (THCa \times (0.877)). ALOQ = Above Limit Of Quantitation (defined by dynamic range of the method), CFU/g = Colony Forming Units per Gram. Values recorded in scientific notation, a common microbial practice of expressing numbers that are too large to be conveniently written in decimal form. Examples: 10^2 = 100 CFU, 10^3 = 1,000 CFU, 10^4 = 10,000 CFU, 10^5 = 100,000 CFU.

Testing results are based solely upon the sample submitted to SC Laboratories, Inc., in the condition it was received. SC Laboratories, Inc., warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of SC Laboratories, Inc. ISO/IEC 17025:2017 A2LA Cert #: 4329.02 Chemical; 4329.03 Biological. Some tests listed on this COA may not be within our scope of A2LA accreditation. Please visit [A2LA for more details](#).



Cert #4329.02

53430c7089274625b316b7771ad84e07.1