

Carmel Area Wastewater District

Discharge Monitoring Report

2021 Annual

Operations & Compliance Report

NPDES #CA0047996

ORDER # R3-2014-0012

ADVANCED SECONDARY (Ocean Discharge)



Wastewater Carmel Area District

Board of Directors Gregory D'Ambrosio Michael K. Rachel Robert Siegfried Charlotte F. Townsend Ken White

Barbara Buikema General Manager Edward Waggoner Operations Superintendent Robert R. Wellington Legal Counsel

Friday, January 28, 2022

Mr. Peter von Langen California Regional Water Quality Control Board Central Coast Region 895 Aerovista Place, Suite 101 San Luis Obispo, CA 93401-7906 centralcoast@waterboards.ca.gov

Subject:

2021 Carmel Area Wastewater District Annual Secondary Operations & Compliance Report - ORDER #R3-2014-0012,

NPDES #CA0047996

Dear Mr. Von Langen

Enclosed please find the Carmel Area Wastewater District's Annual Report submitted as requested by the California Regional Water Quality Control Board and the State Water Resources Control Board

Section One (1):

Tabular summary of the monitoring data obtained during the previous year -2021

Section Two (2):

Graphical summary of the monitoring data obtained during the previous year -2021

Section Three (3):

Discussion of compliance record and corrective actions taken or requested to bring discharge into full

compliance.

Section Four (4):

List of current operating personnel and their grade of certification.

Section Five (5):

Carmel Area Wastewater District's Operation & Maintenance Manual status discussion.

Section Six (6):

Statement concerning the laboratories used by Carmel Area Wastewater District to monitor compliance with effluent limits and summary of performance as required be section B, General Monitoring Requirements.

Summary of sludge quantities, analyses of sludge chemical and moisture content, and ultimate sludge

destination not included as there exists a provision for sludge monitoring within the Carmel Area Wastewater

District's Monitoring and Reporting Program.

Section Eight (8):

Section Seven (7):

Evaluation of the effectiveness of the local source control or pretretment program using the State Water

Resources Control Board's "Guidelines for Determineg the Effectiveness of Local Pretreatment Program."

Respectfully Submitted,

CARMEL AREA WASTEWATER DISTRICT

Operations Superintendent

SECTION ONE

Tabular summary of the monitoring data

TABULAR SUMMARY OF 2021 NPDES REPORTABLE DATA

I		Influent Flows			BOD	No. of Party	Su	spended Soli	ds	Sett Solids	CL2 Residual	Removal	Efficiency		H at Units	0	1&G
Month	Total	CAWD total	PBCSD total	Influent mg/l	Effluent mg/l	Effluent lb/day	Influent mg/l	Effluent mg/l	Effluent lb/day	Effluent mi/l	Effluent mg/l	BOD %	T.S.S. %	Min	Max	Effluent mg/l	Effluent lb/da
Jan	37.781	26.537	11.244	295	12	62	408	15	30	0.1	0.00	96	96	6.8	7.3	NODI(B)	NODI(B)
Feb	36.638	23.536	13.102	300	17	28	512	9	16	NODI(B)	0.00	94	98	6.9	7.6	NODI(B)	NODI(B)
Mar	35,896	25.666	10.230	237	11	75	479	12	85	0.1	0.00	95	97	6.7	7.6	NODI(B)	
Apr	34.571	23.755	10.816	366	15	15	543	12	13	NODI(B)	0.00	96	98	6.9	7.5		NODI(B)
May	35.889	23.914	11.975	324	16	18	631	16	18	0.14	0.00	95	97	6.9	7.5	NODI(B)	NODI(B)
Jun	35.242	24.294	10.948	471	14	17	524	18	20	0.1	0.00	97	97			NODI(B)	NODI(B)
Jul	37.117	25.481	11.636	513	14	14	862	25	29	NODI(B)	0.00	97	97	7.1	7.7	NODI(B)	NODI(B)
Aug	36.578	25.206	11.372	527	12	15	658	14	16	0.1	0.00			7.1	7.6	NODI(B)	NODI(B)
Sep	31.800	22.717	9.083	527	15	15	708	14	15			98	98	7.2	7.6	NODI(B)	NODI(B)
Oct	35,625	24.518	11.107	614	16	18	741			NODI(B)	0.00	97	98	7.1	7.7	NODI(B)	NODI(B)
Nov	33.282	22.731	10.551	457	10	7.0		23	36	0.1	0.00	97	97	6.9	7.6	NODI(B)	NODI(B)
Dec	55.861	35.261	20,600			7	565	9	9	NODI(B)	0.00	98	98	7.1	7.6	NODI(B)	NODI(B)
DCL	22.001	33.201	20.600	377	8	38	578	15	76	0.13	0.00	98	97	6.6	7.5	NODI(B)	NODI(B)

Turbidity Nitrate Effluent mg/l Total Coliform Ammonia Effluent mg/l Effluent ca Efflo mg/l Silicate Effluent Entero. Org. Bacteria mpn/100 ml Effluent NTU's Temp Deg. F Total Cu.Yds. K-4 mpn/100 m K-5 mpn/100 ml K-6 mpn/100 ml K-4 mpn/100 ml K-5 mpn/100 ml K-6 mpn/100 mi K-5 mpn/100 ml K-6 mpn/100 ml 3.04 1.74 3.09 1.83 2.92 2.45 2.95 3.25 2.62 3.01 1.32 2.68 16.9 29.8 8.4 15.9 21.7 21 17.53 37.2 22.2 60.6 30.1 35.3 190 90 68 135 256 151 25.4 117 97.9 136 91 141 57.4 69.6 132 175 65.3 68.2 66.9 67.6 70.9 71.6 71.1 72 72.1 NA NA NA 99.1 110.4 121.7 119.2 126.7 134.8 162.8 177.3 135.4 128.1 149.1 153.1 NA NA NA NA 156 153 26 113 130 181 172 98 91 183 191 NA 186 66 101 127 103 97 109 124 NA NA NA NA NA NA NA

CARMEL AREA WASTEWATER DISTRICT 2021 EFFLUENT NITROGEN SPECIES ANALYSIS

Month	Nitrate Effluent mg/l	Ammonia Effluent mg/l	Toxicity Cone TU a	Toxicity Conc TU c
January	256.0	16.9		
February	151.0	29.8		
March	25.4	8.4	0.00	30.49
April	117.0	15.9		
May	97.9	21.7		
June	136.0	21		
July	91.0	17.53		
August	141.0	37.2		
September	57.4	22.2	0.51	60.98
October	69.6	60.6	I BROWNER	
November	132.0	30.1		
December	175.0	35.3		

2021 SEMI-ANNUAL EFFLUENT ANALYSIS

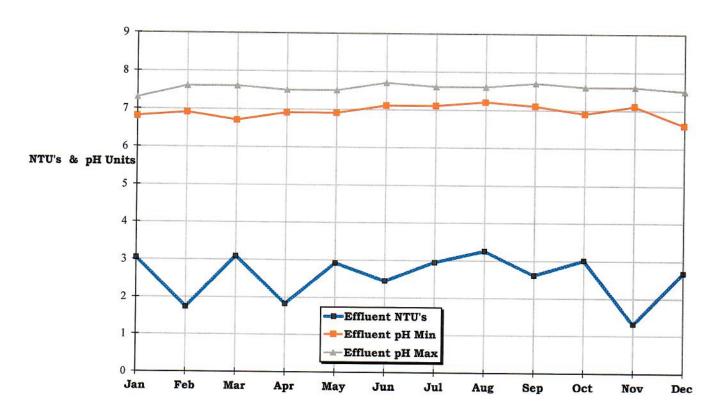
Constitutent	Units	Feb-21	Aug-21
Acrolein & Acrylonitrile	μg/L	NODI(B)	NODI(B)
Ammonia-N	mg/L	29.8	37.2
Antimony	μg/L	NODI(B)	2.35
Arsenic	μg/L	NODI(B)	1.82
Beryllium	μg/L	NODI(B)	NODI(B)
Cadmium	μg/L	NODI(B)	NODI(B)
Chlorine Residual, Total	mg/L	NODI(B)	NODI(B)
Chromium III	μg/L	NODI(B)	NODI(B)
Chromium VI	μg\L	NODI(B)	NODI(B)
Chromium, Total	μg\L	NODI(B)	NODI(B)
Copper	μg/L	82	60
Cyanide	μg/L	NODI(B)	NODI(B)
Dioxin	pg/L	NODI(B)	NODI(B)
Radio Activity (Gross Alpha & Beta)	pCi/L	NODI(B)	NODI(B)
Lead	μg/L	NODI(B)	0.488
Mercury by EPA 245.2	μg/L	NODI(B)	NODI(B)
Nickel Nickel	μg/L	NODI(B)	6.3
Organochlorine Pest.& PCBs	μg/L	NODI(B)	NODI(B)
Phenolic Compounds	mg/L	NODI(B)	NODI(B)
Polynuclear Aromatics	μg/L	NODI(B)	NODI(B)
Selenium	μg/L	NODI(B)	2.99
Semivolatile Org. Comp.	μg/L	NODI(B)	NODI(B)
Silver	μg/L	NODI(B)	NODI(B)
Thallium Thallium Thallium	μg/L	NODI(B)	NODI(B)
[ributyltin	μg/L	NODI(B)	NODI(B)
Volatile Org. Comp.	μg/L	NODI(B)	NODI(B)
Linc	μg/L	387	386

NODI(B) = NO DETECTION

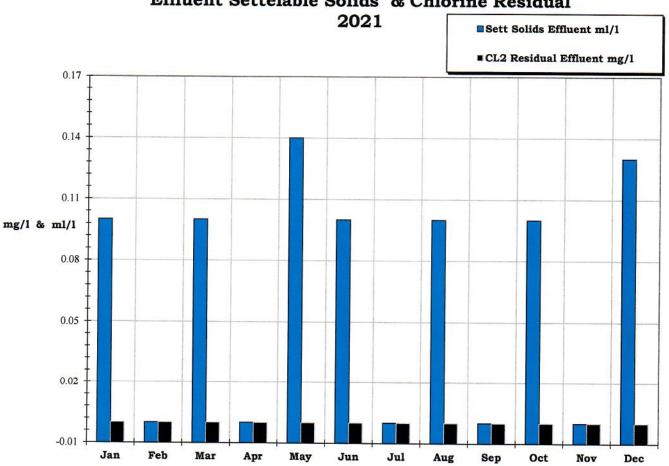
SECTION TWO

Graphical summary of the monitoring data

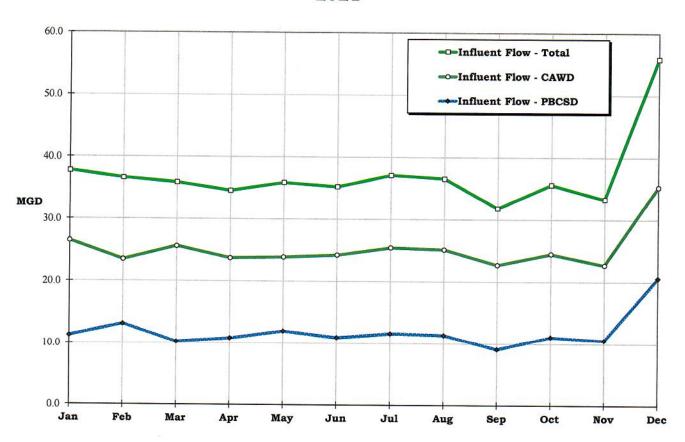
Effluent Turbidity and pH 2021



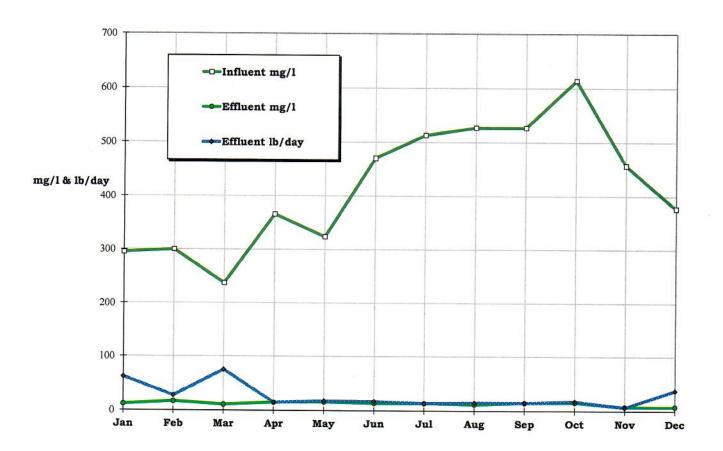
Effluent Settelable Solids & Chlorine Residual



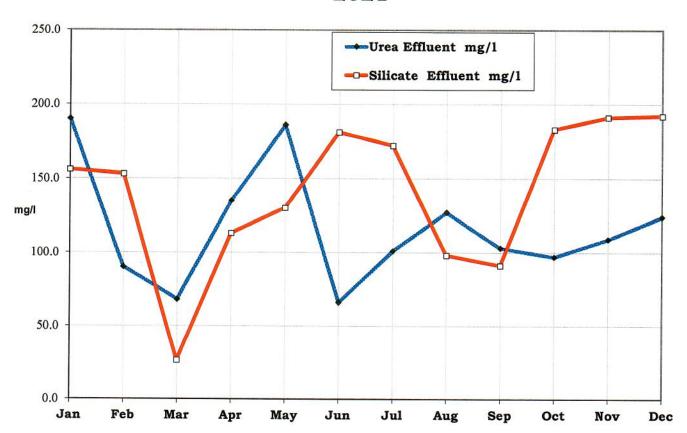
Annual Influent Flows 2021



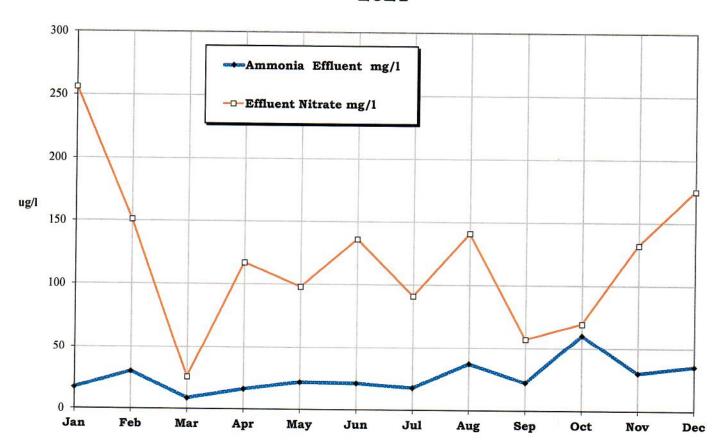
Influent / Effluent BOD 2021



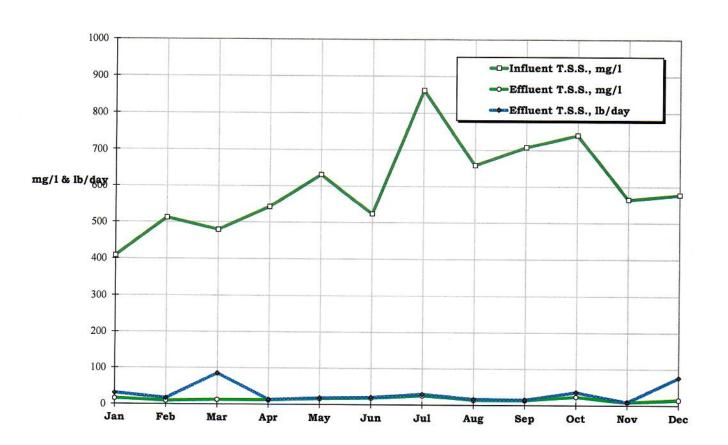
Effluent Urea / Silicate 2021



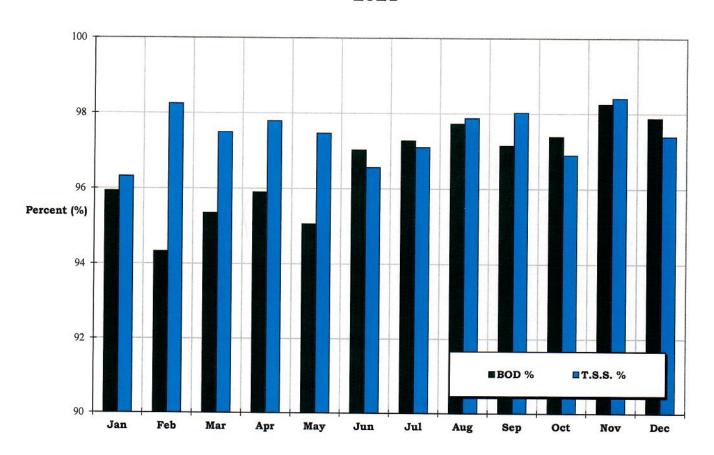
Effluent Ammonia / Nitrogen 2021



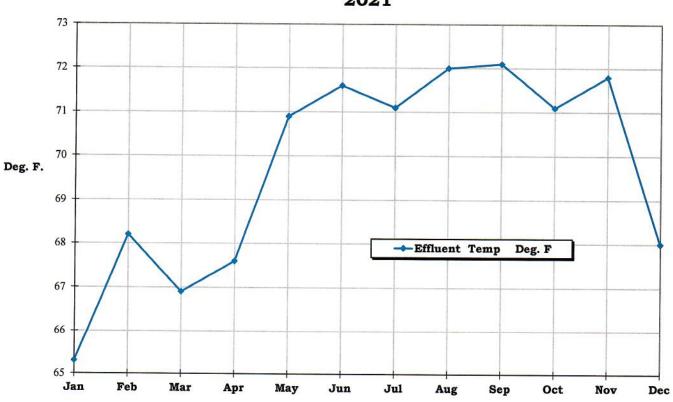
Influent / Effluent T.S.S. 2021



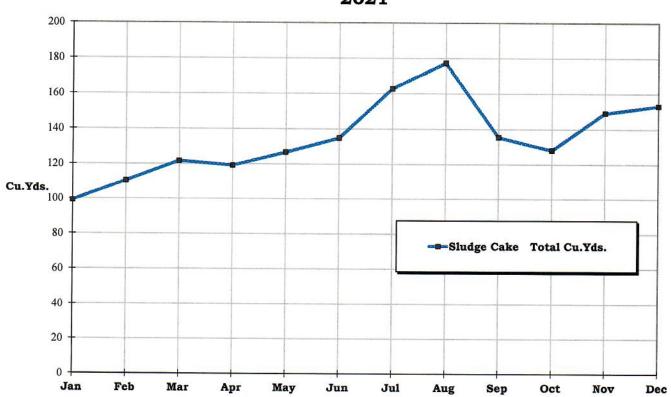
Effluent BOD & T.S.S Removal Efficiency 2021



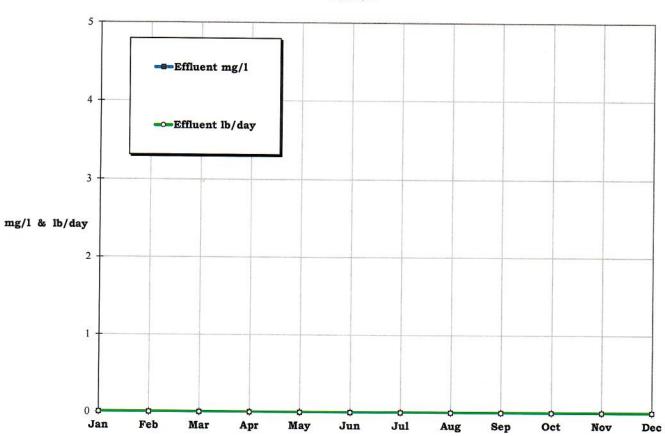
Effluent Temperature 2021



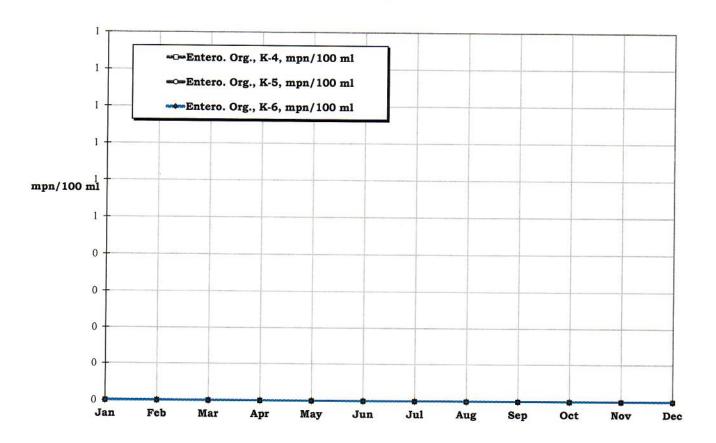




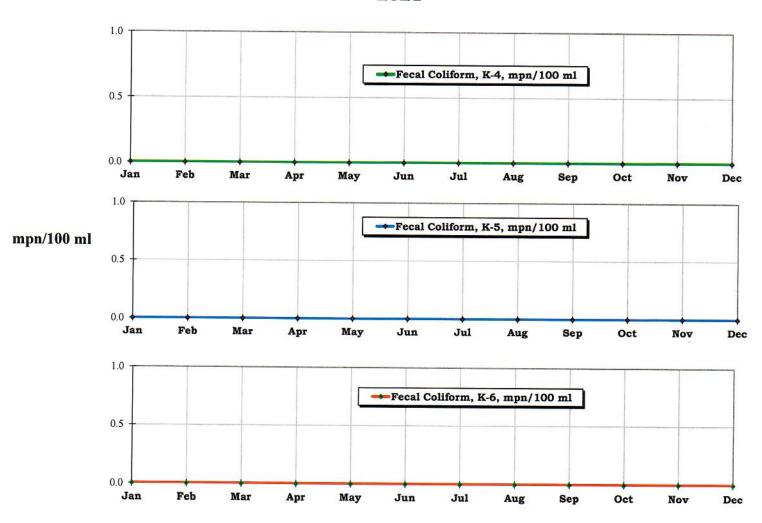
Effluent Oil & Grease 2021



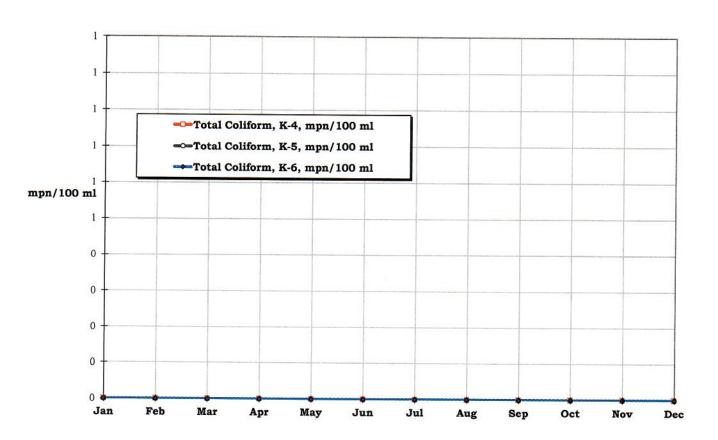
Receiving Water - Enterococcus Organisms Monthly Maximum 2021



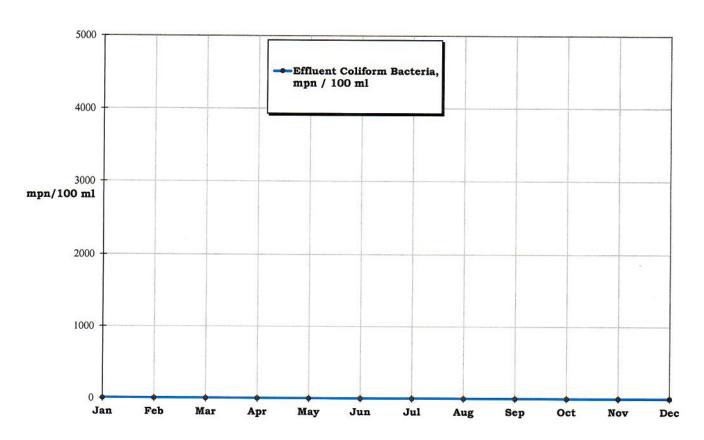
Receiving Water - Fecal Coliform Monthly Maximum 2021



Receiving Water - Total Coliform Monthly Maximum 2021



Effluent Coliform Monthly Average 2021



SECTION THREE

Discussion of compliance record and corrective actions

No reported compliance exceedences or corrective actions

SECTION FOUR

List of current operating personnel

SENIORITY DISTRIBUTION & CERTIFICATION LEVELS OF CAWD TREATMENT PLANT PERSONNEL 2021

Name	Operations Position	SWRCB Certification Level Maintained
Edward Waggoner	Operations Superintendent	V
Kevin Young	Operations Supervisor	V
Christian Schmidt	Senior Operator	III
Chris Dixon	Senior Operator	III
Michael Hooks	Senior Operator	III
Michael Garrison	Operator II	III
Charles DayEngel	Operator II	II
Jason Veile	Operator II	II
Name	Maintenance Position	Certification Level Maintained
Chris Foley	Maintenance Superintendent	IV
Michael Skinkle	Maintenance Worker	III
Greg Ange	Maintenance Worker	III
Name	Laboratory Position	Certification Level Maintained
Ray De Ocampo	Laboratory Supervisor	III & I
Trevor Holland	Laboratory Analyst/Environmental Compliance II	IV & I
Fanny Mui	Laboratory Analyst/Environmental Compliance I	11 & 1



SECTION FIVE

Carmel Area Wastewater District's Operation & Maintenance Manual status

<u>Carmel Area Wastewater District Wastewater District</u> <u>Operation Maintenance Manual</u>

STATUS

The Carmel Area Wastewater District's Operation and Maintenance Manual was written and submitted to the District in 1987 following a large expansion project which was completed in 1986.

Modifications to the existing secondary treatment facility in support of tertiary filtration required modifications and updates to the Operations and Maintenance Manual. These modifications were completed, and the manual submitted to the District in 1996

Updates to the Operations and Maintenance Manual were completed in 2018 by Engineering Firm Kennedy Jenks for the facility capital improvement project which was completed also in 2018.

SECTION SIX

Laboratories used by Carmel Area Wastewater District

Statement concerning the laboratories used by the Carmel Area Wastewater District to monitor compliance with effluent limits and summary of performance as required by section B. General

Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey, CA 93940

CA ELAP # 2385

Aquatic Bioassay & Consulting Laboratories, Inc.
 North Olive Street
 Ventura, CA 93001

CA ELAP# 1907

Carmel Area Wastewater Distrct (CAWD)
26900 State Route 1
Carmel, CA 93923
(831) 257-0432 -Phone
(831) 624-1478 -Fax

CA ELAP # 1804

Fruit Growers Laboratories (FGL) 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401

CA ELAP # 2775

SECTION SEVEN

Summary of sludge quantities and analyses

Annual Biosolids Monitoring Report

Period:

January 2021 - March 2021

Sample Date:

11-Jan-21

		EPA 503 pollution limits for land application			
1		Pollutant Concentrations	Ceiling Concentrations		
Name	Concentration (mg/kg)	(40 CFR 503.13)	(40 CFR 503.13)		
POLLUTANTS	Dry Weight unless indicated	(monthly avg.)	(daily maximum)		
Antimony	ND				
Arsenic	16.1	41 mg/Kg	75 mg/Kg		
Barium	41.1		O. O		
Beryllium	0.1				
Boron	10.1				
Cadmium	0.3	39 mg/Kg	85 mg/Kg		
Chromium	3.4	5. 5	- Grid		
Cobalt	0.4				
Copper	129.0	1500 mg/Kg	4300 mg/kg		
Lead	1.9	300 mg/Kg	840 mg/kg		
Molybdenum	1.7	9.0	0,.0		
Nickel	3.1				
Phosphorus	4,400	420 Mg/Kg	420 mg/Kg		
Selenium	0.7	100 mg/Kg	100 mg/Kg		
Silver	ND	9. 9			
Thallium	ND				
Vanadium	1.2				
Zinc	262.0	2800 mg/Kg	7500 mg/Kg		
Ammonia Nitrogen	1210	5. 3	6/ 8		
Cyanide, Total	0.28				
Nitrate Nitrogen	1				
Nitrogen, Total Kjeldahl	3,790				
рН	7.37				
% Solids	22.4%				
Mercury	0.1	17 mg/Kg	57 mg/Kg		
Grease/Oil	ND				
Hex Chromium	ND				

Pathogen Reduction (40 CFR 503.32)

Class B - (PSRP) Anaerobic Digestion at 95 F for minimum of 15 days

Vector Attraction Reduction (40 CFR 503.33)

Option 1 - VS reduced by a minimum of 38%

Certification

I certify, under penalty of law, that the Class B pathogen requirements in 503.32 and the vector attraction reduction requirement in 503.33 using option (1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including fine and imprisonment".

Name & Title: Edward Waggoner - Operations Superintendent

Telephone Number: (831) 624-1249

Annual Biosolids Monitoring Report

Period:

April 2021-June 2021

Sample Date:

5-Apr-21

		EPA 503 pollution limits for land application			
1	Grill Proc. 806 - Maio 4077 S	Pollutant Concentrations	Ceiling Concentrations		
Name	Concentration (mg/kg)	(40 CFR 503.13)	(40 CFR 503.13)		
POLLUTANTS	Dry Weight unless indicated	(monthly avg.)	(daily maximum)		
Antimony	ND				
Arsenic	21.6	41 mg/Kg	75 mg/Kg		
Barium	53.0		3. 0		
Beryllium	0.2				
Boron	7.4				
Cadmium	0.4	39 mg/Kg	85 mg/Kg		
Chromium	4.9	G, G	00 1118/118		
Cobalt	0.8				
Copper	147.0	1500 mg/Kg	4300 mg/kg		
Lead	5.4	300 mg/Kg	840 mg/kg		
Molybdenum	1.4	6, 6	0.10.118/118		
Nickel	4.7				
Phosphorus	4,860	420 Mg/Kg	420 mg/Kg		
Selenium	0.4	100 mg/Kg	100 mg/Kg		
Silver	ND	5. 0			
Thallium	ND				
Vanadium	2.0				
Zinc	279.0	2800 mg/Kg	7500 mg/Kg		
Ammonia Nitrogen	1470		7500 116/116		
Cyanide, Total	1.3				
Nitrate Nitrogen	0.5				
Nitrogen, Total Kjeldahl	5,680				
pH	7.55				
% Solids	25.1%				
Mercury	0.2	17 mg/Kg	57 mg/Kg		
Grease/Oil	0.42		פייו /פויו זכ		
Hex Chromium	ND				

Pathogen Reduction (40 CFR 503.32)

Class B - (PSRP) Anaerobic Digestion at 95 F for minimum of 15 days

Vector Attraction Reduction (40 CFR 503.33)

Option 1 - VS reduced by a minimum of 38%

Certification

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Name & Title: Edward Waggoner - Operations Superintendent

Telephone Number: (831)

Annual Biosolids Monitoring Report

Period:

July 2021 - September 2021

Sample Date:

6-Jul-21

		EPA 503 pollution limits for land application			
	30	Pollutant Concentrations	Ceiling Concentrations		
Name	Concentration (mg/kg)	(40 CFR 503.13)	(40 CFR 503.13)		
POLLUTANTS	Dry Weight unless indicated	(monthly avg.)	(daily maximum)		
Antimony	ND				
Arsenic	56.4	41 mg/Kg	75 mg/Kg		
Barium	49.5		O, O		
Beryllium	0.1				
Boron	8.5				
Cadmium	0.2	39 mg/Kg	85 mg/Kg		
Chromium	3.2		U, U		
Cobalt	1.3				
Copper	119.0	1500 mg/Kg	4300 mg/kg		
Lead	2.6	300 mg/Kg	840 mg/kg		
Molybdenum	0.7		C. U		
Nickel	3.1				
Phosphorus	4,980	420 Mg/Kg	420 mg/Kg		
Selenium	ND	100 mg/Kg	100 mg/Kg		
Silver	ND		0, 6		
Thallium	ND				
Vanadium	0.9				
Zinc	270.0	2800 mg/Kg	7500 mg/Kg		
Ammonia Nitrogen	1230	5. 5	, , , , , , , , , , , , , , , , , , ,		
Cyanide, Total	1.7				
Nitrate Nitrogen	ND				
Nitrogen, Total Kjeldahl	3,000				
рН	7.5				
% Solids	23.3%				
Mercury	0.2	17 mg/Kg	57 mg/Kg		
Grease/Oil	ND	3. 0	21010		
Hex Chromium	ND				

Pathogen Reduction (40 CFR 503.32)

Class B - (PSRP) Anaerobic Digestion at 95 F for minimum of 15 days

Vector Attraction Reduction (40 CFR 503.33)

Option 1 - VS reduced by a minimum of 38%

Certification

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Name & Title: Edward Waggoner - Operations Superintendent

Signature:

Telephone Number: (831) 624-1249

Date: 1-27-2022

Annual Biosolids Monitoring Report

Period:

Sample Date:

October 2021 - December 2021

5-Oct-21

		EPA 503 pollution limits for land application				
	T.	Pollutant Concentrations	Ceiling Concentrations			
Name	Concentration (mg/kg)	(40 CFR 503.13)	(40 CFR 503.13)			
POLLUTANTS	Dry Weight unless indicated	(monthly avg.)	(daily maximum)			
Antimony	ND					
Arsenic	205.0	41 mg/Kg	75 mg/Kg			
Barium	83.4					
Beryllium	1.5					
Boron	14.8					
Cadmium	0.1	39 mg/Kg	85 mg/Kg			
Chromium	4.9	5.5				
Cobalt	3.5					
Copper	187.0	1500 mg/Kg	4300 mg/kg			
Lead	11.2	300 mg/Kg	840 mg/kg			
Molybdenum	4.8	9.0	OI V			
Nickel	5.7					
Phosphorus	7,960	420 Mg/Kg	420 mg/Kg			
Selenium	2.6	100 mg/Kg	100 mg/Kg			
Silver	ND		0, 0			
Thallium	ND					
Vanadium	4.4					
Zinc	371.0	2800 mg/Kg	7500 mg/Kg			
Ammonia Nitrogen	955	S. 0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Cyanide, Total	79.2					
Nitrate Nitrogen	0.8					
Nitrogen, Total Kjeldahl	6,720					
Н	7.98					
% Solids	20.8%					
Mercury	0.0	17 mg/Kg	57 mg/Kg			
Grease/Oil	ND		37 116/116			
Hex Chromium	ND					

Pathogen Reduction (40 CFR 503.32)

Class B - (PSRP) Anaerobic Digestion at 95 F for minimum of 15 days

Vector Attraction Reduction (40 CFR 503.33)

Option 1 - VS reduced by a minimum of 38%

Certification

I certify, under penalty of law, that the Class B pathogen requirements in 503.32 and the vector attraction reduction requirement in 503.33 using option (1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including fine and imprisonment".

Name & Title: Edward Waggoner - Operations Superintendent

Telephone Number: (831) 624-1249

Carmel Area Wastewater District

2021 process data for pathogen reduction and vector attraction reduction

Month	Detention Time (days)	Temperature (F)	Volatile Solids Reduction (%)
Jan	33	100.6	62
Feb	31	89.7	65
Mar	28	97.4	69
Apr	29	93.7	74
May	28	97.6	61
Jun	27	92.4	61
Jul	26	99.4	62
Aug	21	94.1	62
Sept	28	96.2	72
Oct	28	96.5	60
Nov	29	93.6	58
Dec	36	102.1	40

All data reported as monthly averages

Pathogen Reduction using anaerobic digestion

Certification

I certify, under penalty of law, that the Class B pathogen requirements in 503.32 and the vector attraction reduction requirement in 503.33 using option (1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including fine and imprisonment".

Name and Title: Edward Waggoner - Operations Superintendent

Signature: Phone Number:

(831) 624-1249

Date:

1-27-2022

SECTION EIGHT

Evaluation of the effectiveness of the local source control or pretretment program

Evaluation of the effectiveness of the local source control or pretretment program using the State Water Resources Control Board's "Guidelines for Determining the Effectiveness of Local Pretreatment Program."

<u>1</u>	Influent Characteristics	Date	Result	Units
	Arsenic	8/3/2021	1.33	ug/L
	Cadmium	8/3/2021	2.32	ug\L
	Total Chromium	8/3/2021	6.63	ug\L
	Lead	8/3/2021	3.2	ug\L
	Copper	8/3/2021	143	mg/L
	Mercury	8/3/2021	ND	ug\L
	Nickel	8/3/2021	6.14	ug\L
	Silver	8/3/2021	0.59	ug\L
	Zinc	8/3/2021	547	ug\L

2 Number of Inspections Performed:

Pretreatment Inspections annual-(154)

Number of Enforcement Actions:

Notice of Violations of the Pretreatment Ordinance – (2)

- Number of Major Industry Contributors- None (0)
- 4 All New dischargers- (3)

Class III (2)

Class IV (1)

- 5 All New Dischargers constitute a Major Industry- None (0)
- Man power and funds to run Source Control Program

Environmental Compliance Supervisor (1)

Environmental Compliance Inspectors (2)

Funds for Source Control Program are from User Fees (Connection Permit, Construction Fees, and Source Control Application/ Permit, and Source Control Fines). -\$450

	NOV	\$75 x 2 =	\$150
Class IV	Appl Permit	\$150 x 93 =	\$13,950
Class III	Appl Permit	\$150 x 2 =	\$300
		Total _	\$14 400