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Ramirez, Angelica

LATE
DIST

From: jay caplan <jaycaplan@gmail.com>
Sent: Friday, May 1, 2020 12:24 PM
To: sbcob
Subject: Email 2 of 2 —Written submission for B of S meeting on Tuesday - item 7 Santa Rita Valley Ag appeal
Attachments: Busy Bee Odor Study.pptx; ATT00001.txt

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MEMORANDUM

468 Poli Street, Suite 2E • Ventura, California 93001

Date: October 18, 2019
To: Ms. Sara Rotman, Busy Bee Organics
From: Scott Cohen, P.E., C.I.H. and Andre Almeida, P.E.
Re: Cannabis Odor Modeling

Sespe was hired to perform independent air quality analysis to clarify relative odor impacts from the subject property (Figure 1) and provide expert testimony regarding methods that were used and findings of the analytical effort.

Methods used in preparing this memo are the same as those used for industrial projects that emit air pollutants. Air pollution engineering and analysis is one of Sespe's core services and staff has assessed

3 / 35 147% Calculate Concentration of
odorous chemicals in and around the Project site.

Flowering season generally occurs twice a year in June / July and in October / November but can vary depending on seasonal weather conditions. It is during this time that odor is a concern. Wind data was modeled for each of the five (5) years contained in the dataset. Normally, low wind speed results in stagnation and plumes remain more cohesive during stagnation producing the highest model concentrations. High wind periods result in greater dispersion of pollutants and lower concentrations.

Review of the wind dataset shows the frequency of Calm Winds (wind less than 0.97 Knots) was 0.51% during the flowering period. This means that throughout the course of a year, calm winds and potential for related high concentrations of odorous emissions from flowering cannabis may occur simultaneously for 0.1% of the time.

² <https://www.govinfo.gov/content/pkg/CFR-2018-title40-vol2/pdf/CFR-2018-title40-vol2-part51-appw.pdf>
³ <https://www3.arb.ca.gov/toxics/harp/harp.htm>
⁴ <https://www.ourair.org/wp-content/uploads/aqia.pdf>

standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard....

3.0 CONCLUSION

Air dispersion modeling was performed to estimate the level of odor near the Project site. Concentrations of common odorous compounds found in cannabis and comprising the model output were then converted to an odor index using the odor detection thresholds and weighted amounts of the compounds. Odor indices greater than one (1.0) indicate a greater than 50% likelihood that odor would be detected and indices less than one (1.0) indicates less than 50% likelihood that odor would be detected. As shown on Figure 2, 99.8% of the time the odor index on-site is less than one (i.e., 0.8715 O.I.) and odor index is less than 0.8 O.I. at each location outside the property boundary. The greatest odor index value predicted by the model to occur at a residence is 0.45 O.I. which is exceeded less than 0.2% of the time at UTM Zone 11, 754344 m E, 3834885 m N. Given only half of people would detect odor at 1.0 O.I., much less than half of people would detect odor at residential locations surrounding the Project site. Given the range of odor indices at residences, detection of odor by occupants is considered unlikely resulting in compliance with APCD's Nuisance Rule discussed above and corresponding to a less than significant impact due to odorous emissions from the Project site.

Acti
Go to

39.67016 Peak Hour: Odor Index
 Busy Bee Organics

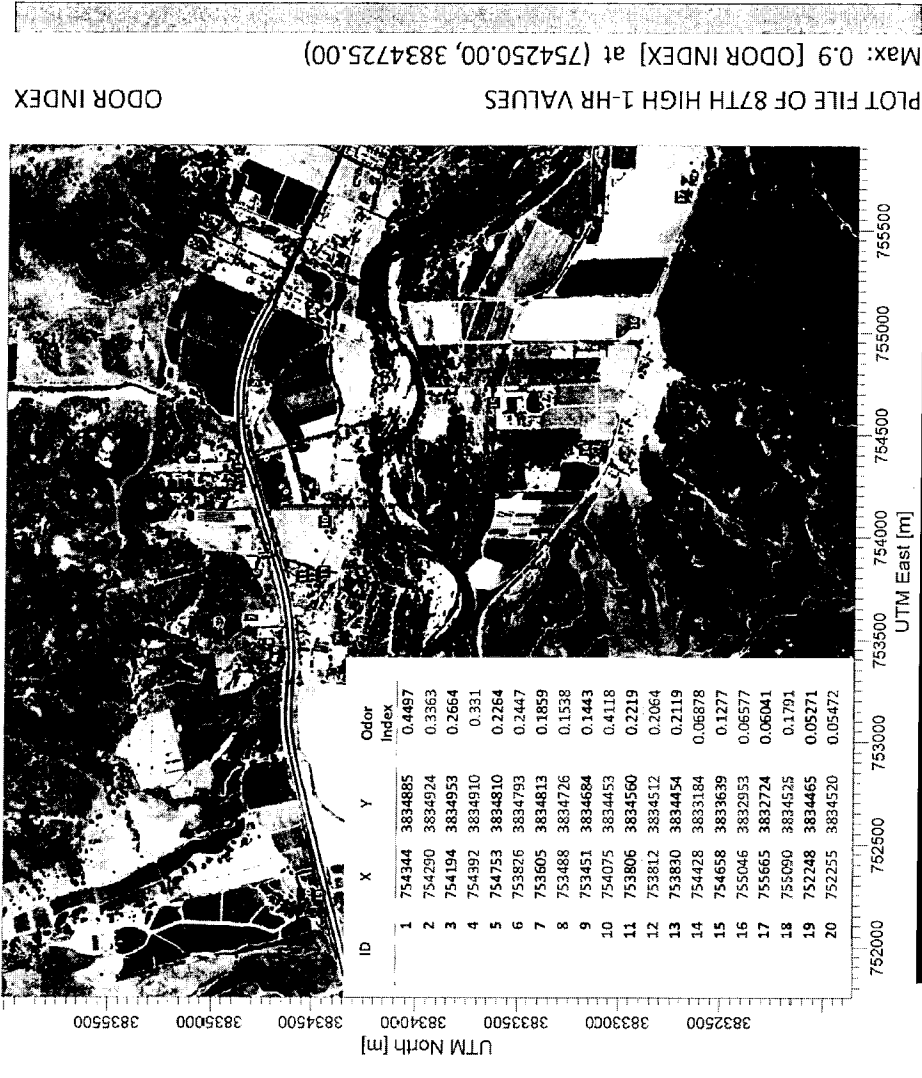
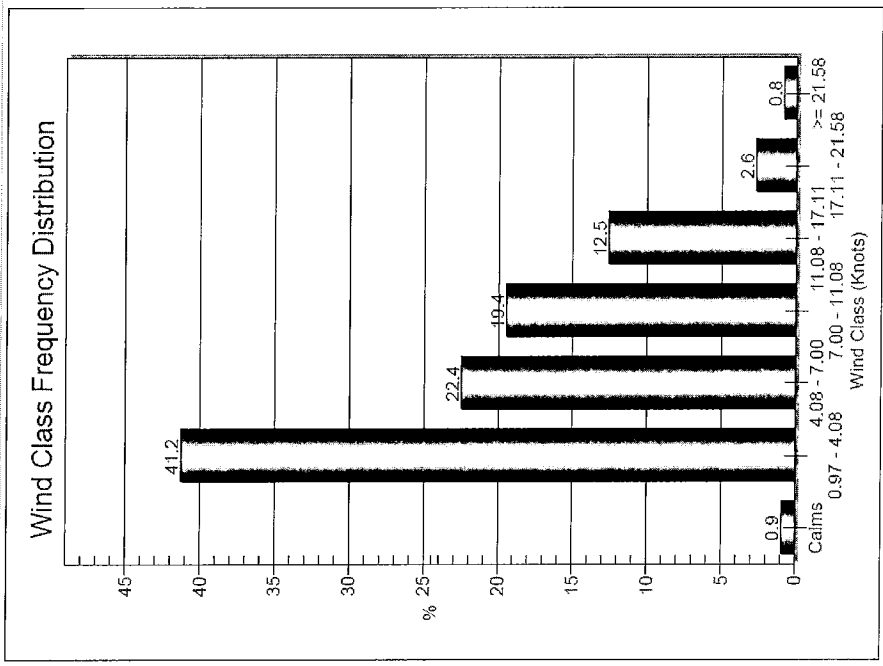


Figure 3

SOURCES:	1
RECEPTORS:	3257
OUTPUT TYPE:	Concentration
NOTICE:	Values are relative to the Odor Detection Threshold for the mixture of terpene compounds assessed.
MODELER:	SDC
DATE:	10/18/2019
SCALE:	1:28,286 0 0.5 km
PROJECT NO.:	BU03.19.01

SESPE CONSULTING, INC.





Station ID: 82973
 Start Date: 11/12/2014 - 03:00
 End Date: 12/31/2019 - 23:59

Run ID:

Frequency Distribution
(Count)

Wind Direction (Blowing From) / Wind Speed (knots)

Wind Direction (Blowing From) / Wind Speed (knots)	Count	Total
0.97 - 4.08 / 4.08 - 7.00	264	0
7.00 - 10.02 / 7.00 - 10.02	98	63
10.02 - 13.04 / 10.02 - 13.04	66	107
13.04 - 16.06 / 13.04 - 16.06	66	135
16.06 - 19.08 / 16.06 - 19.08	43	69
19.08 - 22.10 / 19.08 - 22.10	32	61
22.10 - 25.12 / 22.10 - 25.12	35	42
25.12 - 28.14 / 25.12 - 28.14	41	19
28.14 - 31.16 / 28.14 - 31.16	48	10
31.16 - 34.18 / 31.16 - 34.18	81	1
34.18 - 37.20 / 34.18 - 37.20	81	2
37.20 - 40.22 / 37.20 - 40.22	203	81
40.22 - 43.24 / 40.22 - 43.24	367	101
43.24 - 46.26 / 43.24 - 46.26	101	12
46.26 - 49.28 / 46.26 - 49.28	654	0
49.28 - 52.30 / 49.28 - 52.30	645	130
52.30 - 55.32 / 52.30 - 55.32	845	2
55.32 - 58.34 / 55.32 - 58.34	1034	2
58.34 - 61.36 / 58.34 - 61.36	243	15
61.36 - 64.38 / 61.36 - 64.38	288	64
64.38 - 67.40 / 64.38 - 67.40	324	90
67.40 - 70.42 / 67.40 - 70.42	353	75
70.42 - 73.44 / 70.42 - 73.44	274	97
73.44 - 76.46 / 73.44 - 76.46	189	70
76.46 - 79.48 / 76.46 - 79.48	120	53
79.48 - 82.50 / 79.48 - 82.50	70	30
82.50 - 85.52 / 82.50 - 85.52	46	31
85.52 - 88.54 / 85.52 - 88.54	83	43
88.54 - 91.56 / 88.54 - 91.56	97	87
91.56 - 94.58 / 91.56 - 94.58	116	132
94.58 - 97.60 / 94.58 - 97.60	145	107
97.60 - 100.62 / 97.60 - 100.62	204	102
100.62 - 103.64 / 100.62 - 103.64	449	138
103.64 - 106.66 / 103.64 - 106.66	843	532
106.66 - 109.68 / 106.66 - 109.68	1461	1620
109.68 - 112.70 / 109.68 - 112.70	1620	1630
112.70 - 115.72 / 112.70 - 115.72	1529	2570
115.72 - 118.74 / 115.72 - 118.74	944	1264
118.74 - 121.76 / 118.74 - 121.76	343	383
121.76 - 124.78 / 121.76 - 124.78	321	341
124.78 - 127.80 / 124.78 - 127.80	254	138
127.80 - 130.82 / 127.80 - 130.82	8815	8487
130.82 - 133.84 / 130.82 - 133.84	5461	1148
133.84 - 136.86 / 133.84 - 136.86	349	4824
Total	19050	8815

Frequency of Calm Winds: 351
 Average Wind Speed: 8.49 Knots

WINDOT, Vers 3.64 - Latest Environment Software

Frequency Distribution
(Normalized)

Wind Direction (Blowing From) / Wind Speed (Knots)	>= 21.68	Total
335-5	0.00465	0.002191
8-18	0.034169	0.001574
15-25	0.033377	0.002851
25-35	0.034016	0.002730
45-55	0.034022	0.002959
55-65	0.034028	0.002959
65-75	0.034030	0.002959
75-85	0.034031	0.002959
85-95	0.034032	0.002959
95-105	0.034033	0.002959
105-115	0.034034	0.002959
115-125	0.034035	0.002959
125-135	0.034036	0.002959
135-145	0.034037	0.002959
145-155	0.034038	0.002959
155-165	0.034039	0.002959
165-175	0.034040	0.002959
175-185	0.034041	0.002959
185-195	0.034042	0.002959
195-205	0.034043	0.002959
205-215	0.034044	0.002959
215-225	0.034045	0.002959
225-235	0.034046	0.002959
235-245	0.034047	0.002959
245-255	0.034048	0.002959
255-265	0.034049	0.002959
265-275	0.034050	0.002959
275-285	0.034051	0.002959
285-295	0.034052	0.002959
295-305	0.034053	0.002959
305-315	0.034054	0.002959
315-325	0.034055	0.002959
325-335	0.034056	0.002959
335-345	0.034057	0.002959
345-355	0.034058	0.002959
Total	0.411876	0.223954

Frequency of Calm Winds: 0.37%
Average Wind Speed: 0.49 Knots

Wind Rose Plot

Wind Rose Plot

